

**The Use of Tense and Aspect in the Additional Language English
by Monolingual Speakers and Bilingual Heritage Speakers**

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Abbreviations

1PL	first person plural
1SG	first person singular
2PL	second person plural
2SG	second person singular
3PL	third person plural
3SG	third person singular
ABL	ablative
abs. freq.	absolute frequency/ies
acc	accomplishment
ACC	accusative
ach	achievement
act	activity
AH	Aspect Hypothesis
AOR	aorist
BLE	bilingual learner of English
CIA	Contrastive Interlanguage Analysis
CL	(nominal) classifier
CLI	cross-linguistic influence
CLIL	Content and Language Integrated Learning
COND	conditional
DAT	dative
DEF.ART	definite article
E-LiPS	English LiMA Panel Study
Eng	English (native speaker/s)
ENG-native	English native speakers
ESL	English as a Second Language
f	feminine
FT/FA	Full Transfer/Full Access Hypothesis
Ger	German (monolingual/s)
GER-mono	German monolingual/s
GM	generalizing modality
HISEI	Highest International Socio-Economic Index of Occupational Status
HL	Heritage Language
HS	Heritage Speaker/s
INF	infinitive
INS	instrumental
IPFV	imperfective
ISEI	International Socio-Economic Index of Occupational Status
L1	first language
L2	second language
L3	third language
LA	Language acquisition
LCR	Learner Corpus Research
LiMA	Linguistic Diversity Management in Urban Areas
LiPS	LiMA Panel Study
Ln	additional language(s)
LOC	locative
LPM	Linguistic Proximity Model

m	masculine
MLE	monolingual learner of English
N.A.	not applicable (unknown information)
NC	noun compound
NEG	negation, negative
NL	Native Language
NMLZ	nominalization
NNL	Non-native Language
no.	number
PFV	perfective
PL	plural
POSS	possession
PROG	progressive
PROSP	prospective
PRS	(simple) present tense
PST	(simple) past tense
PTCP	participle
R-G	Russian-German bilingual/s
RN	relator noun
RP	received pronunciation
Rus	Russian (monolingual/s)
RUS-GER	Russian-German bilingual/s
RUS-mono	Russian monolingual/s
sd	standard deviation
SES	socio-economic status
SLA	Second Language Acquisition
SVA	subject-verb-agreement
T-G	Turkish-German bilingual/s
TLS	Third Language Acquisition
TPM	Typological Primacy Model
TTR	type-token-ratio
Tur	Turkish (monolingual/s)
TUR-GER	Turkish-German bilingual/s
TUR-mono	Turkish monolingual/s
V-G	Vietnamese-German bilingual/s
Viet	Vietnamese (monolingual/s)
VIET-GER	Vietnamese-German bilingual/s
VIET-mono	Vietnamese monolingual/s
VP	Verb phrase

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1. Introduction

Human beings are remarkable language learners who can easily learn and master several languages throughout their lives.

(De Angelis 2007:1)

As is illustrated in the quotation above, humans are capable of learning and handling multiple languages concurrently. Evidently, it is an easy process, which is emphasized by the small word *remarkable*. At the same time, this strong claim addresses the complexity behind language learning by hinting at the singular capacity of humankind, and it acknowledges that there is still a fundamental part of the process of language acquisition that we cannot explain. Yet, in an increasingly multilingual society (see Aronin & Hufeisen 2009), it is becoming more and more relevant to know how learning language after language works and how these languages interfere with each other. The significance of this issue can be understood when following Hammarberg, who even refers to multilingualism as “the normal state of linguistic competence” (2010: 92) or the “default form of human language competence” (2018: 101).

This has considerable influence on the awareness of (multiple) language acquisition and the need for mastering foreign languages. Most humans are not monolingual, and a task for contemporary societies is to foster foreign language acquisition (Cook 2016a: 1). Cook lists reasons for potentially positive results that are attributed to knowing more than one language. It may result in

getting a job; a chance to get educated; the ability to take a fuller part in the life of one's own country or the opportunity to emigrate to another; an expansion of one's literary and cultural horizons; the expression of one's political opinions or religious beliefs [...]. A second language affects people's careers and possible futures, their lives and their very identities. In a world where probably more people speak two languages than one, the acquisition and use of second languages are vital to everyday lives of millions [...]. (Cook 2016a: 1)

Cook (2016a) here uses the plural “second languages”; hence he does not only refer to the language that a person acquires after having acquired the native language, but he presumably implies foreign languages in general. Chapter 3.2 addresses this issue in more detail.

The *Ethnologue* reports that there are 7,097 living languages in the world that are known; it does not only provide a list with 249 countries and regions based on the statistics of the United Nations Statistics Division but also specifies the number of languages that are spoken in each area (Simons & Fennig 2018). Not only the native languages (here, referred to as *established* languages) are given, but the number of immigrant languages are specified as well

(Simons & Fennig 2018). It is striking that there are only four areas (British Indian Ocean Territory; North Korea; Saint Helena, Ascension, and Tristan da Cunha; Saint Pierre and Miquelon) where the *Ethnologue* presents only one language (Simons & Fennig 2018). Those areas are, however, rather small and accordingly only involve a limited number of speakers. The other extreme case is Papua New Guinea with 841 languages. When observing these numbers, one realizes that most countries and regions are multilingual, either because of several established languages or one official language and numerous immigrant languages.

Franceschini (2009a) provides a precise definition of multilingualism which illustrates what we can find in many areas of the world:

The term/concept of multilingualism is to be understood as the capacity of societies, institutions, groups and individuals to engage on a regular basis in space and time with more than one language in everyday life. Multilingualism is a product of the fundamental human ability to communicate in a number of languages. Operational distinctions may then be drawn between social, institutional, discursive and individual multilingualism. The term multilingualism is used to designate a phenomenon embedded in the cultural habits of a specific group, which are characterised by significant inter and intra-cultural sensitivity. (Franceschini 2009a: 33-34)

Multilingualism is also on the rise in Germany and the country has become a place that is characterized by language diversity (see Gogolin et al. 2013; Li 2008; Meyer 2008; Montrul 2016). There are manifold environmental, economic, cultural, and socio-political factors that have led to an acceleration in immigration figures. Immigration, as well as the demands of globalization force many people to master not only one but several languages. These two developments combine to create a complex situation: it is often the case that monolinguals and bilinguals, even multilinguals, acquire foreign languages together in mixed groups. This is especially relevant in secondary-schools: native German students learn English as their first foreign language together with bilingual or multilingual children, for whom English is an additional language (Bonnet & Siemund 2018; Gogolin et al. 2013).

Hamburg will serve as an example here: in 2014, over 43 per cent of children and young adults had an immigrant background (Pohlan & Albrecht 2015).¹ In 2015, almost half of all people below the age of 18 were first, second, or third generation immigrants (*Statistisches Amt für Hamburg und Schleswig-Holstein*, state of 2016). Because immigration is ongoing, this number is presumably even higher today. Having an immigrant background, however, does not necessarily imply that the person speaks the language of the country of origin (i.e. the heritage

¹ According to *PISA Germany* (OECD 2010) and *Statistisches Amt für Hamburg und Schleswig-Holstein*, a student is defined as having a migration background if both parents and the student him- or herself were born in a foreign country, if both parents were born in a foreign country but the student was born in Germany, or if at least one parent was born in a foreign country. Citizenship is not a decisive criterion, i.e. a person can have the German citizenship but still belongs to the group considered of having a migration background (Reiss et al. 2016).

language). Often, only the parents were born in the foreign country and the child was born in Germany, growing up without acquiring the language of the parents. Other children grow up in Germany, learn German, and go to German schools, and use, in addition to German, their heritage language at home with their family or with their peers (outside) of school.

Even without considering the linguistic background of the children, the situation in schools is already heterogeneous: children from all kinds of socio-economic backgrounds live in the same urban district (Pohlan & Albrecht 2015), attend the same school, or share classes. Depending on the level of ethnic diversity in the region, some students come from different cultures and speak various languages. Teachers now face the challenge of creating an adequate learning environment for everyone. They are expected to encourage and support the individual needs of every student. It is becoming increasingly apparent that this diverse classroom situation clashes with the established educational framework. The German education system still follows a mainly monolingual syllabus (Bergmann 2017) despite the reality of multilingual classes. Burwitz-Melzer et al. (2016) closely analyze our modern society and explicitly focus on learners in school. They state that the situation can be described best as “komplexe individuell gelebte, lebensweltliche sowie kollektiv-gesellschaftliche Mehrsprachigkeitsrealitäten” (Burwitz-Melzer et al. 2016: 289; ‘complex, individually lived experiences and collective-social multilingualism’ (my translation)). They add that this fact should lead to a change in the school system by introducing more provision for multilingual perspectives in didactics (Burwitz-Melzer et al. 2016: 289-290).

The key issue in this discussion is whether there is a difference between acquiring English as a second language, i.e. as the first foreign language, or as a third language. In that case, the instruction of English (and other foreign languages) in schools has to include strategies that incorporate not only the German perspective but promote other foreign languages and their grammatical systems as well. This is necessary to create a profitable learning environment not only for monolingual German students but also for speakers of other languages, i.e. heritage speakers who grow up in Germany. Previous linguistic knowledge of the students should be activated in order to use and transfer this information to other contexts and languages. This will ultimately result in a higher success rate for all learners of English, both monolingual German learners and multilingual learners.

Needless to say, the bilingual or multilingual children do not all share the same set of languages. People with numerous nationalities have come and are still coming to Germany; according to official numbers, in 2012, the largest groups came from Turkey, Poland, Russia, and Kazakhstan (*Die Beauftragte der Bundesregierung für Migration, Flüchtlinge und*

Integration, state of 2012). Even though people from these countries make up a large proportion of the total number of immigrants, not everyone comes from this limited number of source countries. In 2006, it was stated that the number of countries that people who live in Germany had originally come from was approximately 150 (*Bundesamt für Migration und Flüchtlinge*, state of 2007). Again, this is a number that is likely to be much higher today. This gives us an idea of how complex and heterogeneous the situation in Hamburg, and Germany in general, is.

Why is this relevant? The simple answer is that different heritage languages might have deviating effects on the acquisition of English as an additional foreign language because of differing typological similarity or distance (Rothman 2011). As a result, research in the area of language acquisition, more specifically second, third, and multiple language acquisition, along with studies about bilingualism and multilingualism is constantly increasing and in focus of current linguistic research. Several scholars investigate multilingual behavior; they find striking differences between second and third or additional language acquisition (see for example De Angelis 2007; Siemund 2019a). It remains questionable, however, whether bi- or multilingualism is an advantage or maybe even a potential disadvantage, as various studies come to differing conclusions (Cenoz 2003, 2013; Gogolin & Neumann 2009). No definite answer has been given so far. Reasons are that language acquisition and knowing a language include manifold layers and different aspects, and because various interfering factors such as social background, age at which the first non-native language was acquired, etc. have to be considered as well (Cenoz 2013). This is a cautious explanation for the, at first sight, contradicting outcomes of former studies. However, regardless of being an advantage or disadvantage, there surely is a difference in the acquisition process to be expected. By using the knowledge of previously acquired languages and by focusing on the specific needs the individual learners have, the success rate for learning foreign languages can certainly be enhanced.

Due to its obvious relevance and the need for further research in this area, the current project aims to explore the role of cross-linguistic influence from the heritage language (Turkish, Russian, or Vietnamese) and/or the language of the environment (German) when acquiring a third language (English) in comparison to monolingual (German, Turkish, Russian, and Vietnamese) learners of English. The central question is to find out how cross-linguistic influence affects the acquisition of the foreign language.

One note of caution is in order here: it is almost impossible to look at the acquisition process in natural surroundings, especially with such a large group that is to be examined in this study. Hence, strictly speaking, it is not the acquisition process that is being observed but

the performance outcome. Foote explains that “production data do not allow us to observe the acquisition of functional categories” (2009: 92). Yet, what can be observed is the outcome, which is the result of language instruction and its realization. The performance of the participants will be measured by analyzing written English texts and oral recordings.

The data come mainly from a project carried out at the University of Hamburg, English LiMA Panel Study (E-LiPS), conducted from 2009 until 2013 (Linguistic Diversity Management in Urban Areas, 2009-2013, directed by Peter Siemund and Ingrid Gogolin). School children with different language backgrounds at the age of 12 and 16 were given tasks in English. The group of bilingual participants consists of Russian-German, Turkish-German, and Vietnamese-German children learning English. The monolingual learners of English have a German, Russian, Turkish, and Vietnamese background. A third group are native speakers of English as an additional control group.

The focus of this research lies on the acquisition or more precisely the use of tenses and aspect based on written texts produced by school children. This is supplemented by and compared to spoken recordings. Background information such as language biography, age, type of school, and socio-economic status is going to be included in the analysis. A more detailed explanation of the design of the study is given in the following subsections.

This study consists of eight main chapters, apart from the introduction and the conclusion. First, in Chapter 2, we elaborate on the motivations and the background that are the foundation of this study together with briefly introducing some underlying theoretical concepts, which ultimately lead to the research questions and the objectives of this study.

Then, in Chapter 3, we outline previous and current research on language acquisition. This chapter is divided into nine sub-chapters. These are meant to give an overview of current concepts and to introduce and clarify terminology of the field of *language acquisition*. The first subsection 3.1 compares the methodology and findings of studies that analyzed second and third language learners. It consists of three parts, 3.1.1 elaborates on the emergence of the field of third language acquisition and delineates second language acquisition from third language acquisition. In 3.1.2, the concept of *cross-linguistic influence* in third language acquisition is defined. Numerous studies are referred to which were all conducted with the aim of assessing which of the previously acquired languages influences the acquisition of a third language. The final section, 3.1.3, evaluates the aforementioned studies and the diverse, and to a certain extent contradictory, findings. Sub-chapter 3.2 defines the ambiguous concepts of first, second, and third language, heritage language and others, and limits, in a second step, the use of these for the ongoing project. A short discussion about the terminology of acquisition versus learning

will be presented in section 3.3. The fourth part differentiates between *adult* versus *child language acquisition* and examines whether they are similar/the same, or whether they are considerably different processes. The following chapter 3.5 disambiguates the terms *bilingual speaker* and *heritage speaker*. It aims at contrasting opposing definitions, and ultimately shows how these terms will be used in the proceeding discussion. Section 3.6 introduces and discusses the concept of *multilingual awareness* and presents theories that ascribe a particular feature to bilingual and multilingual speakers, the so-called M-factor. The following section (3.7) ties in perfectly with this part and raises the issue of *bilingual advantages*. Several contradictory research studies are presented and surveyed, and factors that influence whether we find bilingual advantages or not are established. The subsequent part (3.8) discusses current developments of English and explains the role of English for non-native learners of that language in general, and in particular for learners of English living Germany. Chapter 3 ends with a section (3.9) that includes some final remarks and implications that are relevant for the proceeding discussion.

The following Chapter 4 discusses the concepts of *tense* and *aspect*, first on a general level, and then on an individual level for each of the languages under discussion (English, German, Russian, Turkish, and Vietnamese). We will then devote one section, 4.7, on the Aspect Hypothesis (AS) before we turn to a definition of *contrastive analysis* in section 4.8. Within 4.8, similarities and differences in tense and aspect of the respective languages are discussed and studies that focus on the acquisition of tense and aspect by non-native learners of English are examined. This second major theoretical section ends with a brief conclusion. It summarizes the main findings that are relevant for conducting the study.

Chapter 5 is the first part of the empirical study. In this methodology section, we first need to account for some preliminary considerations. We discuss once again the background and motivations for this study (5.1.1), present the area of learner corpus research (5.1.2), deal with the notions of target language use and some related concepts (5.1.3), and explain the research design (5.1.4). The data come from the E-LiPS project and this project is described in this last section. Section 5.2 deals with the data collection. It is divided into three parts: 5.2.1 focuses on the written task, 5.2.2 on the oral task, and 5.2.3 on the additional questionnaire. The subsequent part 5.3 comments on the manual annotation of both the written and the oral section of the learner corpus and defines the coding scheme of the linguistic variables. The last chapter (5.4) states the research objectives and includes the predictions and the expected outcome.

The following Chapter 6 presents the participants and the results of this learner corpus research study. In section 6.1, we introduce a description of the participants. This includes

information about gender, age, language background, and further relevant social and educational variables. The remaining sections include the descriptive and statistical analysis of the written and spoken output produced by the learners of English. Four individual case studies are presented:

- (6.2) the overall use of tenses in the English texts produced by the monolingual and bilingual learners, including, among others, formal correctness, target-like meaning, and subject-verb-agreement
- (6.3) the use of the progressive aspect in the learners' texts
- (6.4) the use of present versus past time reference in the learners' texts
- (6.5) a comparison between the written and spoken production in English

The results are discussed in Chapter 7. Most importantly, it relates the findings to the previously examined theories and the content of the aforementioned chapters. It is subdivided into twelve parts. Section 7.1 reflects on cross-linguistic influence and analyzes how the current findings pertain to the existing L3 acquisition models. Section 7.2 takes up the notion of language dominance; part 7.3 focusses on the age factor in third language acquisition; and Chapter 7.4 summarizes how the socio-economic status of the family of the participants influences the English language production. The following sections thereafter discuss the influence of the type of school the students attend (7.5), the specific tasks they had to perform (7.6), and the attitudes towards English (7.8). We then revisit the controversial topic of bilingual advantages (7.9) and the presumably heightened metalinguistic awareness of bilinguals (7.10). Afterwards, we discuss the findings in relation to the Aspect Hypothesis (7.11). Lastly, in Chapter 7.12, we briefly comment on the learning environment of the participants and reflect on the individual variation found in the learner corpus. All sections will ultimately demonstrate if and how the current study adds to the currently intensely researched areas of third language acquisition, heritage speakers, and the multilingual development of bilingual learners in an additional language.

The last three chapters round up the study. Chapter 8 mentions the shortcomings of this research project. Chapter 9 includes an outlook for future research and indicates possible implications for additional studies and extensions of this project that are based on the formerly discussed weaknesses. Lastly, the study finishes with Chapter 10, a concise concluding section. This part summarizes the main arguments and the most important findings of this study.

2. Background and motivation

The key issue followed in the current study is to assess the source of cross-linguistic influence in third language acquisition, as there are two potential sources available. To start off with, we want to quote Hermas (2015) who precisely states what is of concern here:

Unlike first-language (L1) acquisition where there is no source of linguistic transfer and L2A where the only source available is the L1, L3A provides two languages at a time, the L1 and the L2. The research question this study considers is which of the two linguistic systems conditions morphosyntactic transfer [...] of the L3. [...] (Hermas 2015: 588)

We need to look at this quote from two perspectives: first, Hermas (2015) raises an important controversy; yet, he is of course not the first or the only one to ask this question. In the remainder of this study, many other scholars will be cited that asked the same question, possibly using slightly different terminology and viewpoints. Hermas (2015) is here exemplary for numerous scholars of a widely researched area in linguistics. Second, he specifically points to morphosyntax. Despite this fact, studies concentrating on cross-linguistic influence in third language acquisition are not limited to this grammatical area, but many other transfer phenomena are analyzed and a variety of them will appear in Chapter 3. Hence, this quote can be easily applied and transferred to the current study, i.e. the field of tense and aspect. What Hermas (2015) argues is that L3 acquisition is special in comparison to L1 and L2 acquisition, because it allows us to understand not only how one language influences the acquisition process of another language, but it looks at a more complex and entangled situation.

Rothman even goes one step further than Hermas (2015) and claims that “the study of (adult) multilingualism provides an unparalleled opportunity to begin to properly contextualize and thus understand the dynamic role that previous linguistic knowledge plays in the acquisition process [...]” (2011: 107). He does not only limit the study of language acquisition to third language acquisition, but also stresses the dynamic character of previous linguistic knowledge. It is not an either – or – relationship, so either L1 or L2 influence, but a dynamic model that might be prone to change over time, with varying competences in L1 and L2. At the same time, he acknowledges that there is still a long way to go because he insists on it being the beginning to understand the underlying concepts (Rothman 2011: 123; Rothman 2013: 243).

Even though there are various studies about second, third, and multiple language acquisition (see Chapter 3.1 for a comprehensive overview of L3 acquisition studies), the fundamental issue in third language acquisition, that is which of the two previously acquired linguistic systems, to what extent, or how the interaction between these two influences the third language, remains still unclear. We seem to know a lot about both first and second language

acquisition (see for example Clark 2009; Lust & Foley 2004 on L1 acquisition, and Gass & Mackey 2012; Slabakova 2016 on L2 acquisition), but studies in third language acquisition produce differing and conflicting results, especially in terms of cross-linguistic influence, which can partly be traced back to the diverse groups of learners that are analyzed (for instance adult versus child language acquisition, or early versus late bilingualism; this will be shown and explained in more detail throughout the study and especially in Chapter 3). In combining second language and third language acquisition, this study adds to this increasing field in linguistics and provides another perspective about the acquisition of foreign or additional languages.

Before we present the research questions, we want to set the scene and introduce a definition of language acquisition (even though this might be self-explanatory). Language acquisition in general “describes[s] the process whereby children become speakers of their native language (first-language acquisition) or children or adults become speakers of a second language (second-language acquisition)” (Parodi 2010: 287). This precisely shows that we differentiate between the acquisition of the first language (or in other words the native language) and between a second language (or non-native language).

A clear distinction needs to be drawn between first and second language acquisition. Parodi explains that (nearly) everyone achieves complete competence in their first language, as opposed to the level of competence in the second language, which normally does not reach the level of native speakers (2010: 296). Some argue that the specific capacity to learn a language changes over time and that it is not available to adults anymore (Parodi 2010). There remains a lack of understanding as to how the process of children acquiring the first language relates and compares to second language acquisition. Ellis (2015: 5) defines second language acquisition as an even more complex process than first language acquisition: it follows first language acquisition and could involve any age (from very young learners, shortly after the onset of acquiring the first language, up to old age), the learners are often cognitively (more) mature and may have other potential learning strategies at their disposal, and the acquisition contexts can be much more diverse. With diverse learning contexts, we refer, on the one hand, to the common distinction between second language acquisition and foreign acquisition, and, on the other hand, for instance to a variety of learning environments and situations such as obligatory acquisition in a school context, optional acquisition as an adult, etc.

Let us briefly disambiguate the difference between second and foreign language acquisition, because it is relevant for this study. We usually refer to second language acquisition when we talk about the acquisition of another language in a context where this particular language is the major or one of the major languages (Ellis 2015: 6). One example would be a

child with a Russian heritage background that moves with his or her parents to Germany at the age of three and starts to learn German from that moment onwards. Foreign language acquisition, however, describes the process of acquiring another language typically via formal instruction which is not one of the major languages in the country (Ellis 2015: 6). A possible context could be the following: the acquisition of French or Spanish in school by students who grow up in Germany. In general, when we refer to the area of second language acquisition, normally both learning contexts are included (Ellis 2015: 6). Ellis explains that this is due to the fact that “we cannot take it for granted that the process of acquiring a second language is different in these different contexts” (Ellis 2015: 6).²

Third language acquisition, even though it shares many properties with second language acquisition (Cenoz 2003: 71), presents another type of language acquisition and should therefore be distinguished from second language acquisition (see also Rothman 2011, 2013). Cenoz defines it as “the acquisition of a non-native language by learners who have previously acquired or are acquiring two other languages” (2003: 71). She uses a broad definition in that she includes simultaneous and consecutive acquisition of the first two languages. Hence, early bilingualism (i.e. growing up with and being exposed to two languages from birth on), late bilingualism (i.e. growing up with one language and acquiring a second language later), and adult bilingualism could all be starting conditions of third language acquisition (more about bilingualism and related concepts are discussed in Chapter 3.5). Strictly speaking, this definition allows for second language learners and foreign language learners, relating to the concepts that have just been described.

It follows quite naturally that we do not find a homogeneous group of third language learners, because the language biography of the individual learners could vary drastically. Again, globalization and the current development in our world are two of the reasons for that. Hoffmann differentiates between five different groups of trilinguals (2001: 3):

- (i) Trilingual children who are brought up with two languages which are different from the one spoken in the wider community;
- (ii) Children who grow up in a bilingual community and whose home language (either that of one or both parents) is different from the community languages;
- (iii) Third language learners, that is, bilinguals who acquire a third language in school context;

² This, of course, is a controversial claim, but we are not going into detail and we are not questioning its truth value. It is not of concern for the current study, because the participants that are being looked at are either simultaneous learners of the first and the second language or are second language learners that are acquiring the majority language of the community.

- (iv) Bilinguals who have become trilingual through immigration, and
- (v) Members of trilingual communities.

In addition to this classification, it becomes even more complicated when we include the different types of bilingual speakers that have just been outlined and will be addressed in more detail in Chapter 3.5.

For the study of language acquisition this means that we cannot simply talk about third language learners but that we need to analyze different groups of third language learners in order to fully understand how the previously acquired languages interact with each other and how they influence the acquisition process of the third language. Yet, most studies that focus on third language learners analyzed adult learners, particularly focusing on learners that acquired their L2 rather late (see Hopp et al. 2018 for an overview). There is still, to my knowledge, a lack of systematic studies that target child L3 learners. There are some recent studies, such as Westergaard et al. (2017), Hopp (2019), Hopp et al. (2019) and Siemund and Lechner (2015), for instance, that investigate child L3 acquisition and they furthermore focus on a specific type of bilingual speaker, namely heritage speakers (these and other studies will be addressed in detail in Chapter 3.5).

Not only the type of L3 learner but also the specific domain influences (possible) transfer phenomena (see for example Hopp et al. 2018; Westergaard et al. 2017). All grammatical domains, for example phonetics and phonology, vocabulary or morphosyntax, need to be studied, because previous studies have found crucial differences that suggest that transfer is not uniform in all areas (more about that can be found in Chapter 3.1).

One domain that has so far not been analyzed thoroughly is the area of tense and aspect. Hence, the aim of this study is to fill exactly this gap: we analyze monolingual children that acquire English as their second language and bilingual³ children that acquire English as an additional language in school. We investigate how these participants use different tenses and how they use aspectual marking when writing an English text and when producing an oral picture description. The phenomenon that is being investigated is *transfer*, or also referred to as *cross-linguistic influence*, hence the influence from the previously acquired languages.

A general and broad definition of transfer is given by Rothman (2013), who proposes that “the term *transfer* refers to influence from previous linguistic knowledge on the development and/or performance of a target non-native language” (2013: 223). He specifies

³ All bilingual participants belong to the group of early bilinguals, hence who started their second language at a young age. More about different types of bilingual speakers can be found in Chapter 3.5 and more about the exact description of the bilinguals that participated in the current study is mentioned in Chapter 6.1.

this by stating that transfer is about transposing grammatical features, hence “functional features and associated functional categories” from the previously learned language or languages to the language currently acquired (Rothman 2013: 224). This perfectly fits the purpose followed here: we will look at a grammatical domain (i.e. tense and aspect) and compare in how far the previously learned languages influence the acquisition and use of English. This is possible because the participants of the current study have a different linguistic repertoire available which should allow for finding transfer differences. In second language acquisition, transfer typically happens from the first language to the second language; it is, however, not limited to a one-way process but transfer can also occur from the second language to the first language (Figure 1), which results in a possible reciprocal interference (Siemund 2019a):

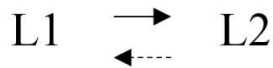


Figure 1: Transfer in second language acquisition

If there are more than two languages, for instance three languages in third language acquisition, possible transfer processes augment; i.e. transfer is likely to occur between all three languages (Figure 2). Berthele and Vanhove (2017: 1) state quite clearly that “bi- and multilingual’s languages influence each other is one of the tenets of contemporary scholarly work in our field”.

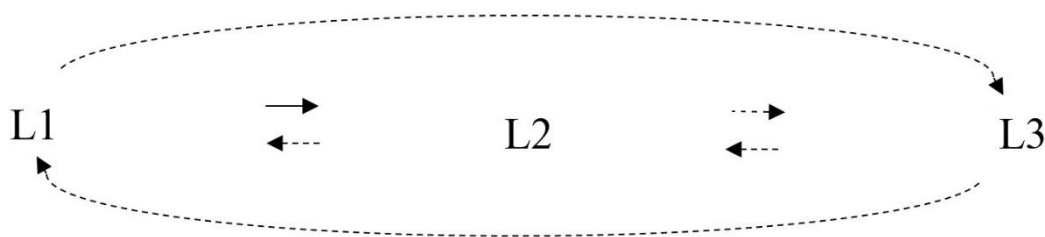


Figure 2: Transfer possibilities with three languages (taken from Lorenz 2019; adapted from Siemund 2019a)

Yet, the extent and the exact characteristics of transfer between the languages are not entirely clear (Siemund 2019a), and still remain to be analyzed. Therefore, we used a dotted line, except between the L1 and L2, because we are confident that the L1 influences the L2. Of interest here,

however, are only two of the six directions: transfer from the first to the third and from the second to the third language (see the bold arrows in Figure 3).

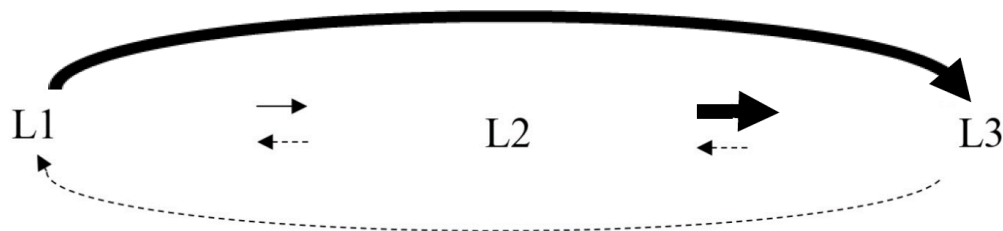


Figure 3: Transfer in third language acquisition

In conclusion, the study investigates in how far the first and the second language influence the acquisition of the third language and how this output in the L3 differs from the output in the L2 as a consequence of second language acquisition. The following research questions are addressed throughout the succeeding sections and answered in the discussion:

- (1) Are there general differences (i.e. text length) and are there grammatical differences concerning tense and aspect in the texts produced by monolingual learners of English and bilingual learners of English?
- (2) How do the different native languages influence the acquisition and use of tense and aspect in English?
- (3) Are both the heritage language (Russian, Turkish, or Vietnamese) and the language of the environment (German) sources of (positive or negative) cross-linguistic influence for the acquisition of English as an additional foreign language?
- (4) Can we identify a similar development of each language group (both monolinguals and bilinguals) over time, i.e. an improvement in their English skills with increasing age?
- (5) How does the type of school, age of onset of acquiring German, or additional background variables affect the results?
- (6) How does the concept of multilingual awareness relate to the dataset? Is there a visible linguistic (dis)advantage of the bilingual learners over the monolingual learners of English?
- (7) Is there a difference between written and oral production in the use of tense and aspect in English?

The notion of *advantage* needs to be specified and explained further. There are numerous studies that investigate if bilinguals have an advantage over monolinguals in further language acquisition or not (see for example Cenoz 2003, 2013). Here, we do not refer to cognitive advantages (as addressed in Bialystok 2001; Bialystok et al. 2012), but we allude to linguistic advantages in terms of a more target-like performance in English. We already discussed that bilinguals have previous knowledge of two languages that could both potentially influence

further language acquisition. If this translates into a linguistic advantage in foreign language acquisition over monolingual foreign language learners remains to be answered (a more detailed discussion can be found in Chapter 3.7).

Before going into more detail by motivating the choice of the research questions and before introducing the specificity of the current study in Chapter 5, we first need to have a look at the current developments in language acquisition research. Therefore, the subsequent section Chapter 3 presents and evaluates previous studies and current research in the area of third and additional language acquisition. Furthermore, it disambiguates terminology and concepts that concern bilingualism, heritage speakers, and metalinguistic awareness, among others. This is the theoretical foundation that this study is built on.

3. Previous and current research on language acquisition

This chapter is the theoretical basis of the current study. It discusses recent trends in the area of language acquisition, tries to disambiguate major concepts, and aims at laying the necessary foundations and justification for this project. In it, we find the motivation and the need for conducting this study. It is divided into nine subsections. The first part 3.1 reviews (current) theories about second language acquisition and third language acquisition and disentangles the seemingly contradictory findings of previous studies. It includes three sub-chapters: first, the emergence of the field is described (3.1.1), second, we focus on L3 acquisition and present different theories and models that all try to explain cross-linguistic influence, and third, in 3.1.3, we evaluate the first two sections and explain why we find these contradictory L3 acquisition models. Next, in part 3.2, we look into terminological issues concerning the first, second, and third language of a speaker. In the third subsection, we examine whether we should distinguish between *acquiring* a language and *learning* a language. The fourth part contrasts child language acquisition and adult language acquisition and asks whether these two are the same or whether they should be separated as two distinct phenomena. Chapter 3.5 explains and discusses the concepts of *bilingualism* and *heritage speaker*. After establishing a common ground and after clarifying terminology and concepts, we discuss the notion of *metalinguistic awareness* (Chapter 3.6) and we devote one section to the topic of *bilingual advantages* (Chapter 3.7). Section 3.8 briefly comments on the special status of English as a global language and lingua franca. The chapter ends with a section that summarizes the main findings of the previous discussions and that includes some final remarks and implications for the current project that follows.

3.1 Third language acquisition versus second language acquisition

This chapter is the central part of the theoretical discussion of this study. The entire chapter is mainly limited to second and third (or multiple) language acquisition and will only marginally address first language acquisition. First, it discusses and sets apart third language acquisition from second language acquisition, and second, it presents evidence that the research area of third language acquisition is a field on its own. It follows the idea that third language acquisition cannot be put on a level with second language acquisition, but that it deserves its own attention.

In addition, this chapter summarizes predominant theories and proposed models of cross-linguistic influence in third language acquisition. Several different and mostly contradicting models of third language acquisition are presented. We find evidence for influence mainly coming from the L1 (see for example Hermas 2014; Na Ranong & Leung 2009), the L2 (see Bardel & Falk 2007; Dewaele 1998, among others), both the L1 and the L2 (see Flynn et al. 2004; Hermas 2015), and either the L1 or the L2 depending on typological similarity (see Rothman 2011), linguistic proximity (see Westergaard et al. 2017, among others), or language dominance (see for example Hopp 2019; Fallah & Jabbari 2018).

This chapter concludes with an evaluation of the individual theories and models and puts the diverse findings into another perspective by adding the status of the previously acquired languages to the discussion. This should clearly justify the need for further research in the area of third language acquisition and cross-linguistic influence.

3.1.1 Emergence of the field

During the 1960s, the research field of second language acquisition established as an area in its own right (Ellis 1994). It clearly distinguishes itself from the acquisition of the first, the native language. Arguments in favor of the different nature of first language and second language acquisition are that the former implies discovering language itself as a tool for communication (Cook 2016a: 16-17; Halliday 1975). The latter already assumes that people know the nature of language, because “there is already one language present in their minds” (Cook 2016a: 17). More precisely, “the presence of the first language is the inescapable difference in L2 learning” (Cook 2016a: 17). This realization opened the floor for an extensive area. Hence, in the second half of the 20th century, first studies with second language learners were brought forward and increasing interest in this field widened its scope of research (Ellis 1994).

We can now trace an interesting development from the beginning towards the current understanding of language acquisition. In 1994, Ellis discussed the notions of ‘second language’ and ‘third language’ and came to the conclusion that ‘second language’ should be a cover term for any language other than the mother tongue and that this was a generally accepted concept in linguistics (Ellis 1994: 11). Back then, many agreed that it was redundant to differentiate between L2, L3, Ln learners “as the process underlying the acquisition of all non-native languages is essentially the same” (De Angelis 2007: 4). Most studies were only concerned with either first or second language acquisition and limited the understanding of how non-native language acquisition works on the second language (De Angelis 2007).

In 1995, Klein asked in how far the implications made for second language acquisition do also apply for situations in which the learners do not only have previous knowledge of one native language but also know more than one language (Klein 1995: 423). She talks about bilingualism or even multilingualism and acknowledges the possibility that bilingual or multilingual learners might use “their previous nonnative linguistic knowledge to aid in learning a new language” (Klein 1995: 423). Interestingly, she subsumes the acquisition of all subsequent languages, i.e. L4 acquisition, L5 acquisition, and L_n acquisition, under the label of L3 acquisition (Klein 1995: 456).

This question as to whether and how all previously acquired languages affect the acquisition and use of another language is quite relevant because monolingualism is not the major setting that we find. Ellis already mentioned that multilingualism is not something that is rarely found but that has long been normal in Africa and Asia (1994: 11). It seems, however, that this is somewhat limited to certain areas of the world. As was pointed out in the introductory words, this is not the case (anymore). Our society in general, and that is not limited to African or Asian countries, is developing into an ever more multilingual society and also in Germany, language diversity and multilingualism are important characteristics of the people that live here (see Gogolin et al. 2013; Li 2008; Meyer 2008; Montrul 2016). This explains the increasing interest not purely in language acquisition in general but especially the differences that can be found among different learners of a foreign language.

When analyzing third language acquisition, we need to consider the diversity that is covered by this term. Third language learners are not a homogeneous but a heterogeneous group. The mode and the circumstances of the acquisition of the second language can be diverse, for instance simultaneous with the native language, during childhood, as an adult, in a foreign language classroom, or during immersion in a new country of residence. We have already briefly outlined this complexity in Chapter 2 and we will come back to different types of bilinguals in Chapter 3.5. Hence, when a third language is added to this already diverse group of speakers, it gets even more complex (Cenoz 2013: 73). In general, Cenoz differentiates between ‘active bilinguals’ and ‘foreign language users’ (2013: 78-79). L3 learners that are active bilinguals are regularly using both of their languages and are in addition acquiring another language (Cenoz 2013: 78). Immigrant children, hence children that speak one language at home and that are exposed to a majority language outside of home, belong to this category, as well as early bilinguals who were exposed to both languages from birth onwards (Cenoz 2013: 78). Such heritage speakers and early bilinguals could be seen as having two native languages; therefore, they differ considerably from L3 learners that are foreign language users.

Such foreign language users have already acquired a foreign language, their second language, and are acquiring another foreign language, their third language (Cenoz 2013: 78). Cenoz admits that these two types of third language learners are not either-or-categories but that they could be seen as a continuum upon which individual learners can be placed (Cenoz 2013: 78). What both types, active bilinguals and foreign language learners, have in common is that when they start acquiring the foreign language, they already have knowledge of two other languages. However, the quality in terms of proficiency and use, may be entirely different.

Several scholars investigate multilingual behavior and found crucial differences between second language and third or additional language acquisition (see De Angelis 2007; Siemund 2019a). The understanding has shifted towards an agreement “that a general theory of non-native language acquisition cannot be based on L2 learner behavior alone” (De Angelis 2007: 4). Furthermore, L3 acquisition was stated to be more complex than L2 acquisition, because cross-linguistic influence may not be limited to come from the L1 as is the case in L2 acquisition, but the L2 could possibly influence the L3, and the other way around is also feasible, which means that all three languages can possibly influence each other (Cenoz 2001: 8; Jarvis & Pavlenko 2008: 21–22, Jessner 2008: 271; Peukert 2015: 4-5).

In addition to the knowledge of one or even more native languages, the knowledge and competences that a learner of a foreign language has gained throughout the process of learning a foreign language seems to reasonably play an important and possibly also helpful role in further learning processes (De Angelis 2007: 7). The more a person knows, the more it can potentially be a source he or she can rely on. Yet, it is not as simple as has just been outlined and will be further addressed in Chapter 3.7, where we deal with bilingual advantages.

First, however, we need to address conflicting theories about how multiple languages interact and influence the acquisition of another language – numerous studies can be found in the literature of the recent past. There is disagreement as to which language plays the most influential role or whether it is positive transfer accumulated from all previous languages or whether linguistic distance is the most important factor. We mainly discuss L3 acquisition studies, yet, occasionally, we also refer to L2 studies since these are crucial for the understanding of the subsequent arguments. Most importantly, the following chapter provides a general overview about current models that try to explain cross-linguistic influence in L3 acquisition.

3.1.2 Cross-linguistic influence in third language acquisition

Defining cross-linguistic influence

Cross-linguistic influence can be defined as “the interplay between earlier and later acquired languages” (Sharwood Smith & Kellerman 1986: 1). Other terms that are sometimes used synonymously are *transfer* or *interference* (Odlin 2013: 1). Though, Sharwood Smith and Kellerman (1986: 1) argue that cross-linguistic influence should be used instead of the term *transfer*, because cross-linguistic influence or CLI covers a larger variety of phenomena, such as interference, avoidance, and borrowing (Sharwood Smith & Kellerman 1986: 1). This idea finds largely support in research and it is currently regarded as a more neutral concept than transfer and is therefore more widely used (Cook 2016b: 25).

Before we continue to focus on the more widely used term, let us briefly look at a definition of transfer. A possible way of defining transfer is given by Odlin (1989: 27), namely that “[t]ransfer is the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired.” There is some negative connotation attached to the term *transfer*, as in negatively influencing the target language; and what it also implies is that transfer is usually associated with the L1 influencing the L2, or the L2 influencing the L3. Yet, CLI is not limited to one direction of influence, if we go back to the definition of the beginning (Sharwood Smith & Kellerman 1986: 1). In fact, it is quite the contrary: there are studies that show that the L2 cannot only be affected by the L1, but that the L2 can also affect the L1 (see Kellerman & Sharwood Smith 1986 for more information; also Odlin 2013). Furthermore, Odlin (2013: 1) explains that the term cross-linguistic influence covers numerous phenomena found in L2 acquisition; however, cross-linguistic influence is certainly not limited to L2 acquisition but can be found in all further language acquisition processes such as third language acquisition (see Gabrys-Barker 2012; Cenoz et al. 2001). Hence, we understand cross-linguistic influence as the interplay or interaction between the languages that were or are being acquired. Yet, for the current study, we are not interested in the entire interplay between all languages available in speakers, but we are interested in “how and under what conditions prior linguistic knowledge influences the production, comprehension and development of a target language” (De Angelis 2007: 19). More specifically, we want to find out how the L1 and the L2 influence the L3. Even though we follow the more neutral and broader definition of cross-linguistic influence rather than that of

transfer, we may use both term in the following discourse simply because of language variation. By doing so, we always refer to the neutral interplay between languages, and we do not imply a negative connotation due to imperfect acquisition.

Second language acquisition

First, let us have a look at foreign language acquisition, more specifically the acquisition of a second language. In 1996, Schwartz and Sprouse discuss and defend the ‘Full Transfer/Full Access Hypothesis’ (FT/FA) (see also Schwartz & Sprouse 1994). They argue in favor of the availability of all syntactic characteristics of the L1 and full transfer to the L2. Yet, their results only concern second language acquisition and it is left open whether this theory also applies to the acquisition of further languages in general, and not only to second language acquisition.

In opposition to this theory, Håkansson et al. (2002) conducted a study to test cross-linguistic influence in second language acquisition as well. They question the ‘Full Transfer/Full Access Hypothesis’ as was formulated by Schwarz & Sprouse (1994; 1996) and argue in favor of the ‘Processability Theory’. They tested L1 Swedish learners of L2 German. Håkansson et al. showed that the learners did not transfer word order structures, even though both languages considerably overlap: “Swedish and German have at least three word-order rules in common: canonical word order (SVO), adverb fronting (ADV) and subject-verb inversion (INV) [...] hence both languages are V2-languages, in contrast to English” (2002: 252). The participants produced sentences using a word order structure that was ungrammatical in both languages. This seems surprising, at first, but the explanation they offer is that only structures are transferred if “the structure to be transferred is processable within the developing L2” (Håkansson et al. 2002: 269). It is not simply the case that every available structure is equally capable of being transferred. Therefore, so they argue, the verb second structure does not get transferred.

However, this does not fully explain why the German sentences show a word order that is grammatical in English. Only later in their paper, we find that they used the extended term L2, meaning that strictly speaking, German was not the L2 of the native Swedish speakers but only a foreign language. They had already acquired English as their L2, so German should be their L3 (if we assumed a labeling of languages based on chronology and not the use of the label L2 for all foreign languages, irrespective of number or status; see Chapter 3.2). Håkansson et al. (2002) admit that this might explain why the participants used the just mentioned English word order, because the participants know English. However, they also argue that “such a

proposal is not compatible with the data from our study” (Håkansson et al. 2002: 269) and they exclude the possibility of transfer from English. As far as the analysis of their study is concerned, it seems as if they have overlooked the probability that language transfer in L3 acquisition may not only come from the L1 but also from the L2.

Bardel and Falk also criticize that they reject L2 influence on the L3: “[i]t is hard to agree with this statement, given the design and results of the study [...] V3 structures are present in the L2 (English) and found in the actual output of the learners” (2007: 465). Summing up, it seems that Håkansson et al. (2002) could not show that it is exclusively the L1 that is transferred, but that the L2 also plays an important role in L3 acquisition and that the L2 may explain the variation found in the data.

Transfer scenarios in third language acquisition

We have to go one step back. Remember that Schwarz and Sprouse (1994; 1996) looked into second language acquisition and they found full transfer of the L1. In Håkansson et al.’s (2002) study, however, it becomes clear that in L3 acquisition it is not necessarily the L1 that is transferred to the L3. In principle, when considering the possible interplay of all languages, there are four potential transfer scenarios in third language acquisition. Those four transfer scenarios are (adapted from Lorenz et al. 2018: 2):

- (i) no influence from the background languages;
- (ii) exclusive influence from the first language;
- (iii) exclusive influence from the second language; and finally
- (iv) influence from both the first and the second language.

As previous research has shown, the first scenario is very unlikely or even impossible, because all acquisition processes of non-native languages are affected by previously acquired languages (Lorenz & Siemund forthc.). We do expect that there must be at least some influence, either from the L1, the L2, or both, when acquiring a L3.

Influence from the L1

Concerning the other three scenarios, all find support in the literature. There is some evidence that the L1 plays a privileged role in L3 acquisition. Na Ranong and Leung (2009: 171), for instance, examine native speakers of Thai that learned English as a L2 during childhood and that had additionally taken up Chinese as a L3 during their university education. They investigate (null) objects in Chinese, Thai, and English (Na Ranong & Leung 2009: 164-168)

and come to the conclusion that their results of the L3 learners of Chinese, in comparison with L2 Chinese learners and native speakers of Chinese, support the idea of cross-linguistic influence coming from the L1 instead of the L2 (Na Ranong & Leung 2009: 185). Interestingly, they notice that their language combination does in principle not allow for disambiguating between typological similarity⁴ and L1 influence; however, they claim that the influence of the L1 is the major driving force for cross-linguistic influence. Due to the small number of participants and due to the specific grammatical phenomenon they investigate, Na Ranong and Leung explicitly limit their findings to their particular circumstances and propose that additional research is indispensable to further support this theory of L1 influence in L3 acquisition (2009: 185).

Influence from the L2

Yet, it must not necessarily be the L1 that influences the L3, as other studies have demonstrated. Dewaele (1998), to mention a study that was conducted approximately one decade earlier, identified L2 influence instead of L1 influence. He analyzed university students who were either L2 speakers of French, or L2 speakers of English and L3 speakers of French (Dewaele 1998: 476). The area of focus was “lexical inventions”, i.e. non-target-like lexemes, in French in oral production (Dewaele 1998: 477). He discusses cross-linguistic influence in terms of “level of activation” of a language (Dewaele 1998: 487-488). He found that for the L2 learners, it was of course their L1 Dutch that was activated (as there is no other language available), yet for the L3 learners, it was not the L1 but the L2 English (Dewaele 1998: 488). Hence, Dewaele (1998: 488) claims “that the L1 is not necessarily always the dominant *active* language.” Interestingly, he uses the term *dominant* here. The concept of a dominant language will come up later during this chapter and also in Chapters 3.1.3, 3.5, and 5.1.1, yet, it will be understood slightly differently.

Influence from the L1 and the L2 – cumulative enhancement

Further evidence against cross-linguistic influence according to scenario (ii), i.e. that it is entirely the L1 that plays an important role in L3 acquisition can be found in Flynn et al. (2004). They strongly oppose this preferential role of the L1 in the acquisition process of further

⁴ The question of typological similarity between languages will come up in this chapter in more detail further down.

languages and claim that it is not exclusively the L1 that influences the other languages (Flynn et al. 2004). All further languages (can) influence the subsequent languages, hence they argue in favor of transfer scenario (iv). They base this on the results of multiple studies: they compared L1 acquisition of English with the results of L2 learners of English; one group had a Spanish and the other group a Japanese background. They found, first of all, differences between the Spanish and the Japanese learners of English, which they explained with the different grammatical structures of the two languages (Flynn et al. 2004: 8). They analyzed the acquisition and use of relative clauses and found surprising similarities between the L1 speakers of English and the Japanese learners of English as opposed to the Spanish learners (Flynn et al. 2004: 8). For children who learn English as their first language, there is no grammatical concept to rely on in the first place. Everything they adapt is new. Japanese, as a head-final language, behaves differently in head direction than English: Japanese is a left branching language and head-final; English, however, is a right branching and head-initial language (Flynn et al. 2004: 8). Flynn et al. (2004) argue that when Japanese speaker learn English, they are not familiar with the right branching relative clause structure. This puts them in the same situation as the L1 learners of English. They use this as an explanation for why they show a similar pattern or more precisely the same chronological order of different types of relative clauses than the L1 learners of English (Flynn et al. 2004: 8). The Spanish native speakers do not produce the same pattern; they acquire relative clauses in a different order. Again, the explanation that Flynn et al. (2004) offer relates to the L1: Spanish, like English, is a head-initial, right-branching language; hence, the Spanish speakers are already familiar with this grammatical structure and do not need to establish this category but can rely on previous knowledge and transfer this to English (Flynn et al. 2004: 8). This, however, only shows that there is a difference between learners of English who have differing mother tongues and supports the claim made earlier that there is a difference between learners of a first foreign language, which can be explained with the grammatical structure of their native tongues. Hence, the native language plays a crucial role when acquiring a first foreign language.

This point, however, gains in importance if we look at further language acquisition. In the same study, Flynn et al. (2004) also analyzed L3 learners by matching the design of the previous one, to find out more about third language acquisition. They compared the application of relative clauses of L1 Kazakh and L2 Russian speakers that acquired English as their L3 with the results of the former study. They expected to find matching results with either the L1 Spanish speakers or the L1 Japanese speakers (Flynn et al. 2004: 9). Kazakh is similar to Japanese, and Russian is similar to Spanish when it comes to head direction (Flynn et al. 2004:

10). The outcome for the adult L3 learners was similar to the results of the Spanish learners of English. They explain that this shows that prior knowledge of both languages, not only from the L1 but also the L2, can influence the acquisition process of the L3 (Flynn et al. 2004: 13). Flynn et al. clearly state that “language acquisition is accumulative, i.e. the prior language can be neutral or enhance subsequent language acquisition” (2004: 14).

This is, of course, based on one particular aspect: the production and use of relative clauses, but the results convincingly show that not only the L1 Kazakh but also the first foreign language Russian seems to affect the performance in English. It demonstrates that prior conceptual knowledge of two languages is transferred to the third language.

Yet, these are only the findings for the adult group. They repeated the test with children, also L1 Kazakh and L2 Russian learners of English, but here the results were completely different. They neither matched the findings of the former L1 Japanese or of the L1 Spanish learners of English. They found an explanation because the children were not a homogenous group but represented various groups. Some acquired the L2 and the L3 more or less at the same time; hence, the level of L2 was still rather low. Others grew up bilingually, meaning that the L1 and the L2 could both be seen as native languages and not as one native and one foreign language. This of course affects the results, as this, the characteristics of the L1 and the L2, seem to also be major influential factors for shaping the performance in the L3.

In general, apart from some open questions they could not answer, Flynn et al. (2004) argue for “the basic premise of the *Cumulative-Enhancement Model* for language acquisition” (Flynn et al. 2004: 14). They argue against the hypothesis that the L1 is the major influencing factor when it comes to foreign language acquisition in general, but they propose a theory in which all previously acquired languages influence the acquisition of further languages. Acquired grammatical concepts foster the acquisition of the same or a similar grammatical concept in the new language (Flynn et al. 2004). In summary, they found evidence for transfer of both languages, the L1 and the L2, in L3 acquisition.

Furthermore, the influence of the L1 and the L2 is said to be exclusively positive or neutral (Flynn et al. 2004: 14). Hence, negative transfer is something that the authors neglect in their ‘Cumulative Enhancement Model’ (CEM). Additionally, they detected interesting irregularities with their participants that they explained with the different levels of proficiency in the respective known languages.

This leaves us with striking findings but also some open questions: when looking at L3 acquisition the level of the L1 and the L2 needs to be kept in mind. This argument that the status of the previously acquired languages plays a major role will come up later when we discuss

bilingual heritage speakers. Apart from this, it is not clear whether these findings only apply to the production of relative clauses or whether this cumulative transfer is feasible in other grammatical areas as well. Can this be extended to the area of tense and aspect as well? This will be tested in the ongoing study. Furthermore, and this goes back to what was previously claimed, there seems to be a crucial difference between children and adult learners on the one hand, and bilinguals versus foreign language learners, on the other hand. The conflicting results that were presented here point into that direction (and will be further addressed in Chapter 3.4). Hence, this supports the need for a systematic analysis of learner data and especially the analysis of children acquiring further languages, as this group is a particularly large group in our modern, western society.

Influence from the L2 – L2 status factor

As was mentioned before, this is not the only theory of how (multiple) foreign language acquisition works. Bardel and Falk (2007) also support the idea that we need to distinguish between L2 and L3 acquisition and they acknowledge “that there is a qualitative difference between the acquisition of a true second language (L2) and the subsequent acquisition of an L3” (2007: 459). Moreover, in contrast to Flynn et al. (2004), they claim that “syntactic structures are more easily transferred from L2 than from L1” (Bardel & Falk 2007: 459), which puts the L2 in the most important position in L3 acquisition. They base their argumentation on a study that was conducted with L3 learners of Dutch and Swedish with differing L1s and L2s. They explicitly want to argue against the sometimes neglected role of the L2 in L3 acquisition (see Håkansson et al. 2002 discussed earlier). They follow the hypothesis of “the so-called L2 status factor” (Bardel & Falk 2007: 460). The design of their study allowed for testing four hypotheses, similar to the four transfer scenarios proposed earlier:

- a) There is no transfer from any previous known language (the non-transfer hypothesis)
- b) Properties of the L1 are transferred (the L1 transfer hypothesis)
- c) Properties of the L2 are transferred (the L2 transfer hypothesis)
- d) Transfer occurs according to the Cumulative Enhancement Model of Flynn et al. (2004)
(Bardel & Falk 2007: 473)

Bardel and Falk (2007) looked at negation placement. They found a significant difference within the group, which makes hypothesis a) and also hypothesis b) implausible. Yet, they found evidence that supports hypothesis c) which contradicts the findings of Håkansson et al. (2002). Not every aspect of the L2 is transferred, but the differences between the groups can be explained based on the L2 of the participants. They firmly state that the “data support the hypothesis that the L2 status factor is stronger than the typology factor in L3 acquisition”

(Bardel & Falk 2007: 480). Not only did they stress the importance of the L2, but at the same time, they downgraded the influence of the L1 as a possible source for transfer in subsequent language acquisition. These results, and hence the concept of the ‘L2 Status Factor Model’, is limited to L3 acquisition. It is not intended to negate any influence of the L1; however, L1 influence is limited to second language acquisition. They finish their proposal by stating that “in L3 acquisition, the L2 acts like a filter, making the L1 inaccessible” (Bardel & Falk 2007: 480).

A further study that is challenging the model of ‘absolute L1 transfer’ was put forward by Rothman and Cabrelli Amaro (2010). In their research, they analyze L2 and L3 learners and come to the conclusion that the differences between the three groups cannot be explained based on their L1, because they all share the same L1 (English). Yet, and that is the crucial part, they claim that it must be indeed the ‘L2 Status Factor Model’ that explains their findings. They admit that they cannot fully overrule the CEM, because their data set does not account for typological differences, because of the limited number of languages. The data set consists of a control group of L1 English, two groups of L2 learners, namely L2 Italian and L2 French with L1 English, and two L3 groups, namely L3 Italian and L3 French with L1 English and L2 Spanish (Rothman & Cabrelli Amaro 2010: 199). In their conclusion, they admit that other, more diverse, language combinations need to be analyzed in order to clearly find support for either the ‘L2 Status Factor Model’ or the CEM (2010: 214). The strength of the current study that will be presented from Chapter 5 onwards is that it includes a larger set of language combinations and that it covers learners of English with different first languages. Throughout the analysis it will be shown in how far more fine-grained results can be presented.

Influence from the L1 in the initial stages of L3 acquisition

A study that introduces the opposite results again, i.e. that argues in favor of transfer from L1 to L3 instead of L2, was put forward by Hermas (2014). Hermas looked at adults with L1 Arabic and L2 French learning English as their L3. He stressed that the participants were in the initial stages of learning English. This is crucial for the study, because his results only apply to this particular group of third language learners. He considers the initial stages and later stages of language acquisition as distinct phases and expects a difference concerning the language(s) transferred from in the respective phases. Therefore, he criticized various studies that did not control for this variable: Lozano (2003), to name one example, found no L2 transfer in an advanced L3 state and generalized this to the entire L3 acquisition process (Hermas 2014: 3).

This might be true for the languages he looked at and for advanced learners; however, nothing can or should be said about initial learners based on the data used here. Hermas claims that empirical evidence is needed before one can make such a statement; therefore, he aims at closing a gap in language acquisition with his design. In his study, he looked at 14 trilingual learners: L1-Arabic, L2-French (advanced level of proficiency), and L3-English (beginner level of proficiency) (Hermas 2014: 11). All 14 participants can be seen as one (more or less) homogeneous group. Overall, they possess similar characteristics. He compares their performance with three native speaker control groups (Moroccan Arabic native speakers, French native speakers, and native speakers of American English) (Hermas 2014: 11). He used an acceptability judgment test and a preference test and analyzed the results statistically. Hermas only found a significant influence from L1 Arabic and not from L2 French: “[t]he analyses showed that the L2 knowledge of the L3 beginners did not have any bootstrapping effect on their L3 performance [...] it was the language that was more (psycho)-typologically distant that interfered [i.e. Arabic]” (Hermas 2014: 15). This is a crucial result because it shows that the L1 Arabic influences the L3 English negatively and no positive influence from the L2 French helps to improve the errors.

Against the odds, he came to the same conclusion as Lozano (2003), who had looked at advanced L3 learners. Additionally, earlier it was mentioned that some authors argue against negative transfer and that they presented evidence that transfer is exclusively positive (see Flynn et al. 2004). Here, however, the results demonstrate that negative transfer is possible and that not even a (psycho)-typologically closer language could diminish the negative influence from Arabic. Finally, Hermas stresses again that (i) their results only apply to the initial stages, (ii) are limited to L1 Arabic, L2 French, and L3 English, and that (iii) the findings are confined to “the SV-VS sequences and null-lexical expletive constructions of the null subject parameter” (Hermas 2014: 17).⁵

Hermas finishes his study by stating that further investigations in L3 research are needed to understand more about L1 status and typological proximity; he suggests conducting studies that include other linguistic phenomena than the ones previously examined (2014: 18). Again, this supports the need for conducting the current study: we analyze another linguistic phenomenon, namely tense and aspect. In addition, Hermas (2014) explicitly mentioned that it

⁵ By saying this, Hermas (2014) hints at one of the complications of the field of language acquisition. In research in general, we face a two-fold problem: we aim at generalizing, but all studies that we can conduct do not allow us to make overall claims but simply show the results of that particular group that was analyzed. Therefore, we need a number of distinct and diverse studies that all individually add to the bigger picture of understanding how language acquisition works.

matters in which stage the learners of a foreign language are in, because that might influence the results. He analyzed learners in their initial stages and had to limit his results to that particular group. Hence, in the current study, we look at two cohorts; cohort one could be said to be initial learners of English (the 12-year-old children) and cohort two are intermediate learners of English (the 16-year-old children); this cross-sectional design was chosen in order to produce relevant and comparable results (see Chapter 5.3).

Influence from the L1 and the L2 – positive and negative transfer

In the following year, Hermas (2015) published another study. This time he looked at pre-intermediate (n=11) and advanced (n=15) learners of English, with L1 Arabic and L2 French (Hermas 2015: 593). One of the objectives of this study was to test the ‘Cumulative Enhancement Model’, which claims that transfer is never negative but only facilitative or neutral (Flynn et al. 2004, see above). He considered the acquisition and use of relative clauses. The performance of the foreign language learners was compared to the performance of two native speaker control groups, namely French and English native speakers. The results clearly show that learning a third language is a cumulative process, which supports the model presented by Flynn et al. (2004) (Hermas 2015: 599). However, in his study, he only partly confirms the ‘Cumulative Enhancement Model’, because in the group of the pre-intermediate learners of English he found in addition to facilitative transfer also non-facilitative transfer (Hermas 2015: 599). He explains that the outcome shows that L1 Arabic was negatively transferred as opposed to potentially positive effects of the L2 French (Hermas 2015: 599).

These findings are interesting in two respects: first, Hermas could show that both languages, the L1 and the L2, influence the acquisition process of another language. The participants are highly proficient in these two languages: L1 is their native tongue, and Hermas reported that the level of their L2 French is post-intermediate, which ranks between the second highest and the advanced level (2015: 593). This might be the explanation for why traces of transfer from both languages were found, because the levels are high enough that structural knowledge can be transferred. Second, as was remarked earlier, the reason for why negative influence should be impossible was not given in Flynn et al. 2004. It seems implausible that a learner of a foreign language can easily decide which linguistic knowledge of one or more languages can and should be transferred because the structure of the new language is alike, and which would lead to an erroneous target language use (Hermas 2015: 599; see also Rothman 2013 for further information). By showing that both positive and negative influence were

visible, Hermas (2015) was able to establish a complex acquisition process, which opens a new debate.

Transfer based on typological similarity

However, in addition to this, there is another influential aspect that needs to be discussed. Earlier, the term *typology factor* was mentioned but not commented on further. This refers to the ‘Typological Primacy Model’ proposed by Rothman (2011). Rothman (2011) also examines the question which role the previously learned languages play during the acquisition process of a third language. He excludes the possibility of the L1 to be the only source for transfer and he challenges two models, the ‘Cumulative Enhancement Model’ (Flynn et al. 2004) and the ‘L2 Status Factor Model’ (Bardel & Falk 2007) with his study (Rothman 2011: 111). Both models predict a different outcome in the initial stages of third language acquisition (see above in this chapter). He therefore chose two distinct groups of bilinguals: one group consists of speakers of L1 Italian, L2 English, and L3 Spanish (n=12), the other group contains L1 English, L2 Spanish, and L3 Portuguese (n=15) speakers (Rothman 2011: 116). Two control groups, native speakers of Brazilian Portuguese and native speakers of Spanish, performed the same tests. Rothman analyzed adjective placement, which differs considerably in the Romance languages and in English (Rothman 2011: 112). Surprisingly, he could not find statistically significant differences between the second language learners or between the third language learners and the native speaker control groups (Rothman 2011: 118). This outcome goes against the claims made by the ‘L2 Status Factor Model’ (Bardel & Falk 2007), because the second language English did not act as the main source of transfer for adjective placement in that group, but for both groups, the Romance language, either the L1 or the L2, influenced the performance in the L3. This could be seen as support for the ‘Cumulative Enhancement Model’ (Flynn et al. 2004), yet this theory excluded non-facilitative influence, which Rothman claims to be indeed possible (Rothman 2011: 120-121). He therefore proposes as (slightly) different model that he calls “a modification of the CEM” (Rothman 2011: 121). He argues that the best source for transfer in third language acquisition is either the first or the second language; the choice depends on the actual or perceived typological proximity to the language currently being acquired; transfer can be either facilitative or non-facilitative (2011: 112). He argues against a true ‘Cumulative Enhancement Model’ because negative transfer occurs; he also argues against the unique status of the second language that blocks transfer from the first language because in his study, he identified transfer from the first language. The model he proposes is the following:

Typological Primacy Model: Initial State transfer for multilingualism occurs selectively, depending on the comparative perceived typology of the language pairings involved, or psychotypological proximity. Syntactic properties of the closest (psycho)typological language, either the L1 or L2, constitute the initial state hypotheses in multilingualism, whether or not such transfer constitutes the most economical option. (Rothman 2011: 112)

He admits, however, that the group of participants he investigated could be problematic, because they were intermediate and not initial learners of the third language – this could have an impact on the results (Rothman 2011: 121). In addition, it is not entirely clear what he means by “overall typological proximity” (Rothman 2011: 121); does this imply that the language which is in sum typologically more similar to the target language is transferred in every grammatical domain? Does he mean that cross-linguistic influence is holistic (as opposed to property-by-property as put forward by Westergaard et al. 2017)? Rothman only tested adjective placement, but how about other grammatical phenomena? What if the languages share similarities in one domain but crucially differ in other domains? Apart from that, he also admits that the language constellations one considers could play a crucial role. This is the reason why he asks for “future studies that explore in depth other variables affecting multilingual transfer under different language pairings” (2011: 123) in order to get a better understanding of how linguistic transfer works in such multilingual situations.

An updated version of the ‘Typological Primacy Model’ is presented in Rothman (2013). His understanding of a third language can be read in the literal sense: it is the third language that is being acquired (Rothman 2013: 220). It is necessary to clearly define the setting, because among researchers, an unambiguous definition does not exist, yet it crucially biases theories and results depending on which definition is used (Rothman 2013: 220).⁶ Again, Rothman explains the four theoretical possibilities for transfer that could occur in third language acquisition: “(a) no transfer, (b) absolute L1 transfer, (c) absolute L2 transfer or (d) either the L1 or L2 can transfer” (Rothman 2013: 228). At this point, it is not entirely clear why the option that both previously known language can exert an influence on the L3 is not mentioned here. It seems plausible that not every aspect from either the L1 or the L2 will be transferred, it could be that a certain grammatical feature will be transferred from one and that another feature will be transferred from the other language. The L1 and the L3 could share certain features whereas the L2 and L3 could share other features. Some language combinations might not even share anything – yet, it is assumed that at least basic concepts (e.g. talking about past events/future events) will be shared to some extent. If this was the case, transfer could occur from both languages. Why this should be relevant becomes apparent when considering the following

⁶ More on that topic can be found in Hammarberg (2010) and Hammarberg (2014) and in Chapter 3.2.

point. Rothman continues to explain what was originally meant by the term *psychotypology*. It is not something conscious but an unconscious process; he claims that noticing structural proximity relies on an unintentional reflex that is ultimately guided by the principle of economy (Rothman 2013: 235). This recognition of structural proximity happens rather early on in language acquisition because the learner wants to avoid redundancy and wants to use as much of his or her previously acquired knowledge in order to be maximally efficient. Therefore, after assessing which of the previously known languages are structurally more similar to the target language, one language will be selected that is completely transferred (Rothman 2013: 236). This could be either the L1 or the L2, depending on which was assessed as being more similar. This explains why among the possibilities for transfer there was no option for both languages to be transferred. Overall, what Rothman is clearly stating is that transfer in language acquisition is entirely based on an economy principle: “I will argue that multilingual transfer selection based on structural proximity is inherently motivated by cognitive economy” (Rothman 2013: 219). For him, transfer is defined as the transmission of functional features from the previously known languages to the currently acquired language (Rothman 2013: 224). This happens, naturally, in the initial stages when the respective concepts are still unknown in the language currently in focus (Rothman 2013: 224). In addition, he excludes the possibility of feature-by-feature transfer; hence, he argues for a holistic model (Rothman 2013: 242). This somehow justifies his claim in either transferring the L1 or the L2.⁷

Transfer based on linguistic proximity

This notion of feature-by-feature versus holistic transfer is addressed in Westergaard et al. (2017). In opposition to the formerly mentioned theories concerning cross-linguistic influence, one of the most recent studies proposes a more or less completely different model: the ‘Linguistic Proximity Model’ (LPM) (Westergaard et al. 2017). It challenges existing models, such as the ‘Cumulative Enhancement Model’ (Flynn et al. 2004) or the ‘Typological Primacy Model’ (Rothman 2011). What Westergaard and colleagues claim, essentially, is that not the “general typological proximity is the decisive factor [...]” but that “similarity of abstract linguistic properties is the main cause of CLI from previously learned languages” (2017: 670). In addition, they found evidence for both facilitative and non-facilitative influence (Westergaard et al. 2017: 676) which goes against the claims made by the ‘Cumulative

⁷ This view finds support in language contact research, where this idea of holistic transfer is called *systemic* transfer (for further reference see for example Bao 2005, 2012; Bao & Lye 2005).

Enhancement Model' (Flynn et al. 2014) in which non-facilitative influence was excluded. This has now repeatedly been shown in previous research, irrespective of the kind of cross-linguistic influence that was proposed, both facilitative and non-facilitative cross-linguistic influence is possible.

Westergaard et al. also state that the entire linguistic repertoire that is available to a speaker influences the acquisition of further languages and that it is not the order in which these languages were acquired but the specific similarities between the known languages and the language(s) to be learnt that play a major role for transfer (2017: 670). They base their claims on the outcome of a grammatical judgment task of English sentences that considered adverb-verb-placement and subject-auxiliary inversion. The participants of the study were Norwegian-Russian bilingual students (n=22), Russian monolingual (n=31) and Norwegian monolingual (n=46) students at the age range of 11 to 14 (Westergaard et al. 2017: 672). Westergaard et al. (2017) found statistically significant differences between the groups, which they explained with the differing languages that were available to the students. They could show a positive influence from Russian for adverb-verb-placement, due to word order similarities between Russian and English (the adverb precedes the verb in declarative sentences) and they could also find negative transfer from Norwegian (verb second status) (Westergaard et al. 2017: 671; 676). The analysis reveals, as they hypothesized, that the Russian monolingual students performed best in the adverb-verb-placement task, that the Norwegian monolingual students performed lowest, and that the bilingual students turned out to be in between the two monolingual groups. The latter can be explained due to both facilitative and non-facilitative CLI from Russian and Norwegian (Westergaard et al. 2017: 676). They focused exclusively on the languages itself and did not regard age of acquisition or status of bilingualism or order of acquisition as influencing factors. Yet, it is stated that the participants are bilingual heritage speakers and their migration history may point towards them being unbalanced bilinguals (Westergaard et al. 2017: 679; see also Lorenz et al. 2018: 13). The status of the languages of a bilingual speaker are indisputably factors that have a crucial impact on the acquisition of further languages (see above in this chapter, Chapter 3.1.3 and Chapter 3.5). Irrespective of this discussion, Westergaard et al. diminish the debate of second language acquisition versus third language acquisition and argue for all languages being equally active throughout the process of learning (Westergaard et al. 2017: 678). On further point that needs to be added is that they only let the participants perform a grammatical judgment task; no other task, i.e. a written production task or oral task had to be performed. It remains unclear whether the outcome would be the same as in their judgment task, if language production was tested.

Similar to the just described ‘Linguistic Proximity Model’ proposed by Westergaard et al. (2017), Slabakova (2017) also argues for a feature by feature transfer model that is based on typological or perceived typological similarity and that does not exclude negative transfer. She presents the ‘Scalpel Model’ of third language acquisition by reviewing and analyzing former studies. She concludes that multilingual learners store the grammars of their previously acquired languages in a combined manner which therefore makes a privileged status of either the L1 or the L2 unlikely (Slabakova 2017: 656). She presents several arguments that negate the unique status of the L1 and that rule out the salient influence of the L2. She strongly disagrees with the assumptions of the ‘Cumulative Enhancement Model’ which claims that transfer is either positive or neutral but never detrimental (Slabakova 2017: 656). Moreover, she supports the argument that transfer should be understood as a feature-by-feature process and rejects the idea of a wholesale transfer as was proposed in the ‘Typological Primacy Model’, for instance (Slabakova 2017: 657-658). In addition to these findings, which more or less coincide with what Westergaard et al. (2017) presented in their study, she states that further factors such as frequency of the phenomenon under investigation and the availability of positive or negative evidence influence the acquisition process (Slabakova 2017: 662). Hence, failure or “the effect of thwarting the potential cumulative enhancement” (Slabakova 2017: 659) is not an unexpected phenomenon. She uses the metaphor of a scalpel: it precisely pins down specific properties, yet, there are “[...] factors that can lead the scalpel away from precision” (Slabakova 2017: 662). This means that a particular grammatical feature might be more easily transferred than another feature. One further point that she stresses is that L3 research should go beyond analyzing the initial stages only; focus should be placed on development (Slabakova 2017: 652). Summing up, Slabakova (2017) does not present a new study with which she supports her model, but she relies on former studies and reviews the findings and propositions made in these. The contrast to Westergaard et al.’s ‘Linguistic Proximity Model’ (2017) is the admission that the acquisition of languages in a multilingual setting is dynamic and complex and that more individual variables need to be regarded. Finally, she leaves the reader in a partly unsatisfactory state by admitting “refinements of any proposed model are possible and welcome, especially in the face of new evidence. The search for the definite L3 acquisition account continues” (Slabakova 2017: 662). She proposes this model without being too definite about it or the specific nature of L3 acquisition in general.

Another study that can be somehow related to the former studies because it found similar results to the study by Westergaard et al. (2017) and Slabakova (2017), without calling it the ‘Linguistic Proximity Model’ or the ‘Scalpel Model’ of third language acquisition, is

Siemund and Lechner (2015). They investigated subject-verb agreement and article use in English, based on written texts by 12- and 16-year-old Russian-German bilinguals, Vietnamese-German bilinguals, and German monolinguals, with 10 participants in each group. They analyzed only a subset of the original data set from the project *Linguistic Diversity Management in Urban Areas* carried out at the University of Hamburg (2009-2013). This data set is of importance later, because the current study uses the same data. The aim of the project was to investigate mono- and bilingual language development and to rule out language external factors (such as the socio-economic background) that are assumed to have an impact on the language performance. Siemund and Lechner's (2015) findings are twofold. In the domain of subject-verb agreement, they found the Vietnamese-German bilinguals to perform more target-like than their German monolingual peers. They explain this because of "the higher typological proximity between English and Vietnamese in this particular domain of grammar" (Siemund & Lechner 2015: 156). This is in line with the claims made by Westergaard et al. (2017: 678), in that transfer is property dependent. Hence, because of the similar structures in the domain of subject-verb agreement, Vietnamese-German bilinguals can use their previous knowledge and apply this to English. The German monolinguals, though, do not share the same expertise and cannot profit from any similarities. However, this does not imply that Vietnamese-German monolinguals have an advantage over their monolingual peers in general, it is only restricted to this domain (and possibly other domains where Vietnamese and English are also grammatically similar).

Quite surprising are the results for article use. Siemund and Lechner (2015) did not find statistically significant differences between the groups. This seems to suggest that the monolingual and bilingual participants exclusively transferred from German, which has a highly complex system of articles that can be compared to the article paradigm of English (Siemund & Lechner 2015: 157). Both Russian and Vietnamese do not have a similar article paradigm; yet, it did not influence the use of articles in English negatively. They interpret the overall results as partly supporting Rothman's (2011) 'Typological Proximity Model' (advantage of Vietnamese-German bilinguals) and also the 'L2 Status Factor Model' (Bardel & Falk 2007; Bardel & Falk 2012; Falk & Bardel 2011) (transfer from German, the second language of the participants). In sum, however, their "data do not seem to favor one particular transfer hypothesis" (Siemund & Lechner: 2015: 159). Therefore, they argue that much more research needs to be done, because their results are exclusively based on a small sample and a larger sample needs to prove whether their initial claims about transfer in general and transfer

in the domain of tense and aspect can find support. Some more comments on that study can be found in a later section, in Chapter 5.1.3, where the E-LiPS project is discussed in more detail.

In a follow-up study based on the same project but with more participants and on a different grammatical domain, Siemund et al. (2018) present again evidence of transfer in the acquisition and use of English that can be explained with similarities to a previously learned language. For this study, they analyzed both written and spoken material of the E-LiPS project. The participants had to write a narrative to a picture sequence, they had to orally describe a second picture sequence, and the older cohort (16-year-old students) were asked to write instructions on how to build a boomerang, which was also presented as a picture sequence (Siemund et al. 2018: 389). They were able to detect statistically significant differences in the use of demonstrative pronouns between the different language groups (Russian-German, Turkish-German, Vietnamese-German, and German monolingual) (Siemund et al. 2018: 393-394). The Russian-German bilingual speakers use demonstrative pronouns in contexts where they function as personal pronouns; this could be seen as negative transfer from Russian, because in Russian, personal pronouns cannot be used in such contexts, but a demonstrative pronoun is used instead (Siemund et al. 2018: 399-400). Siemund et al. (2018) did not find overall Russian transfer in the use of demonstrative pronouns, but they explain that transfer is restricted to this particular use. This could be support for Rothman's (2011) 'Typological Primacy Model'; yet, Rothman argued for holistic transfer, and therefore it most likely supports the 'Linguistic Proximity Model' proposed by Westergaard et al. (2017) (2018: 403). Interestingly, this time we see negative transfer due to linguistic similarity. This is not in contrast to Westergaard et al. (2017: 678), because they included both facilitative and non-facilitative transfer in their model. Nevertheless, Siemund et al. (2018: 403) go one step further and hypothesize that it is not simply the availability or access to multiple languages when acquiring another language, but that proficiency and frequency of use of these languages are important factors as well.

Transfer from the dominant language

Another recent study that needs to be discussed in this context is Hopp (2019). Similar to the previously analyzed papers, Hopp (2019) also investigated L2 versus L3 research; he compared monolingual German pre-school children who acquire English in a school context with bilingual Turkish-German learners of English. The aim he followed was to test if and to what extent the existing L3 models are applicable to a specific group of L3 learners, namely

sequential bilingual children whose dominant language is not their L1 but their L2 (Hopp 2019: 570). A sentence repetition task and a picture story retelling task were used to compare verb-second order and adverb order (English and German differ in this grammatical area) and verb-complement order and subject and article realization (here, Turkish is different and English and German share the same grammatical rules) (Hopp 2019: 571-573). Hopp's (2019) findings demonstrate that CLI in L3 acquisition comes exclusively from German; he cannot find differences between the two groups of learners, hence, no influence from the heritage language Turkish can be verified (Hopp 2019: 579). He explains this complete transfer from German with the fact that German, here technically the L2, is the dominant language that acts as the source of cross-linguistic influence (Hopp 2019: 577). Even though German is in terms of order of acquisition the L2, Hopp (2019: 579) states that as an early acquired L2 it has the same status as a L1. He supports this by clarifying that German, the dominant language, is the language that the bilingual heritage speakers use more frequently than their heritage language, it is activated more often in their daily lives, and it is also the language of instruction in school (Hopp 2019: 14). Therefore, the participants rely on German and not on Turkish when acquiring English. Summing up, Hopp (2019) argues for dominant language transfer instead of L1 transfer or L2 transfer, or instead of transfer in accordance to the 'Cumulative Enhancement Model' (Flynn et al. 2004). Yet, he also takes up the argument of typological similarity and here, language dominance and typological similarity fall together for German (Hopp 2019: 580). Therefore, it is impossible to differentiate these two concepts on the basis of this study. Further investigations with more language combinations are needed.

One such study is Fallah and Jabbari (2018). They look at school-aged bilingual speakers who grow up in Iran and acquired Mazandarani and Persian naturally and study English as a foreign language in school (Fallah & Jabbari 2018: 201-202). Fallah and Jabbari (2018: 203) differentiate three bilingual groups by taking into account frequency of use of the two languages available and by controlling for order of acquisition. Group A has Mazandarani as L1 and Persian as L2, and those indicated their L1 to be the language of communication (i.e. the majority language); group B has the same order of L1 and L2 as group A, yet, the L2 Persian is their reported majority language; group C has the reverse order, namely L1 Persian and L2 Mazandarani, and they use Persian, their L1, most frequently (Fallah & Jabbari 2018: 203). Hence, this study includes three groups of unbalanced bilinguals that have a majority language and a less frequently used language. This language constellation is strikingly similar compared to the language repertoires of the unbalanced bilingual heritage speakers characterized above

(see Hopp 2019), although the participants in Fallah and Jabbari (2018) are not heritage speakers.

Like Hopp (2019), Fallah and Jabbari (2018: 193) are also interested in the role of the dominant language in L3 acquisition. The difference to Hopp (2019) is that neither Mazandarani nor Persian is apparently typologically similar to English (Fallah & Jabbari 2018: 209); hence, they rule out this typology factor that Hopp (2019) was not able to exclude. Fallah and Jabbari's study uses a grammaticality judgment task and an element rearrangement task to cover both comprehension and production, and the focus in both tasks is the placement of attributive adjectives (2018: 204). Their results clearly show that the claims made by the theory of 'absolute L1 transfer' (Hermas 2014; Na Ranong & Leung 2009), the 'Cumulative Enhancement Model' (Flynn et al. 2004), and the 'Typological Primacy Model' (Rothman 2011) cannot be supported (Fallah & Jabbari 2018: 211). They show that cross-linguistic influence largely comes from the dominant language (Fallah & Jabbari 2018: 210) which supports Hopp's (2019) findings. They limit their findings to the initial stages of third language acquisition and to syntactic cross-linguistic influence (Fallah & Jabbari 2018: 210), which also suggests that further research is necessary. A similar study, analyzing a slightly modified group of participants, was published earlier (Fallah et al. 2016). Fallah et al. (2016) present the same results as Fallah and Jabbari (2018) in that they report that the language of communication, i.e. the language that has a dominant status for the participants, is the source of transfer in L3 acquisition. Again, this was based on unbalanced bilinguals. Irrespective of order of acquisition of L1 and L2, the only decisive factor determining language transfer was dominant status of either of the two languages.

The next study reports on foreign language pronunciation as opposed to morpho-syntax and includes adult heritage speakers and not school-aged participants. Lloyd-Smith et al. (2017) investigated adult heritage speakers and tested in an accent rating study how the L3 English is influenced by the two previously acquired languages Turkish (the heritage language and language that was acquired first) and German (the dominant language and language that was acquired during early childhood). Based on their pronunciation in English, the raters identified the learners of English predominantly as German native speakers of English, which led the authors to assume that transfer comes mainly from the dominant language German (Lloyd-Smith et al. 2017: 158). However, for those bilinguals who showed higher proficiency in their heritage language Turkish, the ratings were not straightforwardly pointing to a German background. Therefore, Lloyd-Smith et al. (2017: 158) argue for a relationship between CLI in L3 and dominance patterns of L1 and L2 in heritage speakers. Yet, they do not want to

generalize, because this may not be the same for other grammatical areas such as syntax (Lloyd-Smith et al. 2018).

Selective transfer from the L1 and the L2 versus dominant status

Therefore, in their 2018 study, Lloyd-Smith et al. focus on embedded *wh*-questions. Initially, they expected to find predominantly German transfer in the Italian-German bilingual heritage speakers when participating in an English acceptability judgement task (Lloyd-Smith et al. 2018: 3). Yet, surprisingly, this was not the case. Instead, they ruled out cross-linguistic influence exclusively from the dominant language German, because the participants accepted patterns that were comparable to both German and Italian (Lloyd-Smith et al. 2018: 12). Moreover, they could not find an effect of proficiency in the heritage language on the ratings; higher proficiency in Italian did not influence the outcome (Lloyd-Smith et al. 2018: 12). Hence, they contradict their own results of the previous study. This suggests that the grammatical area that is investigated plays an important role in transfer studies (more about this can be found in the following Chapter 3.1.3). Finally, they claim that they support Westergaard et al.'s (2017) 'Linguistic Proximity Model' and argue for selective transfer from both the L1 and the L2 (Lloyd-Smith et al. 2018: 13).

The last study that will be discussed in this chapter is Lorenz et al. (2018). The authors analyze the performance of 195 mono- and bilingual school-aged children in their foreign language English in a word order test (Lorenz et al. 2018: 1). The bilingual children are similar to Hopp's (2019) and Siemund and Lechner's (2015) bilingual heritage speakers. They grow up with the majority language German and either Turkish or Russian; the latter is their heritage language (Lorenz et al. 2018: 4). They look at two different age groups (younger cohort: age 12 and 13; older cohort: age 14 and 15), which allows for at least some developmental comparison. The results demonstrate that for the placement of pronominal objects, cross-linguistic influence from both the heritage and the majority language is possible (Lorenz et al. 2018: 7-11). This finding differs to what Hopp (2019) reported, but it offers some support for Westergaard et al. (2017). However, Lorenz et al. point out that (i), the influence from German, the majority language, was disproportionately stronger than influence from the heritage language, that (ii) differences between the learner groups were mainly found in the younger cohorts, and that (iii), the overall frequency of occurrence of the pronominal object patterns in English affects cross-linguistic influence (Lorenz et al. 2018: 12, 16). The fact that cross-linguistic influence from German is stronger than from Russian or Turkish supports Fallah and

Jabbari (2018) and shows that dominance of a language influences the L3. The differences that were found between the younger and the older students suggests that we need to differentiate between initial learners and more proficient learners of a L3 since the patterns that can be found in each proficiency group may not coincide. Last but not least, frequency of occurrence is another influential factor that needs to be included in L3 acquisition studies. Lorenz et al. (2018) argue for cross-linguistic influence mainly coming from the majority or dominant language, due to a higher activation of that language on a daily basis. Yet, they also agree with Westergaard et al. (2017) that transfer in L3 acquisition is not holistic, but that linguistic proximity plays an important role and that transfer of both the L1 and the L2 is in principle possible.

Conclusion

This section gave a comprehensive overview of studies that all investigated cross-linguistic influence in third language acquisition. It should be clear by now that the findings and corresponding models are crucially different and do not support just one L3 transfer model. We do not even find a particular developmental trend. This means that the question as to which of the previously acquired languages shapes cross-linguistic influence in third language acquisition remains unanswered despite a vast majority of research studies and projects that were conducted and initiated during the past decades.

The next chapter aims at evaluating the aforementioned research studies and tries to explain why the findings are so diverse. From the perspective of types of language learners, we can identify characteristics of bilinguals that the former studies did not control for and that allow us to differentiate the proposed L3 models.

3.1.3 Evaluation

The preceding discussion of the heterogeneous studies and results clearly shows how lively the debate about cross-linguistic influence in the field of language acquisition still is. We do not promise to find the perfect answer with the current study, but we hope to add another aspect to this debate, which could answer some of the questions raised and could provide further evidence in support of available models for third language acquisition.

Before we describe the layout of this study (in Chapter 5), we will offer an explanation for the, at first sight, contradicting results of the previous studies. First, let us have a brief look

at one article that offers a systematic review of 71 studies focusing on transfer in L3 acquisition (Puig-Mayenco et al. 2018), which is of course much more than what was covered in the chapter above. Puig-Mayenco et al. (2018: 18) prominently demonstrate that all studies they included in their meta-analysis revealed a significant amount of variation. Most importantly, we find variation across all domains “that is, differences exist related to the backgrounds of the subjects tested, the languages in the trilingual pairings, the domains of grammar tested and several non-trivial distinctions in type, creation and administration of the testing methodology” (Puig-Mayenco et al. 2018: 18). This is their main argument for why there are so many different models that all try to capture transfer in L3 acquisition. We follow a different evaluative strategy, but many points that we will present in the next paragraphs find support in Puig-Mayenco et al. (2018).

The most prominent factor is perhaps the sample size of the studies – they differ crucially and are typically relatively small. Compare for instance Bardel and Falk (2007) who looked at nine participants, Håkansson et al. (2002) whose study contained 20 subjects, or Lloyd-Smith et al. (2018) who analyzed 21 third language learners. We assume that these low numbers were chosen to create a (more or less) homogeneous group. In Bardel and Falk, for instance, we find that “[t]he learning was the same for all participants” (2007: 470). The participants received the same language instruction and had the same input, which makes a comparison possible. Yet, in total, they analyzed only nine L3 learners. Therefore, the findings hardly qualify for any generalizations.

Furthermore, in most studies, only one grammatical phenomenon or area was included in the analysis (compare Flynn et al. 2004: relative clauses). Again, this does also not allow a researcher to formulate generalizations for the acquisition of a language in general. Siemund et al. (2018) mention this typical shortcoming of most studies that investigate cross-linguistic influence in L3 acquisition: “the examination of one particular phenomenon is usually taken to be sufficient to allow for far-reaching generalizations” (2018: 384). It is of course not possible to analyze all aspects of a language within the limitations of one study, and we will also not be able to do this here in this study. Yet, this problem of only analyzing one feature is especially relevant since some of the previous research findings point towards property-by-property transfer (Westergaard et al. 2017). How could claims be made if we only looked at one area, such as adverbial placement, demonstratives, or subject-verb-agreement? In addition, Lorenz et al. (2018) demonstrate that frequency of occurrence in the respective language affects cross-linguistic influence. Slabakova (2017: 662) also argues that one additional factor that influences

the acquisition of a L3 is the “construction frequency in the target L3”. This needs to be included in further research.

Furthermore, as was likewise stressed by Hopp et al. (2018) and Hopp (2019), most of the studies exclusively analyzed adult language acquisition but paid little attention to child L3 acquisition. Hence, the groups of language learners that were analyzed are essentially different types of learners, and therefore, it may not be advisable to compare child language acquisition with adult language acquisition. Chapter 3.4 will further investigate why we should differentiate between adult and child language acquisition and why it is therefore relevant to conduct the current study.

However, not only child versus adult language acquisition was explained to have an influence in the process of acquiring a foreign language and the performance in that particular language, but also the status of the languages and level of proficiency in the previously known languages was mentioned to have a significant influence. The status of the languages concerns the debate whether bilingual participants are equally proficient in both languages, such as balanced bilinguals, or whether they have one majority language and one minority language and would then be considered unbalanced bilinguals. Furthermore, the status of the L2 could be different from speaker to speaker. The L2 could be strictly speaking a second native language (if a person grows up in a bilingual community, for instance), it could be a foreign language acquired via formal instruction in school (such as English acquisition in Germany by monolingual German speakers), the L2 could be acquired during childhood or as an adult, or the L2 could be the majority language of the country of immigration. The latter would result in bilingual heritage speakers that have knowledge of a heritage language (the majority language of their former country of residence or that of their parents or grandparents) and that acquire at some point in time, after immigrating to a new country, the official language of the new country of residence as a L2 (an example would be a Russian speaker that moves to Germany). More about heritage speakers will be explained in Chapter 3.5.

Lorenz and Siemund (forthc.) and Lloyd-Smith et al. (2018) argue that most models that explain the role of previously acquired languages in L3 acquisition are based on participants who grew up in a monolingual setting with one language, who then received formal education in a L2, and acquire their L3 mostly in a university setting. To name just the most prominent models, we find this situation in Na Ranong and Leung (2009), Bardel and Falk (2007), Flynn et al. (2004), and Rothman (2011). However, when we look at the more recent studies that were previously discussed, and when we consider a development that Kupisch et al. (2013) describe, we notice that there is a shift towards analyzing a different type of L3 learner (Lorenz &

Siemund forthc.). We find young bilingual heritage speaker who grow up with a heritage language and a majority language. Heritage speaker grow up bilingually, usually either as simultaneous bilinguals or early, sequential bilinguals, with a minority language, their family language or heritage language, and with a majority language, the community language of the country of residence (Montrul 2016: 2). An example of such a speaker would be a child of parents that grew up in Turkey and speak Turkish as their native language and who immigrate to Germany when the child is still very young. They continue to speak Turkish at home, but the child is also exposed to German outside of their home and in school. We will discuss the concept of heritage speakers in more detail in Chapter 3.5, but for now, we can notice that there is a difference between this type of bilingual speaker and a bilingual speaker that receives formal education in their L2.

Keeping this in mind, it seems less surprising that learning a third language may follow different patterns depending on the status of the previously acquired languages. We therefore see the need for clearly assessing the type of bilingual speaker when analyzing cross-linguistic influence in L3 acquisition. As research that focused on such heritage speakers has shown, it seems impossible to replicate findings of former studies that analyzed different types of L3 learners (see for example Westergaard et al. 2017; Hopp 2019; Siemund et al. 2018). Hopp emphasizes that the status of the L1 and the L2 in heritage speakers is not straightforward: “the heritage language may – strictly speaking – not be the L1 of these children, and the early-acquired other language (German) may equally be a L1 or may have taken over the role of the L1 as it became the more dominant language” (2019: 579). Dewaele (1998: 29) also stressed “that the L1 is not necessarily always the dominant *active* language.” Therefore, models that propose exclusively transfer from the L1 or the L2 may be difficult to apply in such heritage speaker situations. It seems as if the status of each language, i.e. which language is the dominant or majority language and which language is the minority language, affects the learning process of the L3. As was briefly reported, Lloyd-Smith et al. (2017) were able to demonstrate in an accent-rating study that dominance patterns of the L1 and L2 of heritage speakers determine CLI in the L3. Their results suggest that in the L3 English, at least in terms of foreign accent, there are differences between those that were more or less proficient in the heritage language Turkish: transfer seemed to come predominantly from German (the overall dominant language) but they identified that this was different for those who were more proficient in their L1 Turkish (Lloyd-Smith et al. 2017: 156-158). They showed that both the L1 and the L2 could be sources of CLI in L3 acquisition for heritage speakers and that proficiency in the heritage language affects the outcome in pronunciation. In another study, however, Lloyd-Smith et al. (2018),

these results could not be replicated. Here, when they analyzed syntax, the proficiency level of the heritage language had no impact on the results; all participants showed CLI from both the dominant language German and the heritage language Italian (Lloyd-Smith et al. 2018: 156) which ultimately supports Westergaard et al. (2017) and Slabakova (2017). Once more we find an indication that more research is needed, in order to understand how CLI of the L1 and the L2 influence the L3 (especially in unbalanced bilingual heritage speakers).

This argument about language dominance, i.e. balanced versus unbalanced bilinguals, finds little attention in Puig-Mayenco et al.'s (2018) comprehensive review of L3 acquisition studies. Yet, we are convinced that the type of bilingual learners that are investigated crucially affect the role that the previously acquired languages play in additional language acquisition.

In addition, the status of the L3 is also important; differences are to be expected concerning the initial, intermediate, or advanced stages of the third language. Several former studies have explicitly limited their findings to the initial stages/initial state⁸ of the L3 acquisition process (Hermas 2014; Fallah & Jabbari 2018; Rothman 2011). Slabakova (2017) also proposes that L3 studies should go beyond the initial stages of learning an L3 but to also focus on the developmental processes. This developmental perspective may offer even further insights into understanding how cross-linguistic influence determines the acquisition of a third language. Lorenz et al. (2018: 10) have shown, on the basis of a cross-sectional study, that there were hardly any differences between the different groups in the older cohort; here, both mono- and bilingual learners performed comparably. Yet, among the younger learners, Lorenz et al. (2018: 10) identified differences between L2 and L3 learners. This clearly shows that further studies should specify the current status of the L3 and that we need to put more emphasis on cross-sectional studies that include several proficiency levels or, ideally, that there are more longitudinal studies that follow a number of students over a longer period of time.

So far, as was shown, many studies concentrated on adults rather than children. The groups were mostly homogeneous but presented therefore only one particular type of L3

⁸ Several authors refer to either the initial state or the initial stages, hence, it seems as if both concepts are sometimes used synonymously. Take Rothman (2011), for instance; here, he limits the applicability of the TPM to the initial state (Rothman 2011: 112). Later, in Rothman (2015) he acknowledges that he is actually not referring to the initial state in accordance to Schwartz and Sprouse (1996), but that he should use the term initial stages instead. Initial state, following Schwartz and Sprouse (1996: 41), is the starting point in L2 acquisition, namely the entire grammar of the L1, at the onset of L2 acquisition. In L3 acquisition, the initial state would then be both grammatical systems of L1 and L2, because these two systems are theoretically available in further language acquisition (Rothman 2015: 179). What Rothman (2011) and arguably many others are actually referring to are the initial stages. Initial stages could be defined as “the period in which structurally driven wholesale transfer from the L1 or the L2 takes place” (González Alonso & Rothman 2017: 688). Hence, it is the time between first initial exposure and the time when the learner of the L3 has had already some (limited) learning experience of the L3 (Westergaard et al. 2017: 669).

learner. Only some studies looked at younger learners and included bilingual heritage speakers, which are an increasing group of people in our societies (see the introductory chapter). In the current study, it is aimed to address some of the aforementioned deficiencies; however, new deficiencies are the consequence (see Chapter 8). The sample size will be larger, we will not focus on 10 speakers exclusively, but the entire sample consists of 249 speakers. This increases the likelihood for proposing adequate generalizations. In addition, the groups that will be looked at comprise multiple subgroups, intermediate and advanced learners of English for both monolingual and bilingual children. This allows for a wider picture since various language combinations are included. However, this means that the individual subgroups are also comparably small. Concerning the grammatical area that will be analyzed, we are also limited to one specific area as we can hardly make a general statement about language acquisition regarding all fields of grammar within one study. It is not possible to cover every grammatical area, from phonetics and phonology, to the lexicon or syntax. Yet, we chose a complex area, tense and aspect, that allows for manifold investigations.

Before we get into more details concerning the methodology and the background of the current study, we need to clarify a number of terminological issues. The first domain that will be addressed is the labeling of the individual languages of a speaker.

3.2 Terminology: first, second & third language, heritage language and others

At this point, we need to have a closer look at what de Angelis (2007: 8) calls “Terminological (In)consistencies.” As is often the case when a new research area develops, already established concepts and terms are taken from neighboring disciplines (de Angelis 2007: 8). This may be helpful, of course, but not every concept is automatically appropriate in the new situation, and not all researchers agree on the same uses. So far, we accepted the terms the respective authors used in their studies. However, in the literature, there is no consistent use of all concepts related to the individual languages of a person. Therefore, we will introduce Hammarberg (2010), Hammarberg (2014), and de Angelis (2007) in this chapter to review different strategies and ways of classification. Following this discussion, we explain how we will deal with this in the remainder of the study.

In the past, and especially in the literature of Second Language Acquisition (SLA), researchers differentiated between L1 acquisition, the acquisition of the native language, and between L2 acquisition, the acquisition of the second language, i.e. a non-native language (de Angelis 2007: 4). There is overall consensus that L1 acquisition differs from L2 acquisition.

Here, however, research stopped, and there are almost no studies that go beyond L2 acquisition in that limited sense and de Angelis (2007: 4) states that this only allows for an incomplete picture of how non-native language acquisition works. The reason for this was that even though there was agreement that L1 acquisition and L2 acquisition differ, the assumption that L2 acquisition is different from L3 or L4 or L5 acquisition was not too popular (de Angelis 2007: 4). De Angelis claims that some researchers had the opinion that “a distinction between an L2 learner and an L3 or an L6 learner is in fact redundant, as the process underlying the acquisition of all non-native languages is essentially the same” (2007: 4). Therefore, the labels L1 or first language and L2 or second language were clearly sufficient.

This understanding has recently changed, as the previous chapter demonstrated. There is now a vast majority of research that includes the acquisition of languages other than the L1 and the L2. Scholars now support the belief that all previously acquired languages and acquisition experience influence further language acquisition (de Angelis 2007: 4) and Chapter 3.1 demonstrated that L2 and L3 acquisition show contrasts. Therefore, we need to distinguish not just between the L1 and the L2, but we drive for finding a way to refer to additional languages as well. De Angelis (2007: 11) proposes “third or additional language acquisition”, because it sets it apart from second language acquisition but also includes further languages, i.e. the L4 or L5 and so on. Hence, she argues for a label that is distinct from the two previously acquired languages but that does not differentiate any further.

Hammarberg (2010, 2014) approaches this terminological issue from a slightly different angle. Hammarberg (2014: 3) remarks that the label second language, or L2, is used differently in Second Language Acquisition (SLA) research than in Third Language Acquisition (TLA) research. In the former, it is usually any non-native language that is acquired, and in the latter, it is typically the language that was acquired as the chronologically second language (Hammarberg 2014: 3). Following the latter research area, the L3 or third language could have several meanings:

- (a) the chronologically third language [...], or (b) the next language encountered after the simultaneous acquisition of two languages in early infancy [...], or (c) any non-native language currently being acquired by a speaker who is already familiar with one or more other non-native languages. (Hammarberg 2014: 3)

We clearly see that these three distinctions demonstrate a rather inconsistent use of the term third language. Therefore, it is necessary to have a closer look at how this could be more uniform.

First, Hammarberg presents “the linear model” which he argues to be common practice among many scholars (2010: 93). The languages of a speaker are labeled accordingly to the

order of acquisition, hence, the first language is the L1, the second language is the L2, and so on and so forth (Hammarberg 2010: 93). This is covered by notion (a) from above (Hammarberg 2014: 3). Yet, such a neat labeling may not always be possible, especially when we consider our modern, western societies that are shaped by individual mobility, going abroad for some time to study or to work, and by in general diverse language biographies.

I provide a small example for how diverse language biographies can be in temporary societies. Now, in the beginning of the 21st century, when you ask a number of young university students in Germany about their language repertoires and about what their native language is and how many languages they speak, their answers will be extremely multifarious. Some grew up with German and another language, for instance Spanish or Turkish, studied English and French at school, and have recently started to learn Japanese, for example. They may not remember a lot from their French classes and are now much more confident in German than in Spanish, even though Spanish was the language they came into contact first. Some of the students may find it easy to classify their languages according to the labels L1, L2, L3, L_n following the linear model, others, however, may be unsure about which of their languages should be regarded their L1. It may even have changed over the course of their lives: some reported that their other language used to be their L1, their native language, but that they are not, after years of living in Germany, very proficient and fluent in this language anymore. How can we compare such a L1 to a L1 of a person that grew up in Germany with only German as their L1?

Hence, this seems to correspond to what Hammarberg refers to when he remarks that “it will often be neither meaningful nor even possible to order a multilingual’s languages along a linear time scale” (2010: 93). He also offers some typical situations that complicate such linear ordering: (i) simultaneous acquisition of two or several languages may make the labeling impossible; (ii) little knowledge of a language poses the question of whether such languages should be included in the language repertoire or not; (iii) different types of knowledge, i.e. only reading or oral skills but no writing skills, may also complicate the labeling; (iv) interrupted learning, i.e. taking up a language again after years of not using it, could cause problems for the linear model; and (v) bonus languages, i.e. languages that are very similar to already known languages, such as Norwegian if you speak Swedish, could also play a role in multilingual minds but are not covered by this linear model (Hammarberg 2010: 94).

These examples should have exemplified that the linear model may very often fail to represent the linguistic background in an adequate way. Jessner et al. (2016) also remark that in a multilingual setting, such chronological labeling may be complicated because “dominance

(in terms of proficiency or frequency of use) and/or the ‘emotional weight’ given to a certain language do/does not necessarily correspond to the chronological order of acquisition” (2016: 194).

Yet, there may be other situations, where this model could be useful. Let us take a child who grows up with one language, German, in Germany, studies English in school as the first foreign language and takes up Spanish as the second foreign language later. Here, the labels L1, L2, and L3 would be useful and easily applicable.

A second problem with this linear model is that this chronological order also has certain connotations with regard to language proficiency. Usually, a speaker is most proficient or fluent in the L1 (de Angelis 2007: 9); yet, as Hopp (2019) has shown, this may not be the case for heritage speakers. In such situations, the L2 may take over the role of the most proficient language (Hopp 2019: 579). This means that such labels can also be misleading and may result in a different interpretation as some of the former studies have demonstrated.

This distinction may also not be adequate for people that grow up with two languages simultaneously. For such bilingual speakers, a more useful distinction would be one that differentiates between native languages (NL) and non-native languages (NNL) (Hammarberg 2014: 6). A native language or native languages are those that were acquired from birth onwards and a non-native language or non-native languages were added later, during adolescence or adulthood (Hammarberg 2014: 6). This distinction is based on cognitive differences between NL and NNL (Hammarberg 2014: 6). There may be different cut off points in terms of age of acquisition: this will be addressed in Chapters 3.4 and 3.5.

Another point worth mentioning still applies to bilinguals. De Angelis (2007: 11) remarks that the two languages of a bilingual may either have a balanced relationship or one language may be dominant compared to the other language. *Balance* and *dominance* relate to the proficiency level: *to be balanced* means that a person is equally proficient in both languages; and if a person has a higher proficiency in one language, then we find a *dominant relationship* (de Angelis 2007: 9-10). The latter seems to be more common, this will be examined in Chapter 3.5 in more detail.

Hammarberg deviates from the formerly mentioned traditional chronological labeling but defines L1 as the native language or languages of a speaker, and L2 as one or more non-native languages of a speaker (2014: 6). Hence, a person can have various L1s and L2s. This seems to be a more suitable representation of highly complex language biographies. The L3 is then simply a special case of an L2: “[i]n dealing with the linguistic situation of a multilingual, the term *third language (L3)* refers to a non-native language which is currently being used or

acquired in a situation where the person already has knowledge of one or more L2s in addition to one or more L1s” (Hammarberg 2010: 97). In sum, Hammarberg (2010, 2014) also proposes a language model that differentiates, similar to de Angelis (2007), between three levels.

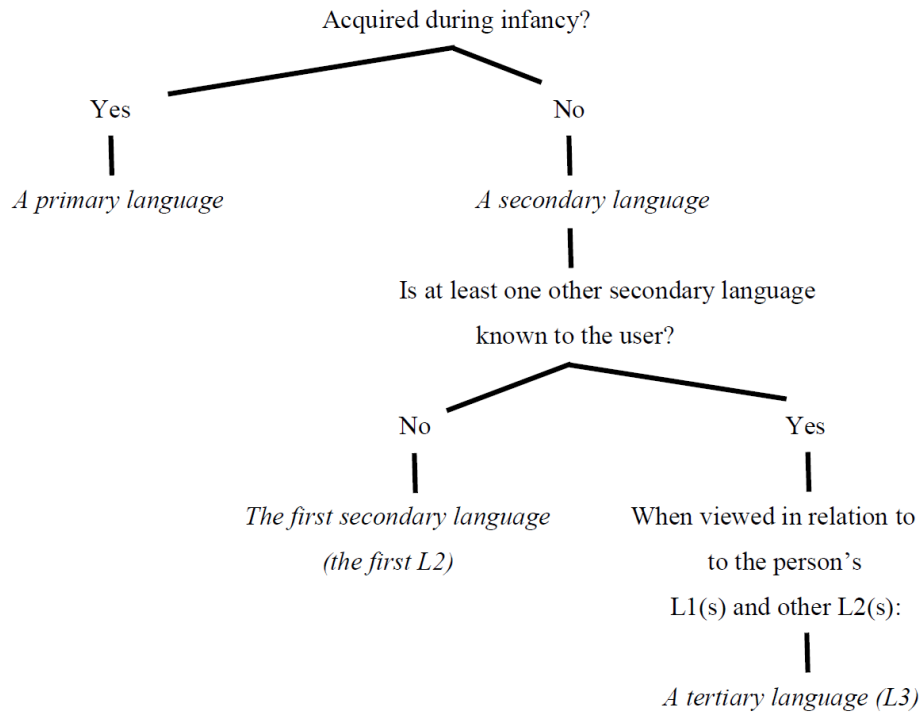


Figure 4: The language acquisition hierarchy (taken from Hammarberg 2010: 101)

Finally, Hammarberg (2010: 98-99) considers a new alternative: a hierarchical ordering of the language repertoire of a speaker into primary language, secondary language, and tertiary language (Hammarberg 2010: 99). With this “three-order hierarchy” he hopes to add the multilingual perspective to this complex situation and he hopes to replace formerly confusing terms (Hammarberg 2010: 101) (see Figure 4).

The labels L1, L2, L3 and so on, somehow imply a chronological ordering and also a level of (decreasing) proficiency. Hence, the L1 would then be the language in which a speaker is most proficient and the language with the highest numbering the least proficient. Yet, this may, for reasons that have just been addressed, not always be the case. Especially for heritage speakers, and those are in focus in the present study, these labels may not be adequate. This is the reason why in the current discussion, we will not use the labels L1, L2, or L3, but we make use of the less controversial terms *majority language* for the dominant language in the respective country (in this study this will be German), *heritage language* (HL) for the family language of the bilingual children (i.e. Russian, Turkish, or Vietnamese) and *foreign language* or *additional language* for the non-native language English. We hereby concentrate on Meisel’s

definition of a heritage language: “HL [...] is typically the language of origin of immigrants, and its use is frequently confined to family-related sociolinguistic domains” (2014: 437). He also explains that the HL exists “in addition to the majority language of the country of residence” (Meisel 2014: 437). This accords to what has previously been described for the heritage speaker: growing up in a country where the dominant language is another than the language of the family (more will be discussed in Chapter 3.5; see also Montrul 2016).

Meisel (2014) outlines a common situation that can also be found here in Germany among the participants of the study: the Russian-German, Turkish-German, and Vietnamese-German students grow up in Germany, go to German schools, but share another language with their family (and friends). For the participants this means the following: in case of the monolingual participants, English is the first non-native language, i.e. it is a foreign language. For the other students, the Russian-German, Turkish-German, and Vietnamese-German children, English will also be a foreign language. The only difference is that the latter speakers have already knowledge of two previously acquired languages. Hence, this foreign language English is for all participants an additional language that is added to their linguistic repertoire.

One note of caution: for some of the participants, both languages can be seen as native languages (according to the former definition); for others, however, only the heritage language Russian, Turkish, or Vietnamese is the native language and German in principle a non-native language.⁹ Yet, as will be shown in Chapter 3.5, both belong to the group of bilingual speakers, as they acquired German, the language of the environment, rather early in childhood. Therefore, we will refer to all speakers with previous knowledge of two languages (be it two native languages or one native language and one non-native language) as bilingual heritage speakers that learn English as an additional language. The German, Russian, Turkish, and Vietnamese monolingual students will be referred to as monolingual learners of English as an additional language.

The next chapter touches upon another terminological issue, namely that between language acquisition and language learning.

⁹ Some children were born in Germany and they acquired both German and another language (either Russian, Turkish, or Vietnamese) from birth onwards. Others were born outside of Germany, where they grew up with one language. Then, after moving to Germany, they started to learn German as their chronologically second language. A more detailed typology of the participants of this study can be found in Chapter 5.3.

3.3 Terminology: acquisition versus learning

There is a discussion about whether we should distinguish between *acquisition* and *learning* as two distinct concepts or whether these terms can be used synonymously. Krashen (1981) clearly differentiates between acquisition on the one hand, and learning on the other hand. He particularly refers to adults and children separately, which is nicely in line with what was discussed in Chapter 3.1.1., namely that we have to keep in mind to differentiate between particular groups of learners, and particularly between children and adults as rather distinct groups of learners. In Krashen's understanding, *acquisition* refers to the 'natural' process of language acquisition as can be found in children that start using their first or second languages (1981: 1). The term *natural* was used to stress that it relies on communication in a natural setting, without explicit teaching of grammatical rules or forms; it is all about meaning (Krashen 1981: 1). This describes the normal process of children acquiring their first language, or languages. Adults, of course, can also acquire a language other than the first language, if it happens in such a naturalistic setting. Krashen argues that proficiency or "fluency in production is based on what [learners] have 'picked up' through active communication" (Krashen 1981: 2). Hence, the normal process of acquiring a language happens in childhood, but if adults pick up a language similarly, meaning also without formal and rule-based instruction, we can still speak of language acquisition.

Language *learning*, however, happens via giving explicit rules and via error correction (Krashen 1981: 1). This, as should become clear now, relates to formal language instruction that happens in a classroom situation. Both children and adults can learn a language.

Yet, there are other scholars, that do not differentiate between these two terms, but use them interchangeably (see for example Ellis 1994; Odlin 1989). Ellis' argument is that there is not yet a convincing definition of the term *acquisition* available, but mentions Krashen (1981) as one who proposed a separation into *acquisition* and *learning*, as has just been explained (Ellis 1994: 14). He agrees to its validity but remarks that it is problematic to clearly classify learners into either of the two categories (Ellis 1994: 14). Regarding the biographies of people in our globalized world today, it seems unlikely that the process of learning or acquiring a language follows a uniform path. It is more likely that the concepts, defined by Krashen (1981), merge, in a sense, and that there are phases in which *learning* and phases in which *acquisition* is predominant.

For the current study, therefore, it makes sense to follow Ellis (1994) rather than Krashen (1981), because the learners that are being investigated are more or less from one particular group. We have monolingual children, on the one hand, that learn a second language (English) in a formal school context, and we have bilingual learners, on the other hand, that *acquired* their first two languages at first and are additionally *learning* the language of the environment in school and are also *learning* the third language. At the same time, of course, it applies that *learning* and *acquisition* alternate throughout their development (i.e. in case of German, the language of the environment, they get formal training at school but might also acquire German when conversing with their (German) peers). With respect to the participants of this study, we expect their language biographies to follow a more or less similar development overall. Therefore, whenever we use these two terms, we will not differentiate between the distinctions made by Krashen (1981), but we will use them interchangeably, following Ellis (1994). As Chapter 3.1.1 showed, there are assumed differences because of this particular difference between *acquisition* and *learning* but this is not in focus here, because we are not concentrating on this difference. In the current study, it will therefore not be addressed any further.

The following section addresses an issue that is also highly debated and whose dissent among scholars was mentioned several times before. We will clarify if and why it makes a difference when we consider child or adult language acquisition.

3.4 Adult language acquisition versus child language acquisition

The goal of the study of second and third language acquisition is, as it is in general the case in scientific studies, to find regularities, generalizations and universals that hold for all human beings. There are, and that may be undoubtedly true, aspects that are shared by learners in general. Yet, learners differ in many respects, which, as a result, has an impact on the learning process. Among the most obvious ones, following Ellis (2015: 25), is the starting age of learning a language. The capacities for learning languages change over time (Richards & Sampson 2014: 9); hence, children have other capacities at their disposal than adults. A wrong assumption, however, would be to simply claim that children are better than adults when learning languages (Ellis 2015: 25). In some respects, adults are even said to have an advantage over children, due to their larger set of stored abstract concepts or their capacity to establish new abstractions and concepts, to name just these two (Richards & Sampson 2014: 9-10).

It is not the intention to discuss possible biological characteristics of children or adults, because this is admittedly a (still) highly controversial area (Richards & Sampson 2014: 10). Therefore, to assess the (apparently) different nature of child versus adult language acquisition, a more reasonable starting point is to consider how child language learning situations differ from typical adult language learning situations (Richards & Sampson 2014: 10). Motivational differences, the necessity of mastering the language for daily situations versus a school subject, classroom versus street learning, etc. (Macnamara 1971: 474-475; Richards & Sampson 2014: 10) are named as affecting the process of acquiring a language. In addition, Ellis claims that “it is necessary to distinguish the effect of age on ultimate attainment, the rate of acquisition, and the route of acquisition” (2015: 25). He discusses these notions and makes some interesting discoveries (Ellis 2015: 35-36):

- i. “[L]earners who start learning as adults can achieve high levels of L2 proficiency,” but “they fall short of total native-like competence.” This fact supports the idea that the ‘multicompetence’ of a bilingual differs from a monolingual.
- ii. “The advantage of starting young for ultimate attainment only arises if learners have ample exposure to the target language.”
- iii. “Older learners acquire a second language more rapidly than younger learners in the initial stages [...]. This may reflect [...] that older learners make fuller use of conscious learning strategies while children rely more on implicit learning.”

This clearly shows that early bilinguals and monolinguals that acquire a foreign language later in life differ considerably from each other. If we now add an additional foreign language, i.e. the third language, the situation becomes even more complex: if children, hence young learners, that already know two languages, start to learn a third language, they should be recognizably different from monolingual adult learners that started learning their second and third language later, as adults (note that in these situations, the labels L1, L2, and L3 are indeed useful). The level of proficiencies differs and in addition, (positive and/or negative) transfer from the previously known languages might be different (compare Chapter 3.1.2).

Hence, what we face here are opposite starting positions for adult and child learners. These differing learning situations are very likely to cause differences in the language competence and the performance in the language(s), this has already been mentioned in Chapter 3.1.3. This is the reason why there are presumably differences when we analyze the English produced by adult learners as opposed to child learners. Therefore, (i) we cannot only look at adult learners but need to conduct separate studies with child learners (Hopp et al. 2018), and (ii) this might explain the sometimes inconsistent findings of previous studies (see Chapter

3.1.2). Hence, when comparing the findings of the previous third language acquisition studies, one needs to be aware that only particular groups could actually be compared and that some, at first sight antithetical findings might not be wrong, but they simply show and confirm that there are differences among specific groups of learners.

In the current study, we are not analyzing L3 learners that grew up as monolinguals and acquired their chronological second language during adolescence and are now, as adults, acquiring their third language. The participants in this study are child learners of the foreign language English. In addition, some groups are bilingual speakers, because they grow up with two languages, a heritage language and a majority language, the others are child second language learners that study a foreign language at school. The exact differentiation between bilingualism and being a heritage speaker will be discussed in the subsequent chapter.

3.5 Bilingual speaker versus heritage speaker

This chapter deals with the conception and definition of bilingualism and the concept of a heritage speaker, what we will argue to be a special type of a bilingual speaker. Especially during the past 2 or 3 decades, research focusing on bilingualism has gained a lot of attention in fields such as linguistics, cognitive science, and related areas (Bayram et al. 2018).

Let us first have a look at bilingualism. Butler and Hakuta discuss and quote linguists that pose different notions or nuances of bilingualism ranging from a very broad definition to an extremely narrow definition. The former, quite general definition would be “individuals or groups of people who obtain the knowledge and use of more than one language” (Butler & Hakuta 2006: 114-115). A considerably narrower definition of bilingualism would only apply to individuals that have “native-like control of two languages” (Bloomfield 1984: 56; see also Butler & Hakuta 2006: 114).

Several problems arise from the broad definition: how exactly can we limit this notion and what is meant by “knowledge” of languages? In addition, with regard to the second definition, how can we define or measure “native-like control”? To reflect upon this is the main task of this section. We are presented with an unclear definition of bilingualism on the one hand, and a concept of a heritage speaker that seems to be a special case of a bilingual speaker, on the other hand.

One criterion of defining bilingualism is certainly the level of proficiency in the respective languages. As Butler and Hakuta (2006) clearly argue, if we take the approach of native-like fluency in both languages, then the number of individuals that belong to the group

of bilinguals is rather limited. Another approach would be to speak of someone as a bilingual if that person was equally fluent in two languages (Duarte 2011: 25). At first, both definitions seem to pinpoint the same, yet, the second is perhaps easier accessible than the abstract notion of native-like fluency. Being fluent in a language does not necessarily mean native-like, but it implies a high level of proficiency. Such a person, i.e. one that has equally high proficiency in two languages, would be called a balanced bilingual (Duarte 2011: 25). Yet, as Duarte discusses, this is also controversial because it is unlikely or even impossible to be identically proficient in two languages in every context or situation; competence of one or the other language might also vary over time, as is or could be the case with the competence of the native language, too (2011: 25-26).

Apart from this definition of a balanced bilingual, there are further types of bilingual speakers. There is also the notion of unbalanced or dominant bilinguals who have a higher proficiency in one language than in the other (Butler & Hakuta 2006: 115; see Chapter 3.2). The concept of language dominance is difficult to define, and scholars differ in whether it is best described with language proficiency, or language use, or with other measures (Grosjean & Byers-Heinlein 2018: 9). In addition, language dominance can change over time; one's dominant language in childhood may switch roles with another language in adulthood (Grosjean & Byers-Heinlein 2018: 10). Especially, and this is taken up later in this chapter, the first language or mother tongue of a person may not always be the dominant language (Grosjean & Byers-Heinlein 2018: 10).

In line with this, meaning that a bilingual speaker does not need to be perfect in two languages to count as a bilingual, is the definition that Macnamara introduced: according to his idea, a person counts as bilingual if he or she has at least little knowledge, even simply passive knowledge, of another language (1967: 59-60). Following this classification, it seems as if a large number of humans could be considered a bilingual speaker, because even little knowledge of a language other than the native language (such as understanding a few words) would automatically make that person a bilingual. Indeed, Romaine states "that practically everyone in the United States, Britain or Canada, and no doubt most other countries, would have to be classified as incipient bilinguals because probably everyone knows a few words in another language" (1995: 11). This classification seems to be (i) not generally accepted among linguists and (ii) it would not make sense to form a group to which almost everyone belongs; the reason for forming a group should be to set apart a particular group of people from the rest.

A more neutral way seems to be to define a bilingual speaker as someone who has a profound active and passive proficiency in two languages. Baker categorizes the ability of

bilinguals into productive skills, meaning to have active writing and speaking skills in the two languages, and into receptive skills, i.e. to have passive language skills such as reading and understanding (2011: 3). Hence, he includes among the group of bilinguals those speakers that have already acquired both languages to a high degree and also speakers that are yet in the process of acquiring a second language (Baker 2011: 3). The latter are referred to as emerging bilinguals (Baker 2011: 3).

Bilingualism can, in this sense, be seen to be a continuum; speakers vary as to where they appear on this continuum on an individual level. This definition is still somewhat vague and may not be ideal either, but it includes both balanced and unbalanced bilinguals, though at the same time also excludes people that have only minimal knowledge of one of the two languages, as was defined by Macnamara (1967).

Another criterion relevant for defining bilingualism is the age of acquisition. We can differentiate between early and late bilingualism (Butler & Hakuta 2006: 116-117). Early bilingualism can be separated into simultaneous early bilingualism and sequential bilingualism (Duarte 2011: 30-32). Simultaneous early bilingualism describes the situation “when a child comes into contact with two parallel languages from birth” (Duarte 2011: 30). This condition can be created, for instance, when the parents speak with their child in two different languages. We can talk about sequential bilingualism “when a child’s second language is introduced after the first language is learned” (Duarte 2011: 31). Such a situation, for example, occurs for a child whose parents immigrated to a different country; the language typically spoken at home remains the language of the country of origin, but the child will start acquiring the language of the environment as well (at the latest when entering school). This is a typical heritage speaker situation, as was introduced in Chapter 3.2. These speakers use a heritage language and a majority language.

Franceschini (2016) offers a slightly more specific classification of different types of bilinguals, based on age differences and the social context in which the languages were acquired:

- i. *Simultaneous* bilinguals. These grew up in a bilingual environment; since birth they had contact with persons in their close environment who regularly interacted with the child in two languages.
- ii. *Covert simultaneous* bilinguals. These were born into a monolingual family whose language differed from the one spoken in the surrounding context. While having only little and irregular direct interactive contact with this second extra-familial language, they were nonetheless exposed to it since birth, leading to a ‘passive’ competence that was later on activated by an increase in input and direct interaction.
- iii. *Sequential* bilinguals (age of L2 acquisition, 1-5 years): these subjects were born into a monolingual family speaking the language of their surrounding environment. Because

- of the emigration of their family to a country in which a different language was spoken, they acquired their L2 between the ages of one and five years.
- iv. *Late* multilinguals. These subjects were born in a monolingual family speaking the language of their surrounding environment. These subjects learned their first foreign language at school, i.e. at the age of nine years or older.

(Franceschini 2016: 103)

This is a very interesting typology, because it shows a very fine-grained subdivision between different types of bilinguals who acquire two languages very early in their lives (except for type (iv)). In addition, type (ii) and type (iii) both match the definition of a heritage speaker (more will be discussed later in this chapter).

Linguists disagree as to whether there is an age limit for a child to still be able to acquire native-like competence and if so when this point occurs. Duarte reports that it is mostly accepted that puberty is the age limit: if a child starts to acquire the second language in a natural setting before puberty (as opposed to being schooled in a foreign language other than the language of the environment), then the child will be able to use this language as proficiently as the first language (2011: 31). Others believe that only children up to the age of three or four will reach native-like fluency in both languages and that with older age, they will not be able to master, for instance, the phonemic distinctions in that particular language (Watson 1991: 37). Others argue for different cut-off points, depending on the grammatical area. Meisel (2011), for instance, sees age four as the decisive threshold between early and late bilinguals concerning morphology. In addition, Bloomfield argues that occasionally even adults could reach native-like proficiency in a second language; he calls this type of bilingualism an “extreme case of foreign-language learning” (Bloomfield 1984: 55). Yet, he agrees with the other scholars in that it is much more common in childhood, particularly in early childhood, and that it is especially frequent for children of immigrants (Bloomfield 1984: 55-56).

McCarthy et al. argue that exactly the last type, the early sequential bilinguals speaker, is becoming more and more the norm in our multilingual society: “children who grow up in such communities are often initially exposed primarily to the family language, and it is not until they enter nursery at around 3 years of age that they gradually become immersed in the host country’s language” (2014: 1965).

Yet, bilingualism does not necessarily have to happen during childhood. If an individual acquires a second language during adulthood, or even as early as after age 12, we consider this person a late bilingual (Duarte 2011: 33). As the aforementioned discussion should have shown, the older a person when acquiring a second language, the higher the chances that native-like proficiency will not be achieved (Duarte 2011: 33). It is of course possible to arrive at the same proficiency level in both languages; yet, more often, we find a linguistic imbalance in late

bilinguals (Duarte 2011: 33). In contrast to early bilingualism, which is mostly characterized by the acquisition of the second language in a natural environment (for instance due to immigration), late bilingualism could be either “of the natural or the artificial kind” (Hoffmann 2014: 34). This means that either acquiring a second language naturally or acquiring a second language institutionally, for instance in school, makes someone a bilingual person.

An interesting distinction is made by Cenoz (2013) that has not been explicitly stated in the aforementioned discussion. She differentiates between active bilinguals and foreign language users (Cenoz 2013: 79). Active bilinguals are those that use both languages regularly and actively every day (Cenoz 2013: 78) and foreign language users have acquired a second language and may not even use this language regularly outside this study context (Cenoz 2013: 79). This seems to add another dimension to the formerly used balanced and unbalanced speakers.

One description of a bilingual speaker that has come up various times, yet that has not been sufficiently described is that of a heritage speaker. Cabo and Rothman (2012) define a heritage speaker (HS) as a “bilingual who has acquired a family language (the heritage language, HL) and a majority societal language naturalistically in early childhood” (2012: 450). They continue that for those that do not have the HL as a true first language, because of later immigration, first significant contact with the language of the environment in the new country typically overlaps with entering school (Cabo & Rothman 2012: 450). Hence, a heritage speaker is, according to their definition, a bilingual speaker. Even so-called later bilinguals, when the HL is strictly speaking not the first language because it was acquired not ‘naturalistically’ but through formal education in school, are part of this definition of a heritage speaker.

One of the most recent and extremely comprehensive works that discusses heritage speakers is by Montrul (2016). She explains that heritage speakers grow up bilingually, mostly as simultaneous or as early bilinguals (Montrul 2016: 16-17). The two languages are, on the one hand, the minority language, i.e. the language that does not have an official status in the current place of residence, and on the other hand, the majority language, i.e. the official language of the country (Montrul 2016: 2). The order of acquisition of the two languages, as was indicated before, may differ from heritage speaker to heritage speaker. Lorenz and Siemund (forthc.) outline that some may be exposed to both languages from birth onwards, because they may have one parent that speaks the majority language and one that speaks the minority language at home. Others, who immigrate to a country other than the one they were born in during their first years of their lives, may at first be in contact with only one language and acquire the majority language later, for instance when they enter pre-school or school in the

new country (Lorenz & Siemund *forthc.*). This is of course a simplification, but these two cases should demonstrate how diverse and heterogeneous the group of heritage speakers could be.

This explains, to a certain extent, why it is usually difficult to clearly distinguish between L1 and L2 in heritage speakers (remember the discussion in Chapter 3.2). The status of the two languages, that are shaped by frequency of use, proficiency, and also how comfortable they feel when using these languages, may change over the course of their lives. Montrul (2016: 16-17) claims that usually, heritage speakers are dominant speakers of the majority language and that they have very often only limited skills in their heritage language. This confirms what Hopp (2019: 579) observed when he discussed the heritage speaker participants of his study; he specifically states that the majority language takes over the role of the L1. Even if it was chronologically the second language that was acquired, it may still be the dominant language later on. Hence, bilingual heritage speakers are usually not balanced bilinguals but unbalanced bilinguals with a dominant language and a minority language (Montrul 2016: 42). The majority language is usually used and activated more frequently and in a wider variety of contexts than the heritage language.

This unbalanced status becomes apparent when we consider their language skills in the respective languages. Macnamara (1967: 59) proposes a matrix for language skills (Table 1). He claims that “[t]he educated person can typically speak and write his language as well as understand it when spoken and written” (Macnamara 1967: 58-59). This would include all four skills (speaking, writing, listening, and reading) and all four aspects (semantics, syntax, lexicon, and phonemes/graphemes). Yet, bilingual heritage speakers may be highly proficient in the majority language but have only limited skills in their heritage language. Montrul claims that the majority language is usually the strongest (2016: 42) and that the proficiency in the heritage language may range from barely any skills to high skills, i.e. almost native like proficiency (2016: 44).

Encoding		Decoding	
Speaking	Writing	Listening	Reading
Semantics	Semantics	Semantics	Semantics
Syntax	Syntax	Syntax	Syntax
Lexicon	Lexicon	Lexicon	Lexicon
Phonemes	Graphemes	Phonemes	Graphemes

Table 1: Matrix of language skills (taken from Macnamara 1967: 59)

Once again, now also based on their proficiency levels and not only on their acquisition biography, this clearly demonstrates the heterogeneity that we find among heritage speakers:

they could be balanced bilinguals, but they could also be, and this is the more frequent type, highly unbalanced bilinguals.

On a number of occasions, we have already stated that these bilingual speakers, i.e. immigrants and their children and grandchildren, are very frequent in current societies, due to global developments in our modern, western societies (see Chapters 1 and 2). Therefore, bilingual heritage speakers that grow up in monolingual countries are increasingly taking foreign language classes together with monolingual foreign language learners (Montrul 2016: 3). As the discussion in Chapter 3.1.2 demonstrated, it seems to make a difference whether a language learner has previous knowledge of one or of two languages. This has already been shown to be the case in many studies that compared L2 and L3 learners. However, this typology of heritage speakers should have also established that these bilingual learners show qualitative differences from balanced bilinguals and also from monolingual speakers that have acquired a foreign language in a classroom situation.

To sum up, the previous discussion confirms that a heritage speaker can indeed be seen as one type of a bilingual speaker. In addition, it seems as if it is actually a rather frequent phenomenon for children to grow up as bilingual heritage speakers, hence with a heritage language and with a majority language, i.e. the language of the environment. Surprisingly little research has so far investigated multilingual development in child bilingual speakers with a heritage language living in an area where another language is the majority language. Therefore, we will focus on exactly this group of language learners. The so-called control groups will be monolingual speakers (i.e. monolingual German, Russian, Turkish, and Vietnamese speakers) that start learning English as a foreign language in school. Hence, English is neither their heritage language nor the language of the environment; they grow up with one language, the language of the country they are living in, and study a foreign language in school.

Before we can continue to analyze these groups of learners of English, some further concepts need to be introduced and clarified. The subsequent chapter addresses a topic that is said to be a property of bilingual or multilingual speakers; hence, of the types of learners that are in focus of the current study.

3.6 Metalinguistic awareness and the so-called M-factor

This section discusses *metalinguistic awareness*. According to Bono (2011: 30), this topic has received much attention in multilingualism research and language acquisition research:

[...] metalinguistic awareness is a major subject of TLA [third language acquisition] research. Several leading publications have identified metalinguistic awareness as a key component of multilingual competence and as a factor that sets multilingual learners apart from monolingual learners, providing the former with a strategic advantage for further language learning.

In the following, we want to assess what *metalinguistic awareness* is, if knowing more languages equals higher metalinguistic awareness, and how it is associated with advantages in non-native language acquisition (see Chapter 3.7). First, we provide two definitions of metalinguistic awareness.

(1) Metalinguistic awareness is the ability to think flexibly and abstractly about language; it refers to an awareness of the formal linguistic features of language and the ability to reflect upon. Metalinguistic awareness allows the individual to step back from the comprehension or production of an utterance in order to consider the linguistic form and structure underlying the meaning of the utterance. (Malakoff 1992: 518)

(2) Thus metalinguistic awareness refers to the ability to focus attention on language as an object in itself or to think abstractly about language and, consequently, to play with or manipulate language. A multilingual certainly makes more use of this ability than a monolingual. One might even state that linguistic objectivation is the multilingual's most characteristic cognitive ability. (Jessner 2006: 42)

Both definitions are clearly comparable and show some overlap. Metalinguistic awareness is defined as the structural knowledge about language that goes beyond the understanding of the meaning of language use. Furthermore, this knowledge about language(s) is neither limited to a specific language, nor is it limited to just one language. Jessner (2006) goes one step further and agrees with Bono (2011) in that heightened metalinguistic awareness is associated with bi- or multilingual speakers in comparison to monolingual speakers. Bi- and multilingual speakers have an increased structural knowledge, because they have theoretical insights into more than just one language, and this increased structural knowledge may be advantageous in further language acquisition (Jessner 2006: 42).

All this is part of the so-called M-factor (Jessner 2006, 2008). M-factor, or multilingualism factor, represents the features that evolve in speakers that have access to more than one language (Jessner 2008: 275) and this ultimately leads to “an enhanced level of metalinguistic awareness and metacognitive strategies” (Jessner 2006: 35). This means that metalinguistic awareness is part of the cover term M-factor that refers to language aptitude and language skills that can be found in multilingual learners, hence, it is a characteristic trait of third language learners (Jessner 2006: 56; Jessner 2008: 275). Such additional qualities develop, because of the increased contact of different languages within one speaker (Jessner 2008: 275).

This discussion about metalinguistic awareness is relevant for the current study, because it seems that there is considerable interaction between metalinguistic awareness and cross-linguistic influence. The following paragraphs analyze why heightened metalinguistic

awareness seems to be a feature of people that have knowledge of more than one language, and whether there are limitations and restrictions to this rule.

Third language acquisition was stated to be more complex than second language acquisition, because cross-linguistic influence is not limited to occur from the L1 to the L2 or the other way around, but three languages can possibly influence each other (Jessner 2008: 271; see Figure 2; Chapter 3.1). Hence, this enlarged linguistic system is what divides bilinguals or multilinguals and monolinguals, and it is claimed to cause the development of skills and competences which further influence foreign language acquisition (Jessner 2008: 275).

Apart from cross-linguistic influence from all previously acquired languages, another component, namely the aforementioned development of skills and competences on a cognitive level, needs to be mentioned. There seems to be something that is responsible for causing the language acquisition process to be qualitatively different in second than in third language acquisition which cannot be explained alone with the fact that more languages are available (Jessner 1999: 203). Jessner argues this to be *metalinguistic awareness*; once again it is “the ability to focus on linguistic form and meaning [...] to categorize words into parts of speech; [to] switch focus between form, function, and meaning; and [to] explain why a word has a particular function” (2008: 275, 277).

We find a similar concept, which is labeled “multi-competence”, in Cook (2016c) and Franceschini (2016). Multi-competence can be defined as “the overall system of a mind or a community that uses more than one language” (Cook 2016c: 2). This implies that multilingual speakers are not simply speakers that know several languages, but that the availability of more than one language adds something else. Franceschini (2016: 105) defines this as the “third quality”. More explicitly, she states that it is “a quality that represents more than the sum of its parts” (Franceschini 2016: 105). She explains that the experience a language learner gains throughout his or her live, all the linguistic competences, also the awareness of these competences, and the general awareness of the linguistic systems, adds to the individual linguistic repertoire (Franceschini 2016: 105). Such multilingual, or multi-competent individuals become “flexible speaker[s]” (Franceschini 2016: 106), because they are able to use their language repertoire freely, and they can communicate flexibly in any of their known languages. This may be a conscious process or even an unconscious potential (Franceschini 2016: 107). In this sense, Cook (2016c) and Franceschini (2016) somehow add to Jessner’s (1999, 2008) metalinguistic awareness, because in this definition of multi-competence, we find both theoretical knowledge, i.e. language awareness, and also practical usage based properties.

Yet, this is not unique to bilinguals or multilinguals. Franceschini (2016: 109) remarks that the concept of multi-competence is not limited to bi- or multilingual speakers but that monolingual speakers can also be multi-competent users. Multi-competence is not an exclusive feature of speakers with knowledge of more than one language. Monolinguals can also have “communicative expertise”; they can be flexible speakers of one language due to a flexible use of that one language in different social and communicative contexts (Franceschini 2016: 109). Hence, the concept of multi-competence applies either to different languages or to different varieties of one language. Similarly, Jessner (2008: 277) reports that monolinguals also have metalinguistic knowledge, though only from one language; hence, the metalinguistic awareness of bilinguals is said to be higher than of monolinguals (Jessner 2008: 277). Bilinguals or multilinguals are capable of reflecting to a different extent on their language usage than monolinguals: their multiple languages allow them, for instance, to compare these distinct systems (Jessner 1999: 203). This might lead to detecting helpful similarities or contrasts between languages.

Taking up Jessner’s (2008) argument, Cenoz (2013: 75) also states that previous learning experience and the knowledge of two languages, hence two different linguistic systems, are the reasons why bilinguals enlarge their level of metalinguistic awareness. Language learning involves certain techniques; the more languages you learn, the more learning strategies you experience (Cenoz 2013: 76). This adds to the theoretical knowledge about learning languages in general. In addition, the learners gain theoretical knowledge about the languages they may be able to reflect upon them on an abstract level. As a consequence, so Jessner (1999: 203), such higher developed metalinguistic awareness enhances the development of further learning strategies (1999: 203) which could convert into an advantage for bilingual learners. Keeping this in mind, it does not come as a surprise that Jessner equates higher metalinguistic awareness with a higher success rate in (foreign) language acquisition (Jessner 2008: 277).

Bono (2011: 49) also argues in her study that multilingual learners have a high level of metalinguistic awareness; yet, she calls it “linguistic awareness”. According to her explanations, metalinguistic knowledge develops in the process of foreign language acquisition, because this is when you reflect on the structure and features of a language (Bono 2011: 49). Bono (2011), however, does not refer to a bilingual advantage, but instead, she claims that previously acquired foreign languages are responsible for a heightened metalinguistic awareness, which in turn helps them to rely on formerly acquired languages. She continues by

claiming that learners should explicitly be made aware of similarities and differences between their languages (Bono 2011: 49).

The study by Bono (2011) has two crucial implications: first, knowing two languages may not automatically lead to heightened metalinguistic awareness; it may not be a subconscious characteristic or something that automatically develops once you know more than one language. It may rather be that explicit explanations or explicit theoretical training is necessary. This is linked to the second implication, namely that foreign language learners, i.e. those who receive formal training instead of bilinguals who require both of their languages naturally, show heightened levels of metalinguistic awareness. Similarly, Cook also argues that “raising awareness of language in general helps second language learning” (2016a: 51). In the context of the current discussion, this could be easily extended to further language acquisition. Cook calls the result of this awareness raising “language awareness” and he projects general educational advantages, i.e. the formerly mentioned advantages in language acquisition (2016a: 51). Both Cook (2016a) and Bono (2011) refer to language acquisition that happens in a tutored setting.

Another study that also does not support the claim that bi- or multilinguals have higher metalinguistic awareness than monolinguals is Spellerberg (2016). The explanation for this finding, however, is somewhat different. Spellerberg (2016) also focused on metalinguistic awareness, and she wanted to find out if and how this affects the academic achievement of monolinguals, bilinguals, and multilinguals, and also how an additional factor, the socio-economic status, affects metalinguistic awareness. Spellerberg’s (2016) study included 219 high school students in Denmark at the age of 14 to 16. She separated the students into three groups based on self-reports: 106 monolingual Danish students, 26 bi- and multilingual students that spoke Danish at home, and 87 bi- and monolingual students that did not speak Danish at home (Spellerberg 2016: 26). All students study English in school as a foreign language and the majority reported to use English exclusively in the school context and only a small number of the participants confirmed to use English actively in their daily lives outside of school (Spellerberg 2016: 26). She used a comprehensive Metalinguistic Awareness Test, based on Pinto et al. (1999), to measure metalinguistic awareness (Spellerberg 2016: 25) and she also took the results of the school leaving exams (Spellerberg 2016: 29). The latter scores are used as a measure for academic achievement. The correlation of the scores based on the metalinguistic awareness test and the school leaving exams showed that metalinguistic awareness correlates positively with the exam scores (Spellerberg 2016: 31). In general, these results show that the higher the metalinguistic awareness, the better the academic achievement.

For the current study, especially the exam scores of English, i.e. the foreign language of the participants, are of interest. Spellerberg (2016: 35) reports that metalinguistic awareness also correlates positively with the exam results in English; hence, for foreign language learning, it seems to be advantageous to have higher metalinguistic awareness levels. However, this was not the strongest correlation; in fact, it was the weakest, compared to all other exam scores (Spellerberg 2016: 35). Nevertheless, it supports the idea that metalinguistic awareness helps with further language acquisition.

However, and this is a striking finding, the bi- or multilingual participants did not outperform the monolingual participants in terms of metalinguistic awareness (Spellerberg 2016: 34). The opposite was the case: the monolinguals outperformed those students that know more than one language (Spellerberg 2016: 36). Between the bi- or multilingual students, the mean score for metalinguistic awareness did not differ statistically significantly. Overall, however, the positive correlation of metalinguistic awareness and academic achievement was visible for all participants, irrespective of the number of known languages. This finding runs counter to previous research such as Cenoz (2013), who would have expected bi- and multilinguals to outperform monolingual students, because higher metalinguistic awareness is associated with bilinguals and also with a facilitating effect on further language acquisition.

In addition, and this may have a huge impact on the overall exam results, too, Spellerberg (2016) found that socio-economic status had an effect on the metalinguistic awareness scores. Lower status resulted in lower metalinguistic awareness scores (Spellerberg 2016: 36). Overall, metalinguistic awareness can influence academic achievement and foreign language performance. However, bi- or multilingual students do not have a higher level of metalinguistic awareness *per se*. There are further influencing factors, such as socio-economic status, that affect metalinguistic awareness. This last point is above all interesting, because those bi- and multilingual participants that did not speak Danish at home had the lowest metalinguistic awareness scores and they also had the lowest socio-economic scores (Spellerberg 2016: 36). This shows, once again, that acquiring languages is a complex phenomenon that is affected by a number of variables; metalinguistic awareness seems to be one of them; yet, socio-economic status should be included as well, since some of the variation can be explained on the basis of this background variable.

Furthermore, Spellerberg (2016) admits that language proficiency was not controlled for, hence, nothing is known about the participants' proficiency levels of Danish or of their other languages. This is arguably another influencing factor. Especially against the background of Chapter 3.5 and the characteristics of heritage speakers, it is possible that these students may

not be equally proficient in both languages. This is assumed, because the description of the participants in Spellerberg (2016) seems to be comparable to Westergaard et al. (2017), Hopp (2019), and also the participants of E-LiPS (as described in Siemund & Lechner 2015, for instance; see also Chapter 5.3). Spellerberg's definition of bilingual students in Denmark, i.e. "children who have a mother tongue other than Danish and who do not learn Danish until they come into contact with the surrounding community or through the teaching in school" (2016: 37), resembles that of heritage speakers given in Chapter 2.5. What is known, however, is that the metalinguistic awareness test was conducted in Danish and all participants attend Danish schools, therefore, they are assumed to have a high command of Danish. In addition, Spellerberg refers to Danish as the "majority language" (2016: 20). This again corresponds to the Norwegian or German contexts referred to earlier. Therefore, it is quite likely, that the other language (or the other two languages) may be their weaker language(s), the typical situation found in heritage speakers (see Montrul 2016). This could explain their lower metalinguistic awareness skills. Lower language skills because of an unbalanced bilingual status may result in lower metalinguistic awareness.

This last claim finds some support in a study investigating how the degree of bilingualism, i.e. balanced bilinguals versus unbalanced bilinguals, affects metalinguistic awareness (Cohen 2013). Cohen (2013) analyzes young, primary school French-English bilinguals attending an international school in France, and separates them into two groups, balanced bilinguals, on the one hand, and unbalanced bilinguals (here called dominant¹⁰ bilinguals), on the other hand. In order to assess and compare "control of linguistic processing" of these two groups of bilingual children, they performed a number of metalinguistic tasks, such as a word renaming task and a symbol substitution task in English and in French (Cohen 2013). Interestingly, only under specific circumstances, do the observed differences reach statistical significance, namely, only if the highest score, i.e. either the score of the English version or the French version, is considered. Then, the balanced bilinguals performed better than the unbalanced bilinguals (Cohen 2013). Furthermore, Cohen (2013) reports that it was not consistent that all unbalanced bilinguals scored higher in their dominant language, some performed better in their weaker language. She explains that unbalanced bilinguals have to pay closer attention to their minority language (in general) and they may therefore more skillful in applying metalinguistic knowledge to this language and not to the dominant language. This is quite intriguing; it indicates that balanced bilinguals may have an advantage over unbalanced

¹⁰ For the sake of consistency within the current study, we will use the term unbalanced bilinguals instead of dominant bilingual.

bilinguals, meaning that they potentially have higher metalinguistic knowledge than unbalanced bilinguals. However, it also demonstrates that the weaker language needs to be assessed along with the dominant language in order to capture the entire linguistic competence of bilinguals. These findings are based on just a small sample (n=38), yet it provides further support that balanced bilinguals are different from unbalanced bilinguals in a number of respects, with the degree of metalinguistic awareness being one of them.

To sum up, as this chapter should have shown, and as was addressed on a number of occasions in the previous chapters, language acquisition is a multi-layered and complex process. Franceschini (2016: 101) summarizes that “[l]anguage acquisition – both untutored and tutored – turned out to be a very intricate matter, closely linked to personal experience, the speaker’s attitude towards societies and the narrow social context.” As a consequence of bilingualism or multiple language acquisition, languages are not simply added to the brain, but they form a complex system within one speaker; Franceschini uses the term *multi-competence* and explains that this is the “third quality” (2016: 105). A crucial role plays the social situation (for instance socio-economic status) but also the context, in which a language is learned (tutored or untutored, simultaneous or sequential, for example).

Furthermore, we discussed that metalinguistic awareness is not only a property of bi- and multilingual speakers, but also of monolingual speakers (but maybe to a more limited extent). The availability and active access to more than one language, as well as the past experience of foreign language acquisition, may result in increased metalinguistic awareness. This, however, may be less pronounced in (unbalanced) bilingual heritage speakers. First, they have not necessarily acquired a non-native language other than English, because both of their previously acquired languages may actually have the status of a native language. Second, most heritage speakers may have only limited language skills in their heritage language (see Chapter 3.5) which could negatively affect metalinguistic awareness (see Cohen 2013). Third, and this was particularly prominent in Spellerberg’s (2016) study, heritage speaker may belong to a group with a lower socio-economic background, and since socio-economic status seems to correlate with lower metalinguistic awareness, it may explain this unfavorably situation for bilingual heritage speakers.

In the next chapter, we will now turn to bilingual advantages. This topic is closely related to metalinguistic awareness and we will find a similar argumentation to the one in this chapter.

3.7 Bilingual advantages

L2 and L3 acquisition have a lot in common. Many individual and contextual factors such as age, motivation, socio-economic status, among others, influence the acquisition process of languages, no matter if the additional language is the second or the third language. Yet, throughout the previous chapters, we have stressed that there are many differences. Unquestionably, bilinguals have a broader linguistic repertoire, since they have access to not just one but to two languages. This enlarged linguistic repertoire may be helpful in further language acquisition (Cenoz 2013; Cenoz & Valencia 1994; Jessner 2008; Maluch et al. 2015; Sanz 2000). However, is it that justified to claim that bilinguals have an advantage over monolinguals simply because their linguistic repertoire is larger? There has been a lot of research on this matter in the recent past; especially noteworthy are Cenoz (2003) and Cenoz (2013) that provide general overviews and include broad discussions. The aim of this chapter is to look a little closer into the popular folk wisdom “the more languages a person knows, the easier it becomes to acquire an additional language” (Cenoz 2013: 74).

First, we need to clarify what we refer to when we talk about advantages. Many studies that analyze bilinguals specifically involve cognitive advantages. In these studies, bilingualism was repeatedly reported to result in better cognitive skills (Aronin & Jessner 2015; Barac & Bialystok 2011; Barac et al. 2014; Cenoz & Valencia 1994; DESI 2008; Jessner 1999, 2008; Ringbom 1987). We also saw that bilingualism may increase the level of metalinguistic awareness; however, this was not supported for all types of bilinguals (see Chapter 3.6).

These two advantages, i.e. superior cognitive skills and heightened metalinguistic awareness, however, are not the main focus here. What we rather try to identify are linguistic advantages, as in higher proficiency scores and more target-like foreign language use. Hence, if bilinguals showed an advantage in foreign language acquisition, which is sometimes argued to be the case (see for example Aronin & Jessner 2015; Cenoz 2013; Jessner 2006), this would be the bilingual advantage we are interested in here.

One study that reports such advantages in additional language acquisition of bilingual learners over monolingual learners of a foreign language is a study by Cenoz and Valencia (1994). In their investigation, they included Spanish-Basque bilinguals and Spanish monolinguals in the last year of school (between age 17 and age 19) (Cenoz & Valencia 1994: 199). They measured different English abilities, namely speaking, listening, reading, writing, and vocabulary (Cenoz & Valencia 1994: 200). They clearly demonstrated in their statistical

analysis that bilingualism has a positive influence on the performance in English (Cenoz & Valencia 1994: 204). They argue that the structural knowledge of the two languages Basque and Spanish helped with English – yet, not because of transfer, but because of other side-effects of bilingualism such as increased metalinguistic awareness (see again Chapter 3.6) and because of a higher communicative competence and sensitivity towards different languages (Cenoz & Valencia 1994: 205). They excluded the possibility of transfer from Basque, because there is no structural similarity between Basque and English that could explain the better performance of the bilinguals (Cenoz & Valencia 1994: 205).

Similarly, Sanz (2000) also examined the role of bilingualism on the acquisition of an additional language, though not in the Basque country but in Catalonia. She looked at Catalan-Spanish bilinguals and Spanish monolinguals (Sanz 2000: 23) and interestingly, she also found that the bilinguals performed better in English than the monolinguals (Sanz 2000: 33-34). She claimed that she could confirm an already existing hypothesis, namely that “L1 and L2 literacy has a positive effect on L3 learning” (Sanz 2000: 34). This ultimately leads back to metalinguistic awareness, because due to the literacy development in both languages, metalinguistic awareness is heightened and allows language learners to use their knowledge more efficiently for further language acquisition (Sanz 2000: 36). We will come back to this effect of literacy later again.

Further support comes from Agustín-Llach (2017). She also investigated Spanish-Basque bilingual participants like Cenoz and Valencia (1994) and compared their performance in English with monolingual Spanish participants (Agustín-Llach 2017: 5). Again, she could identify a bilingual advantage, because the bilinguals outperformed their monolingual peers in English (Agustín-Llach 2017: 10).

These three studies clearly demonstrate that bilingual speakers are better in learning English than monolingual speakers. Yet, this seems a bit too optimistic and simplistic, especially considering what the aforementioned discussions (especially Chapter 3.1 and 3.6) have shown. Indeed, contrary to the assumption that there exists an overall bilingual advantage, there are several large-scale attainment tests of high school children that report that bilingual or multilingual children, mostly immigrant children, score poorly on such tests, in comparison to their monolingual peers (see for example OECD 2010; Stanat et al. 2010, 2016). What is reported in these studies is that children who speak another language than the majority language of the country at home with their family are outperformed by monolingual students in terms of school performance (Lechner & Siemund 2014a: 320). This is interesting, because one would

expect exactly this group, the bilingual students, to have an advantage, at least in the scores for foreign languages.

A closer look, however, reveals that the underperformance can most likely not be explained with the fact that these children have a migration background or are bilingual, or that they use another language than German at home (Lechner & Siemund 2014a: 336, 340-341). This claim is based on a small study (that will be discussed in Chapter 5.1 in more detail) that could neither replicate the bilingual advantage found in the DESI study (2008) nor could it support results from PISA (2009) (Klieme et al. 2010; OECD 2010) that attributed bilingual immigrant students a disadvantage in school (Lechner & Siemund 2014a: 336, 341). What they could show, however, was that the socio-economic status of the families had a significant impact. A low socio-economic status correlated with poorer results in the English tests and vice versa (Lechner & Siemund 2014a: 339). Hence, they did not find evidence for bi- or multilingualism being responsible for comparatively poorer performance in English. However, at the same time, they did also not find evidence for an increased metalinguistic awareness that is advantageous for multilinguals. In sum, this shows that bilingualism may not necessarily be advantageous or detrimental, when further background variables are controlled. It could not have any effect at all.

The same can be found in Hopp (2019). He analyzed Turkish-German bilingual primary school children and compared their performance in English with monolingual German school children (see Chapter 3.1.2). Yet, he could not find a difference between these two groups; hence, no bilingual advantage or disadvantage was reported.

Slightly different to these two studies are the findings in Şahingöz (2014). She analyzed Russian-German and Turkish-German heritage speakers, age 16, who grow up in Germany and study English as a foreign language at school (Şahingöz 2014: 90). The area of investigation is English word order in both written and spoken production data. Due to some cross-linguistic influence from the heritage languages in the English production data (Şahingöz 2014: 234), which had a negative effect on the target-like English word order, she identified small disadvantages of the bilingual participants compared to their monolingual peers (Şahingöz 2014: 237). This result is the opposite of what was found for instance in Cenoz and Valencia (1994). Şahingöz (2014) shows that bilingualism can even be disadvantageous.

Ghezlou et al. (2018) make similar observations, because they can also not find bilingual advantages in their study, but they found a lower performance of the bilinguals when compared to the performance of the monolingual learners of English. The bilingual participants they investigated had acquired Azeri as their L1 and Persian as their L2 (Ghezlou et al. 2018: 177).

They acquired the L1 naturally (as their native language) and they started to learn the L2 Persian at the age of seven as part of their educational training. The monolingual participants are speakers of Persian and they started to receive formal training of Persian also at the age of seven. Persian was the language of instruction at school for both groups. At the time of the study, both groups were enrolled at a university and learned English as an L3 or L2 respectively (Ghezlou et al. 2018: 178). The bilinguals are located at an Azeri speaking city and the monolinguals at a Persian speaking city. Azeri and English are not typologically similar, yet they share pre-nominal adjective placement (Ghezlou et al. 2018: 178). Nevertheless, the authors could not find “superiority of bilinguals over monolinguals” (Ghezlou et al. 2018: 179), because they only find non-facilitative influence from Persian and no facilitative influence from Azeri in the bilingual data. Overall, the bilinguals were outperformed by the monolingual participants (Ghezlou et al. 2018: 181). Hence, they conclude that in their language acquisition scenario, i.e. in subtractive bilingualism, where the L2 becomes the more dominant language, bilinguality does not provide the bilinguals with an advantage (Ghezlou et al. 2018: 180-181).

Furthermore, Siemund and Lechner (2015) made an interesting observation when they investigated two different age cohorts, younger learners at the age of 12, and older learners at the age of 16. Indeed, they found a bilingual advantage, yet, this was only visible in the younger learners and not in the older learners (Siemund & Lechner 2015: 157-158). They explained that the initial bilingual advantage disappears at later stages of the language acquisition in school (Siemund & Lechner 2015: 158). The older cohorts performed similarly; no group showed to be superior to the other.

These nuanced results find support in Maluch et al. (2016). In their study based on a large-scale longitudinal project carried out in Germany, they identified clear bilingual advantages in foreign language acquisition for students in school year six (Maluch et al. 2016: 116). They compared the performance of monolingual German and different groups of bilingual students in an English Cloze-test¹¹ (Maluch et al. 2016: 113-114). The home languages spoken by the bilingual students were largely Turkish, Arabic, Chinese and numerous other languages. The bilinguals were not seen as one homogeneous group, but they were subdivided further, according to a number of background variables, such as language dominance and age of onset of learning German (Maluch et al. 2016: 113). As has just been stated, there was a clear advantage for the bilinguals, compared to their monolingual peers in the early phase of the

¹¹ A Cloze test usually consists of four texts that include word gaps which need to be completed by the students. This test instrument is used to assess reading comprehension, spelling, grammar, and vocabulary knowledge in the respective language and is widely used in language studies (see also Lehmann & Lenkeit 2008).

study, hence, when the participants were in school year six. However, in school year eight, these findings could not be replicated but represent a different pattern: overall, there is no bilingual advantage visible in the data, except for the bilinguals that reported to mostly use German in their homes (Maluch et al. 2016: 116). The authors explain these varying patterns with, on the one hand, “cognitive and linguistic advantages” of bilinguals, but also, on the other hand, a major impact of the monolingual language practices found in the English classroom (Maluch et al. 2016: 116). Since the potential of the bilingual students is not supported in the classroom settings, their advantages vanish throughout secondary-schooling.

Further, less straightforward findings are presented in Maluch et al. (2015) and Maluch & Kempert (2017). The study by Maluch et al. (2015) includes an impressive number of participants. They analyzed almost 3,000 students between the age of 10 and 15; the participants are divided into monolingual German students and five bilingual groups, depending on their home languages Arabic, Chinese, Polish, Turkish, and other (Maluch et al. 2015: 79). They also relied on a Cloze test and controlled for a number of background variables such as cognitive capacity, social and family background, gender, and age (Maluch et al. 2015: 79). Their assessment demonstrates a general trend: bilingual children showed a higher foreign language attainment than their monolingual peers (Maluch et al. 2015: 82). Yet, they admit that they found considerable variation between the five different bilingual groups and that additional variables, especially proficiency of the language of instruction, had a strong impact on the results (Maluch et al. 2015: 82-83). The latter point is a remarkable result: they noticed that only those students who had high language skills in German had an advantage over the monolinguals in the English assessment, and that those students that had weak proficiency scores in German performed lower in English than their monolingual peers (Maluch et al. 2015: 82-83). In sum, however, they argue for a bilingual advantage of immigrants and support the view that immigrant bilingualism, even if the minority language is not part of the formal education, can be seen as a resource (Maluch et al. 2015: 83).

In a similar vein, Maluch and Kempert (2017) investigate in a follow-up study how further factors such as manner of language acquisition and language use of bilingual students affect the acquisition of English as a foreign language. As a major advancement compared to the studies that were discussed above, Maluch and Kempert (2017: 6) subdivide the bilingual participants according to manner of heritage language acquisition (informal acquisition at home versus additional formal instruction), age of onset of learning the minority and majority language (simultaneous bilinguals versus sequential bilinguals), and use of languages (frequently switching between languages versus occasionally switching versus never switching)

on a self-report basis. Interestingly, they do not reveal an overall bilingual advantage when acquiring a foreign language, but only certain groups show an advantage over the monolingual participants (Maluch & Kempert 2017: 8). Those bilinguals that had additional formal education in their heritage language scored higher than the monolinguals; yet, for those who only learned the minority language informally at home, bilingualism was not shown to be an advantage for English, because they had lower scores than the monolinguals (Maluch & Kempert 2017: 8). Furthermore, the sequential bilinguals did not differ from the monolinguals and also those students that reported to switch only infrequently or never between their two languages showed no differences when compared to the results of the monolingual participants (Maluch & Kempert 2017: 8). What this clearly shows is that we need to differentiate, when conducting language acquisition studies.

Looking at these contradictory findings, i.e. bilingual advantages on the one hand (Aronin & Jessner 2015; Cenoz 2013; Cenoz & Valencia 1994; Agustín-Llach 2017; Jessner 2006; Sanz 2000), and no bilingual advantages on the other hand (Ghezlou et al. 2018; Hopp 2019; Lechner & Siemund 2014a; Şahingöz 2014; Siemund & Lechner 2015), plus the mixed findings presented in Maluch & Kempert (2017) and Maluch et al. (2015), we may ask why we find such remarkable differences. First, we may want to ask what all the studies that found bilingual advantages have in common, before we can decide if these results are generally true for all bilingual learners.

Noticeably, the three studies mentioned first, all used participants that come from official bilingual regions where both languages, i.e. Spanish and either Catalan or Basque, have a high standing (Cenoz & Valencia 1994: 197-198; Sanz 2000: 26). The authors acknowledge that the special social situation found in such bilingual communities clearly adds to the results (Cenoz & Valencia 1994: 204-205; Sanz 2000: 38). Both languages have a high social value in these areas and children receive formal education in both languages. However, the authors refrain to extend their findings to all bilingual situations. Sanz, for example, is careful with generalizations (2000: 38) and Agustín-Llach (2017) also states that these are mere tendencies and that no general “bilingual superiority” could be attested in her study (Agustín-Llach 2017: 9). This clearly shows that they limit their findings to their specific bilingual situations.

Furthermore, later, Cenoz (2013: 77) states that one cannot easily generalize because “language acquisition is a complex phenomenon that is also influenced by many other factors.” Hence, Cenoz mentions, and here we come back to what we have already seen in the previous section, that not only the number of languages has an influence, but that further variables, such as the community and especially socio-economic status, also play important roles (Cenoz 2013:

76). There seems to be an interconnectedness between numerous variables that are closely related and dependent on each other.

Likewise, Maluch et al. (2017) illustrate how diverse the findings can be when small bilingual sub-groups are formed. Furthermore, Cenoz explains that depending on the social status of bilinguals the results may actually be different (2013: 76). She specifically refers to studies that used bilingual immigrant participants and that failed to demonstrate a bilingual advantage (Cenoz 2013: 76). One of the studies that reported no bilingual superiority, namely Hopp (2019), substantiates this argument. When we have a detailed look at his results, we see that the bilingual heritage speakers had lower socio-economic status scores than the monolingual German students (Hopp 2019: 575-576). We have repeatedly explained that a low socio-economic status may correlate with lower performance in school subjects including foreign languages. Here, the lower socio-economic status may be responsible for the bilingual participants to not show advantages over their monolinguals in English due to their lower social status.

In addition, Spellerberg (2016: 24) noticed that the bilingual participants in her study had a lower socio-economic status than the monolingual participants and she also refers back to Cenoz (2013) and argues that the number of previously acquired languages may have less influence on the acquisition of foreign languages than other factors such as the socio-economic status. This can also be observed in Maluch et al. (2015: 82), who remark that the variation that could be explained with the categories bilingual versus monolingual was very small. Hence, language background may not have high explanatory power, but other background variables may be more suitable for explaining variation in proficiency and foreign language performance.

Another possible influential factor is the language-learning situation. Agustín-Llach (2017: 11) maintains that the English language classroom has a major impact on the learner's performance in English and that possible bilingual advantages may even diminish. Such a decrease of advantages over time by virtue of language instruction might be at play in Siemund and Lechner (2015) and Maluch et al. (2016), because they proposed that the advantages were lost during secondary-schooling. In order to overcome this, Agustín-Llach (2017: 11) demands that teachers should encourage their students to compare their languages and to make use of their linguistic repertoire to identify cognates and similar grammatical structures. Such teaching methods could in turn lead to positive transfer and enhanced language skills in the foreign language. This strategy may be especially useful for bilinguals (Agustín-Llach 2017), because they have two languages instead of one to compare to the new foreign language. Thus, it seems

as if bilingualism does not produce advantages for foreign language acquisition *per se*, yet, certain requirements are needed.

Another such requirement is described by Şahingöz (2014). She also concludes that having an advantage because of bilingualism is nothing that comes naturally or automatically (see also Maluch & Kempert 2017: 2, 10). The opposite is the case: certain conditions need to be met in order for bilingualism to be potentially favorable (Şahingöz 2014: 238). Şahingöz (2014) especially identified the frequent use of the heritage language, hence a high proficiency in the heritage language, as one of the prerequisites for a bilingual advantage. She argues that the active use of both languages, the majority and the heritage language, and the early acquisition of both languages seem to be two of such factors that may lead to a linguistic advantage over monolinguals in a foreign language (Şahingöz 2014: 239).

Ghezlou et al. (2018: 181) are even more pronounced in their argumentation, namely that it is not just frequent use, but that literacy plays a major role. Remember that they analyzed Azeri-Persian bilinguals. In this environment, Persian has a privileged status compared to Azeri, and, in addition, Azeri is a language that is only orally used (Ghezlou et al. 2018: 181). Hence, the bilinguals can only write in Persian and they are illiterate in their native language Azeri. This is their explanation for the lower performance of the bilinguals in their tasks. This implies that no literacy skills in one of the two languages can be the reason for why no bilingual advantages were found. This statement, i.e. the importance of literacy in language development, finds also support in Maluch et al. (2015), Sanz (2000), and Swain et al. (1990), to name just a few. Maluch et al. (2015), for instance, who, on the whole, found bilingual advantages in foreign language acquisition in their study, failed to demonstrate this for all of their bilingual groups. The Arabic-German students were not significantly better in English than the monolingual German participants (Maluch et al. 2015: 83). The explanation they offer has to do with literacy experience: the Arabic immigrant participants had weaker literacy skills in Arabic (compared to the literacy skills in the heritage languages of the other bilingual participants) and this could decisively affect the acquisition of the additional language (Maluch et al. 2015: 83).

In Lorenz and Siemund (forthc.) we find another possible explanation for why some studies identified a bilingual advantage in further language acquisition and why others could not support this claim. They clearly stress that the type of bilingual speaker has an influence on whether bilinguals perform better than monolinguals in third language acquisition studies (Lorenz & Siemund forthc.). In a survey of a number of studies, they showed that unbalanced bilingual heritage speakers have fewer or even no advantages on a grammatical level compared

to their monolingual peers (Lorenz & Siemund forthc.). Hence, it is crucial to note that findings of studies investigating bilingual advantages may not be generalizable for all bilinguals. Instead, we have to differentiate various types of bilinguals. Maluch and Kempert (2017: 1) also argue that in immigrant language settings, hence contexts where we find a majority language and a minority language, it is questionable whether bilingualism may actually lead to advantages.

Something similar can be found in Titone et al. (2017). Here, the authors remark that when we speak about bilingual advantages in general, we assume that bilinguals are a homogeneous group and that therefore, they all have the same advantages (Titone et al. 2017: 283). The former, however, is clearly not the case; “bilingual experience is not homogeneous [but] it comprises a host of individual differences” (Titone et al. 2017: 283). They explain that the language acquisition pattern of the two languages are among these individual differences (Titone et al. 2017: 283). The various acquisitional histories determine how the two languages are represented in the bilingual brains and how they interact with each other (Titone et al. 2017: 283). Since this is different for individual bilinguals, we cannot expect the same advantages for all groups of bilinguals. Thus, we already find heterogeneity when we consider the broad category of bilingualism. If we, however, zoom in and focus on one specific group of bilinguals, for instance unbalanced bilingual heritage speakers, we notice that we find even more variation. Maluch et al. (2016: 112) talk about “enormous heterogeneity in [the] linguistic profiles” of immigrant bilinguals. This means that we find both group internal variation (as was described in Chapter 3.5, where we discussed heritage speakers) and also differences between immigrant bilinguals and other types of bilinguals (Maluch et al. 2016: 112). This argument is in line with the interconnectedness that was referred to above. A host of individual features are co-dependent and influence and shape further foreign language acquisition, which in turn affects the existence of advantages or no advantages.

Therefore, we once again come back to Cenoz (2013). In this article, she also insists that it is crucial to distinguish “between ‘active bilinguals’ and ‘foreign language users’” (Cenoz 2013: 78-79, 82). However, after all that has been discussed in this chapter, we want to go one step further in that we argue for a third category, namely *heritage speakers that learn a third language*, and to regard them as separate group. According to Cenoz’ definition, heritage speakers are clearly different from foreign language users, i.e. third language learners that have a naturally acquired native language and a formally acquired foreign language in their language repertoire (2013: 78-79). Yet, in Cenoz (2013), heritage speakers belong to the category of active bilinguals. However, these bilinguals were explained to be crucially different from balanced bilinguals, i.e. language users that are (nearly) equally proficient in both of their native

languages (see discussion above). Therefore, there may be grammatical advantages for balanced bilinguals, but they seem not to hold for unbalanced bilingual heritage speakers.

This argument finds support in Bialystok (2018). She indicates that it is extremely important to clearly define and restrict groups of bilinguals because of the large internal variation subsumed under the label of bilingualism (Bialystok 2018: 285). Different degrees of bilingualism are accompanied by different experiences and by implication, these lead to performance differences (2018: 285). She strengthens this claim by referring to a data set where a group of adult bilinguals was divided into four different groups (ranging from more to less bilingual) and in a comparison with monolinguals based on executive function tasks, only the group that was ranked “the most bilingual group” scored significantly higher (Bialystok 2018: 285). Hence, it is worth paying attention to details and to formulate precise criteria for specific groups of bilinguals. Evidence for this claim was also presented in Maluch & Kempert (2017) (see above). What they, however, do not precisely address is the unbalanced status. Yet, we understand their analyses and explanations as belonging to this debate of unbalanced heritage bilingual speakers.

We have now repeatedly highlighted that unbalanced bilingual heritage speakers are a special type of bilingual speakers. The question of whether or not there are bilingual advantages needs to be answered differently for different types of bilinguals. The current study adds to this ongoing and recent discussion by analyzing three different groups of unbalanced bilingual heritage speakers and we will demonstrate that the former claims can be replicated on the basis of this data set.

The next section addresses another topic that has so far not been mentioned in much detail and that is the particular status of English and its consequences for learners of English.

3.8 Specificity of learning English

So far, we have looked at the acquisition of (foreign) languages in general. The idea is that the aforementioned concepts and theories are applicable to the acquisition of all additional foreign languages (i.e. L3 acquisition in general), without being limited to any specific language. However, most research centers on European, North American, or Australian contexts and in the majority of studies available, one of the languages or even the language focused on in L3 acquisition is English; hence, we somehow find a prevailing European or Anglo-Saxon perspective (Stavans & Hoffmann 2015: 143-144).

There are several explanations for this. One is the availability and accessibility of participants, because evidently not all (remote) multilingual communities are as easily accessible for research as European or North American settings, especially when researchers come from these regions as well (Stavans & Hoffmann 2015: 143-144). Another motivation is the status of English as a world language and as a Lingua Franca (Filppula et al. 2017: xi; Mauranen 2017: 223). English has gained much scholarly interest “in this turbulent multilingual world” (Mauranen 2017: 223), it is associated with power (Mair 2017: 9), and English is undeniably the most widely studied second or foreign language in our multilingual world (Crystal 2012; Jessner 2006; Mair 2013: 225; Schneider 2014: 9, 28). Siemund (2018: 134) also stresses that languages differ in terms of prestige or value that is associated with them and that English, without any doubt, sticks out as the most prestigious language today. He calls it the language with “the highest social capital” (Siemund 2018: 134) because of its important status everywhere in the world.

Clearly, in the preceding discussion about cross-linguistic influence and third language acquisition, there has also been a bias towards acquiring English as a foreign language. We will continue with this focus, because the participants of this study are also learners of English and their performance in the foreign language English will be analyzed. Therefore, this section concentrates exclusively on the role of learning English as a foreign language and the status of native speakers of English.

An important question to ask is what the goal of studying English is. Cook states that “[t]raditionally for English the model has been taken to be that of a literate educated native speaker from an English-speaking country” (2016a: 47). Hence, as a student of English, the goal would be to reach native speaker competences. This clearly raises another question, namely what exactly is a native speaker of English. Bloomfield’s definition of a native language and a native speaker, i.e. “[t]he first language a human being learns to speak is his *native language*; he is a *native speaker* of this language” (1984: 43), is only partly satisfactory. In Chapter 3.2, we have already discussed that it is becoming more and more difficult to clearly distinguish between native languages and non-native languages or foreign languages, due to diverse and changing language biographies and unstable living situations.

Furthermore, given the historical development of English, it appears impossible to talk about “the English language” any longer, but there are numerous “Englishes” worldwide (Filppula et al. 2017: xi). Hence, which of these would be the preferred native variety? Among the English varieties, we find highly valued varieties and lower ranked varieties. It appears that American English, and not British English, is currently regarded as the most highly valued

variety (Siemund 2018: 135). Cook (2016a: 180), however, comments on RP (received pronunciation) as a preferred native speaker accent; yet, he admits that this is probably a bit outdated and not really a realistic aim. He then proposes that it is impossible that there is, or even should be, one single native speaker model that learners should try to resemble as closely as possible (Cook 2016a: 180-181). We should rather take variation into account and treat learners of English as learners of a foreign language and not as native speakers (Cook 2016a: 180-181). However, the teaching philosophy and teaching material reality is different and there is still this native speaker norm and the perspective of a monolingual learner and not that of a multilingual learner (Cook 2016a: 181).

Another interesting perspective is the role that English plays in the respective countries. Once again, globalization and advances in technology are responsible for changing the function of English in many countries (Deshors & Götz 2017; Siemund 2018: 154). According to Siemund, we find an ongoing “shift in the status of English from a foreign to a second language [...] in Germany and other European countries” (2018: 154). As a consequence, English training starts very early in school in temporary societies, which underlines the important status that English has in many countries (Siemund 2018: 154). In addition to formal education, people come into contact with English via sources such as media and social media; hence, the contact to English is not exclusively limited to the English classroom (Siemund 2018: 154).

Since the main focus of the current study are students that grow up in Germany, we want to briefly comment on the situation found in Germany. German is, of course, the most prestigious language, because it is the official language; English, however, along with other foreign languages such as maybe Spanish and French, has a very high status in Germany as well (Siemund 2018: 134-135). As a school subject, English is typically the first foreign language (Siemund et al. 2012: 245) and is introduced as early as year 3, or even already in school year 1 (Demirciogly 2010: 491; Böttger 2010: 16). Having said that, the situation seems to be similar to that of Denmark described in Spellerberg (2016). Spellerberg (2016: 21) explains that English has a highly valued status that also gets governmental support and that English is also introduced as early as in school year 1. In addition, she reports that “English is slowly changing status from a foreign language to a second language” (Spellerberg 2016: 21), which is almost exactly what was claimed to be the case in Germany (Siemund 2018: 154). However, Siemund (2018: 154) explains that this shift from a foreign language to a second language is further advanced in Scandinavia and the Netherlands (and we understand Denmark to belong to this area, too), because it could be considered as finished, whereas in Germany it is still on its way.

Nevertheless, Spellerberg's participants reported that they barely used English actively outside of the school context (apart from a small number of students that indicated a regular use outside of school) (2016: 26), although English in Denmark was illustrated as having a status of a second language. Based on this, we expect the participants of the current study to also be users of English whose experience and contact with English is mainly limited to the English language classroom. Other possible contexts where students could get into contact with English would be via television or, currently even importantly, the internet and social media (Siemund et al. 2012: 245).

Irrespective of the exact status in Germany (as this discussion would be beyond the scope of this study and would not contribute significantly to its outcome), English has without any doubt a special and important role in education. This now links back to the beginning of this study (Chapter 1 and 2), where we explained that both monolingual and bilingual students acquire the foreign language English side-by-side in one classroom. Hence, we find learners of English for whom it is their first foreign language and for others for whom it is their second or additional foreign language. The next and final section of Chapter 3 will now merge this observation with research of cross-linguistic influence in third or additional language acquisition and the types of bilingual speakers that were described previously.

3.9 Final remarks and implications

Chapter 3 dealt with previous and current research on language acquisition and was meant to give a detailed overview of the current state of the art and to thereby present the motivations for the current study (some more comments on motivations can be found in Chapter 5.1.1). Numerous topics were discussed in detail, most importantly of course the notion of cross-linguistic influence in third language acquisition. We looked at a number of different studies that formulated contrasting models explaining CLI in L3 acquisition (see Chapter 3.1.2). It seems as if so far, none of the theories has provided the perfect model for explaining cross-linguistic influence in third language acquisition (Puig-Mayenco et al. 2018: 22). There is the need for a refinement of the existing L3 acquisition models (Puig-Mayenco et al. 2018: 22).

Furthermore, one main argument was that these studies did not analyze one clearly defined type of L3 learners, but that different types of learners appear in the literature. This explains to some extent the diverse findings concerning the role of previously acquired languages in third or additional language acquisition. There seems to be a crucial difference between the acquisition of a third language, here understood as the foreign language currently

in focus, of (i) balanced bilinguals, i.e. bilinguals who have (nearly) equal proficiency in both of their native languages, of (ii) L2 foreign languages learners who grew up with one language, acquired their first foreign language during adolescence as a foreign language in a school setting, and are now, as young adults, acquiring their third language, or differently put their second foreign language, again in an instructed context, and of (iii) bilingual heritage speakers who are unbalanced bilinguals with previous knowledge of a majority language and a heritage language and who are currently acquiring their first foreign language.

Especially the latter group (iii) is of interest hereafter, because these make up a large group in our current, modern, western societies, and they are increasingly in focus in language acquisition research. As was explained, most heritage speakers are immigrants, or the offspring of immigrants, and their language learning biographies differ considerably from other bilingual speakers (Montrul 2016: 2-3). This was given as one reason why studies investigating cross-linguistic influence, metalinguistic awareness, or bilingual advantages, need to control for the type of learner. There are still numerous inconsistencies in the aforementioned areas and their status for bilingual heritage speakers. The role of the heritage language and the majority language in foreign language acquisition remains yet unclear. The same applies to the exact nature of advantages relating to metalinguistic awareness as well as linguistic advantages. Therefore, we will investigate foreign language acquisition of bilingual heritage speakers in Germany and compare these findings to monolingual peers who study English as their first foreign language.

Furthermore, some of the former studies analyzed (young) adult L3 learners, and others investigated child L3 learners. Here as well, we need to make a distinction and cannot make a general claim that is valid for all adult and child learners of a third language as one group of L3 learners. These are two distinct groups that need to be examined independently and may show different patterns concerning cross-linguistic influence. The following study will only be able to make claims about young, school-aged learners of English.

A further variable that was identified to matter involves the proficiency level of the L3. We expect different CLI patterns depending on whether we analyze initial learner or more advanced learners of a third language. Clearly, we need to separate these groups, as we may otherwise overlook developmental patterns. A developmental perspective would be desirable; hence, longitudinal studies would be ideal, or at least studies that include different learners, i.e. initial, intermediate, and advanced. The current study includes two sets of learners, a younger cohort, i.e. initial learners of English, and an older cohort, i.e. intermediate learners of English.

Two sections, Chapter 3.5 and Chapter 3.6, dealt with metalinguistic awareness and bilingual advantages. Research to date remains unclear as to how exactly metalinguistic awareness fosters further language acquisition and if this heightened metalinguistic awareness that is said to be a characteristic of bi- and multilingual people results in an advantage over monolingual learners of a foreign language. Several studies found strikingly different results, some arguing for better performance of bilinguals, yet others could not identify such advantages. In the remainder of this study, we will therefore analyze how unbalanced bilingual heritage speakers perform in the area of tense and aspect in comparison to their monolingual peers. We wish to investigate if bilingual heritage speakers have a linguistic advantage in further language acquisition.

Before we can continue with the analysis of the learner corpus, we first need to discuss the linguistic background in Chapter 4. The grammatical categories of tense and aspect will be explained, first on a general, and then on a language specific level.

4. Tense and aspect

This chapter provides the grammatical background for the current study. The grammatical categories tense and aspect are the basis for the comparison and the point of reference when searching for differences between monolingual and bilingual learners of English. The languages under discussion differ systematically in how location in time and aspectual information are represented.

First, in the overview section, we briefly introduce the concepts of *tense*, *aspect*, and *aktionsart* before we discuss the respective languages of this study individually, i.e. English, German, Russian, Turkish, and Vietnamese. In addition, other means of expressing temporal and aspectual relations will be briefly touched upon in each section, depending on the relevance for the respective language. English will be analyzed in most detail, because all participants of this study are language learners that acquire English as an additional language. Second, German will also be thoroughly described, though in less detail than English. We mainly explore tense and aspect in German in comparison to what has been said about English. This step is necessary, because German is the majority language of the bilingual participants and they share this language with the monolingual German participants. Due to the dominance status of German for all bilinguals and the monolingual German participants, we mainly expect cross-linguistic influence from this language and thus, we focus exhaustively on German.

The remaining languages Russian, Turkish, and Vietnamese will also be discussed, yet, to a lesser extent than English and German. For the bilingual speakers, these languages are their heritage language, which means that these are one of the two languages they naturally acquired during childhood. Therefore, we may also observe cross-linguistic influence from these heritage languages. Furthermore, they represent the native languages of the monolingual Russian, Turkish, and Vietnamese control groups. This means that for each language group, the respective L1 is the only language they may transfer from when acquiring the additional language English. Hence, we also need to look at these languages and their ways of expressing tense distinctions and aspect. Moreover, in the sections discussing German, Russian, Turkish, and Vietnamese, we will again draw some comparisons to English.

As a necessary consequence, it is not possible to cover every detail of tense and aspect of five languages in this study – this is clearly not the aim and it would without any doubt go beyond the scope here. As will be noticed when we move from section to section, tense and aspect are by no means simple concepts and we cannot claim to give a complete account of

what is possible in the languages under discussion. We can only give a rough overview. Therefore, whenever advisable, further readings are suggested.

Following these five sub-chapters, there is a section that discusses the Aspect Hypothesis, a highly controversial yet potentially relevant theory in (non-native) language acquisition which developed from generative linguistics but is still relevant in recent linguistics studies. The subsequent part looks at the relevant languages from a comparative perspective and introduces contrastive analysis. Similarities and differences concerning tense and aspect will be revisited and summarized in Chapter 4.8.1, combining all languages that are of importance for the following analysis. Then, there is a section that reports on previous studies that investigated the acquisition of tense and aspect in English by non-native learners in general, and in the second part also specifically for L2 learners with a German, Russian, Turkish, and Vietnamese background (Chapter 4.8.2). Finally, Chapter 4 finishes with a concise conclusion and reflects upon the main arguments put forward in this chapter.

4.1 Overview

There are many ways in which temporality is encoded in natural language; notably:

the grammatical categories tense and aspect;
 inherent temporal features of the verb (and its complements), such as punctuality, durativity, etc;
 complex verb clusters, such as *to begin to sleep, to continue to smoke*, etc;
 temporal adverbials of various types;
 special particles, such as the Chinese perfectivity marker *le*;
 principles of discourse organization, such as ‘the order in which situations are reported corresponds to their temporal order in reality’. (Klein 1994: 14)

The subsequent three chapters deal with this quotation from Klein (1994) namely how temporality is encoded and represented in language. First, tense, as the relation between the topic time and the time of utterance (Klein 1994: 6), will be defined and discussed. Then aspect, the relation between the topic time and the situation time (Klein 1994: 6), will be reviewed, and last, we will examine the inherent meaning of the verb phrase, called *aktionsart*.

4.1.1 Tense

Tense can be defined as “a grammatical category for the expression of temporal relations” (Siemund 2013: 111). This means that a situation is located in time by using linguistic elements; hence, it refers to “the linguistic embedding of real-world situations in time” (Siemund 2013:

111). Languages differ in how this category is represented: some have an obligatory grammatical marker for showing temporal relationships, others only use lexical marking to indicate temporal relationships (see Siemund 2013).

Perhaps one of the most influential works discussing *tense* was written by Comrie (1985). Right at the beginning of this publication, he visualizes time in form of a horizontal line (1985: 2). Onto this line, every situation happening in real life can be located at (Comrie 1985: 2). The present moment is situated in the middle of that line, with the past reaching to the left and the future reaching to the right side (Comrie 1985: 2).

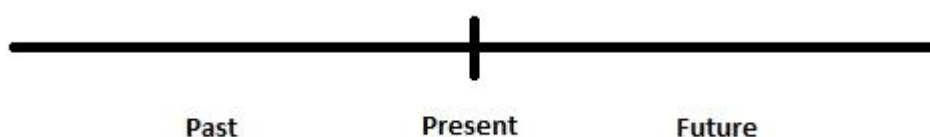


Figure 5: Representation of time (adapted from Comrie 1985: 2)

As has been stated, languages differ in how individual points or longer lasting situations are represented on this line. Some languages may lack grammatical devices for expressing time reference and hence, they do not possess tense (Comrie 1985: 4). Yet, it would be incorrect to claim that there are languages that have no concept of time or that lack the ability of expressing time, just because they do not have tense distinctions (Comrie 1985: 3). It is now that it becomes clear that we need to differentiate between the concept of tense and the concept of time. Tense refers to the form, typically a specific verb form; time, however, can be defined as the resulting function or meaning (that may or may not be expressed with a tensed form).¹² Hence, tense refers to the particular grammaticalized convention with which specific situations or periods of time are expressed. What the statement above tries to express is that even if not all languages possess tense distinctions, these languages are nevertheless capable of expressing time.

In spite of the fact that there exist major differences between the languages of the world, the timeline represented in Figure 5 may serve as a simplification of how time can be represented in languages (since this timeline represents time distinctions and not tense

¹² Let us take English as an example for a language that has tenses to make this difference between tense and time more tangible. English has a past tense form (*-ed* attached to the infinitive form or an irregular past tense form; for instance *worked* as the simple past tense form of *work*, or *ran* as the simple past of *run*) that can express past time reference. Hence, with using *worked* as opposed to *work*, one can refer to a situation that happened in the past, before the moment of utterance. Another example would be the present tense. It is formed with the plain form of the verb and can express, for instance, present time reference or future time reference in English.

distinctions). It is applicable to all natural languages. It is independent of the availability or lack of tenses, because “all human languages have ways of locating in time” (Comrie 1985: 7).

Comrie exemplifies that languages differ along two parameters when expressing time or time relations: “the degree of accuracy of temporal location” and “the way in which situations are located in time” (1985: 7). The latter is especially important for this study as this refers to the strategies a language uses to create time differences. There are lexical items on the one hand (single lexical items, such as *now*, *yesterday*, or composite expressions, such as *ten hours later*, *three days ago*), and there are grammatical forms on the other hand (for instance in the form of inflectional affixes attached to the verb) (Comrie 1985: 8). The respective significance or frequency of either or both strategies differs in each language (Comrie 1985: 7). A language that has grammatical categories to express location in time is said to possess tense distinctions, according to the definition given at the beginning of this chapter. In English, for instance, we find the past tense suffix *-ed* attached to the infinitive of a verb or an irregular past tense form of a verb, in order to express that something happened before the moment of speaking, hence that something happened in the past. The following two examples show this present-past-distinction.

- (1) He looks at the fish.
- (2) He looked at the fish.

Sentence (1) refers to a situation that is happening now, at the moment of utterance. The verb is in present tense. Sentence (2), though, refers to a situation that happened before the moment of utterance and is not true at the present moment anymore. It lies in the past. The structure and the lexical items are identical in both sentences; the only formal difference between sentence (1) and sentence (2) is the ending *-ed*.

Yet, it was stated, that not every language possesses grammatical tense distinctions (Comrie 1985: 9) and that these languages have strictly speaking no tenses. Such languages express time reference lexically (Comrie 1985: 51). This could be, for instance, done with adverbials, such as *yesterday*, or *tomorrow*, or with larger phrases, for example *a week ago*, *in five days*. Burmese would be an example of a tenseless language that is nevertheless able to communicate temporal distinctions (Comrie 1985: 50-53).

Moreover, languages that draw temporal distinctions via grammatical categories are not necessarily limited to only using these grammatical categories. The English sentence number (3) includes in addition to the past ending an adverbial to further specify the location of the situation in time. Both sentences, with or without the adverbial, express past time reference. The only difference is that the latter sentence is more specific than the former. It is also common

that there is no adverbial present, because the context or aforementioned adverbials are still valid in the current utterance.

- (3) He looked at the fish yesterday.

In addition, even if tense distinctions are available in a language, there can also be verb forms where the tense distinction is absent (Comrie 1985: 52). These are called nonfinite verb forms and their meaning can be derived from a tensed verb form that they are co-occurring with. We will make this clearer by choosing once again an English example.

- (4) He promised to look at the fish.

The verb *look* that is following *promised* is in the infinitive form, hence, it does not show any tense distinction. Yet, as Comrie explains, due to our knowledge of the world, we understand that *to look at the fish* must chronologically follow the promise (Comrie 1985: 52) and should therefore be put further to the right on the timeline. It depends on the form of the verb *to promise*. The reading of the tenseless verb is in that sense relative to the tensed verb. Not only the interpretation of verb forms can be relative to some other verb form, but this concept of relativity leads us to another division: tenses can be classified into absolute tenses and relative tenses.

Absolute tenses take the time of utterance (or, in other words, the present moment) as the reference point; hence, the present moment is the deictic center (Comrie 1985: 36). Absolute tenses are therefore present, past, and future. The present tense signifies that the situation that is being referred to coincides with the present moment or lies around it; past tenses locate the time of the situation before the present moment; and future tenses locate the situation posterior to the present moment (this is only a simplification of the three absolute tenses; for more information see Comrie 1985: Chapter 2).

Relative tenses, however, do not necessarily take the present moment as a point of reference. Typically, there is a different reference point that is given by the context (Comrie 1985: 56). This relative relation can be triggered by adverbials such as *on the same day*, *on the day before*, etc. (Comrie 1985: 56). In English, for instance, present and past participles are used as relative tenses and hence, they express a relative time reference (more on relative tenses can be found in Comrie 1985: Chapter 3).

We have just briefly discussed three absolute tenses: present, past, and future. Generally, a three-way distinction of absolute tenses is possible, yet most languages have a two-way-split instead (Comrie 1985: 48-49). These binary tense systems make a distinction between either past versus non-past or between future versus non-future tenses (Comrie 1985: 49). The former is the most widely attested pattern.

After having discussed the topic of tense, we can now turn to aspect in the following chapter. Again, we will not limit this to any specific language, but we will discuss the notion of aspect on a general level.

4.1.2 Aspect

There are not only tense distinctions. A related concept is *aspect*. The category of *aspect*, as Comrie defines it, represents “different ways of viewing the internal temporal constituency of a situation” (1976: 3). It is not the locating of a situation in time that is expressed with aspectual marking, but the inner structure of a situation that is located in time. The viewpoint of the situation changes: we do not focus on the temporal relation of the verb to the moment of utterance, but we focus on the duration of the situation, regardless if it happened in the past or if it is yet to happen. One can view a situation, be it an action, an event or a process, as something that is complete, ongoing, forthcoming, etc. (Klein 1994: 16). Relevant parameters here are completeness or boundedness (Siemund 2013). These make the two contrasting distinctions, namely perfective meaning and imperfective meaning that exist as grammatical categories in some languages (Comrie 1976: 7; Klein 1994: 16). Russian and Spanish, for instance, distinguish between these two aspectual types; in English, however, this contrast is not grammaticalized (Comrie 1976: 7). Perfective means that a situation is regarded as complete; the “situation [is] viewed in its entirety” (Comrie 1976: 12). No reference to the inner constitutions or individual parts are made. Imperfectivity, on the contrary, focuses on the internal structure, it views a situation from within and regards it as incomplete (Comrie 1976: 24). In some languages, imperfectivity is an individual category; in other languages, imperfectivity is further subdivided. These subdivisions are schematically represented in Figure 6. Habituality stands for a situation that typically stretches over an extended period of time, i.e. is repeated, which means that it can be protracted, or it stands for a situation that can be iterated for a long period (Comrie 1976: 30). In order to understand the meaning of the category continuousness, Comrie uses the former concept of habituation to negatively define it: “continuousness [...] [is] defined negatively as imperfectivity that is not habituality” (1976: 26). On that account, continuousness has nothing to do with iteration or repetition, but it refers to a homogenous situation that is durative. The following opposition, progressive versus non-progressive as subcategories of continuousness, is especially important since English has a noteworthy range of progressive forms in comparison to many other languages (Comrie 1976: 33). In addition to the wide range of the English progressive, English, as well as some other

languages, makes an obligatory distinction. This means that each finite verb form must either be in progressive or in non-progressive (Comrie 1976: 33). In other languages, this distinction is optional which means that a non-progressive form does not necessarily imply only progressive meaning, a non-progressive meaning is also possible (Comrie 1976: 33). More on the progressive aspect will be discussed in the following chapter on tense and aspect marking in English.

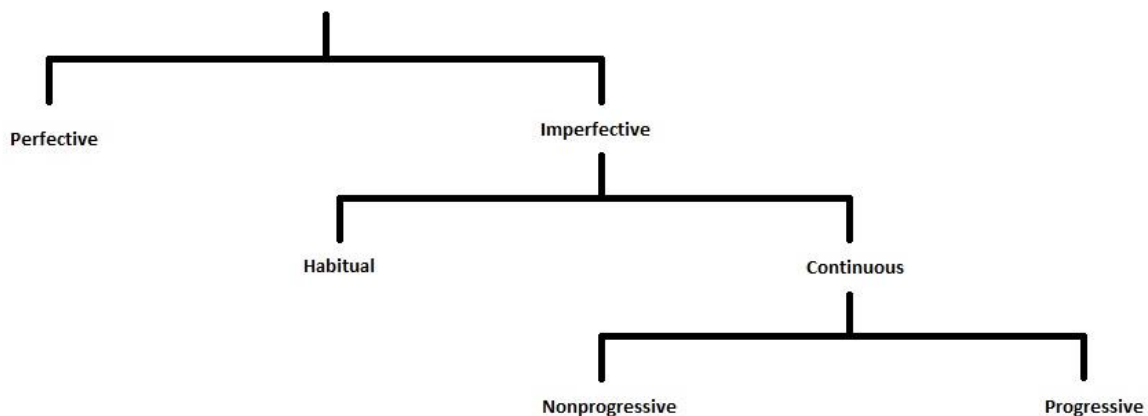


Figure 6: Classification of aspectual oppositions (taken from Comrie 1976: 25)

After pointing out several meanings of aspect, we have to stress the difference between form and meaning once again. In the former sections on tense, we saw that languages differ in how they establish time reference. The same holds true for expressing aspectual meaning. There are languages that use grammaticalized forms to differentiate between different aspectual meanings, and there are other languages that do not have grammaticalized forms (Comrie 1976: 8). But as was the case for tense, it would be inadequate to reason that languages without grammaticalized aspectual forms cannot express the same aspectual distinctions as languages that grammatically mark for aspect. It is just not generalizable for all verbs and may vary from situation to situation (Comrie 1976: 8). It already becomes clearer that the categories tense and aspect are highly complex and that they therefore complicate the comparison between languages.

The last point that is crucial here is the fact that tense and aspect are related concepts. In many languages, aspect can be combined with a tense to form a separate verbal category (Comrie 1976: 9). This is the reason why we look at both tense and aspect in the subsequent analysis: they cannot or at least only inadequately be looked at in isolation. Before discussing

tense and aspect in more detail for each of the languages relevant here, another related category will be introduced.

4.1.3 Aktionsart

The use and the meaning of both tense and aspect is connected to and depends on the inherent meaning of the verb, hence, on the situation that is expressed with the verb phrase (Huddleston and Pullum 2002:118). This is called *aktionsart* or *lexical aspect*. Siemund claims that “[g]rammatical aspect such as the progressive [...] heavily interacts with the temporal properties inherent in the meaning of the verb and its arguments” (2013:136-137). This goes back to Vendler (1957). Verbs and their arguments have specific meanings that they denote and these can be classified into different types. Linguists do not entirely agree on the number or boundaries of the respective types (compare Comrie 1976 and Vendler 1957). Yet, Huddleston and Pullum (2002) among others adopted Vendler’s (1957) classification into four different groups, namely *activity*, *accomplishment*, *achievement*, and *state* (Vendler 1957; see also Huddleston & Pullum 2002; Klein 1994; and Rothstein 2004). Vendler does not refer to these as *aktionsart*, he simply provides a systematic schemata of the use of verbs (1957: 143-144). Following his classification, we can define states as situations that have a duration for a (long) period of time (Vendler 1957: 147). The following two sentences are examples of states, note that their duration is quite different:

- (5) She is a student.
- (6) Germany is a country in Europe.

Achievements belong to the larger category of dynamic occurrences and are by definition punctual, which means that they occur instantaneously, as a single moment (Vendler 1957: 147), as opposed to processes which take longer and are therefore durative and not punctual. Sentence (7) is an example of an achievement.

- (7) She found her keys.

There are two types of processes: activities and accomplishments. Activities are situations that extend homogeneously over a period of time, which means that “any part of the process is of the same nature as the whole” (Vendler 1957: 146). The latter part of the description, the homogeneous nature of activities, stands in direct opposition to accomplishments. Accomplishments are also durative, but they have a logical and necessary endpoint towards which they proceed (Vendler 1957: 146). Huddleston and Pullum introduce the terms *telic* and *atelic* to emphasize the difference between activities and accomplishments

(2002: 120). Activities are said to be atelic, they have no endpoint or conclusion that is inherently given; accomplishments, however, are telic because the endpoint is by definition given. So far, we have only referred to these situation types as characteristics of verbs. Yet, verbs, in combination with complements, such as objects, can change from one situation type to another (Huddleston & Pullum 2002: 120). Let us take the verb *walk* as an example.

(8) He walked in the park.

(9) He walked to school.

The verb *walk* is, without any further complements, an activity verb (Huddleston & Pullum 2002: 120). This meaning is expressed with example sentence (8); the addition of the object *in the park* does not change this meaning. Though, sentence (9) expresses the meaning of an accomplishment because the location *to school* defines the endpoint of this situation: once he reached the school, the situation will be over.

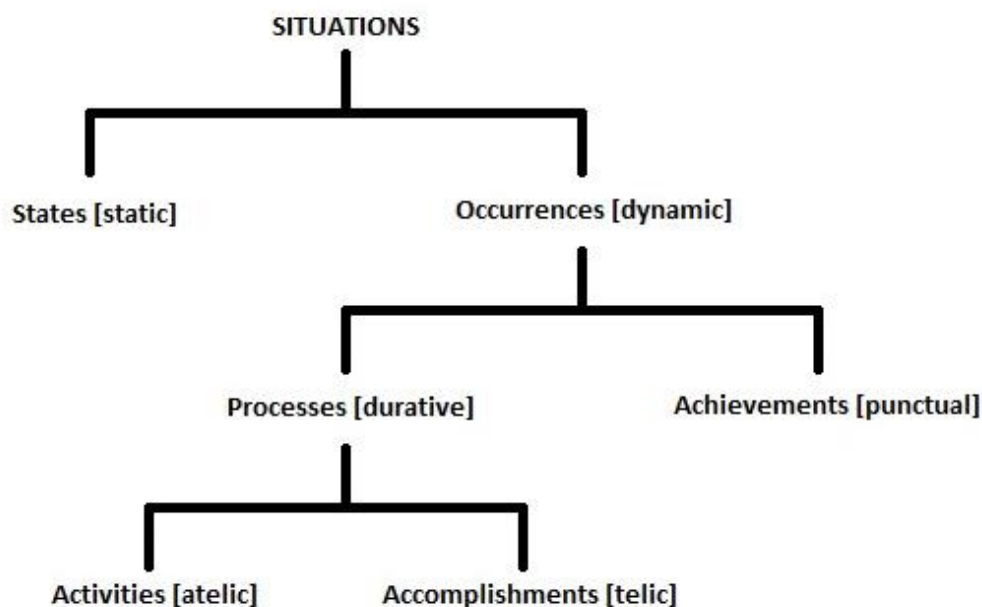


Figure 7: Types of situations (taken and slightly modified from Huddleston & Pullum 2002: 118)

Finally, Figure 7 provides a schematic overview of the types of situations available. How are these situation types now related to tense and aspect? There are several restrictions as to which situation type can occur in which tense or with which aspectual marking. To name just one example, Vendler proposes that states cannot co-occur with progressive tenses (the term progressive tense refers, according to the former discussion, to a combination of tense and aspect) (1957: 148). An English example that marks an ungrammatical sentence due to this restriction is (10):

(10) *He is knowing it.

Moreover, we take up an additional claim made by Bardovi-Harlig (2000: 213), namely that “the semantic properties belong to the linguistic expressions and not the real world itself.” This is an interesting thought and needs to be clarified based on an example. Bardovi-Harlig (2000: 213) chooses a real world event such as the running of a marathon of a person called John. There are various ways to refer to this single event, see for example sentences (11), (12) and (13) (taken from Bardovi-Harlig 2000: 213).

- (11) John ran.
- (12) John ran 26 miles.
- (13) John ran the Boston marathon.

What we can see when we observe these sentences is that they possess different properties; yet, the event, the running of a marathon, stays the same in all three (Bardovi-Harlig 2000: 213). We could even change the viewpoint of the situation, i.e. different aspectual viewpoints (such as external viewpoint like in sentence (11) versus internal viewpoint as in example (14) below), but the event itself would not change. In addition, not just the event remains unchanged, but also the inherent meaning, i.e. the lexical aspect, of the predicate *John* and *run*, remains, even if it is used with different tense or aspect marking: the predicate *run* plus its subject has durative meaning in all cases (Bardovi-Harlig 2000: 213).

- (14) John was running.

We come back to the concept of *aktionsart* or lexical aspect and how it interacts with the acquisition of tense and aspect marking when we discuss the Aspect Hypothesis (Chapter 4.7). For more information about *aktionsart* see Vendler (1957) or for more information on specific restrictions of *aktionsart* and tense and aspect marking in English see Chapter 4.2.

4.1.4 Synopsis

We have seen that it is possible for a language to have no grammatical tense distinctions or to have a three-way distinction or a binary opposition between tenses. Furthermore, even if a language makes a distinction between grammatical tenses, there can be nonfinite verb forms that lack this opposition. Another way of expressing time can happen with adverbials. They can be used exclusively or additionally to locate a situation in time. A very detailed and systematic analysis of temporal adverbials and their classification can be found in Klein (1994: Chapter 8). Another lexical mean to express temporality is via compound expressions, such as the following English compound verbs: *to start crying*, *to begin to cut*, *to finish eating*, *to continue to go*, etc. (Klein 1994: 142). Moreover, it is also possible to simply derive the respective time

of a situation from the larger context in which this utterance appears or from our general knowledge of the world.

It was mentioned that aspect adds information about the inner constituency of the situation, and lexical aspect or *aktionsart* of the verb makes restrictions as to which tense and aspect marking is possible or ungrammatical. Without going into much detail and without explicitly stating which languages fall into which category, it was demonstrated that there is substantial variation in forming tenses and aspect and in expressing time relations and aspectual meaning across languages. This information is crucial for the remainder of the study, because it is the basis of why we expect differences in the use of tense and aspect in learner English from speakers that have a different native language or languages at their disposal. In Chapter 3 we looked at language transfer and models that argue for a possible influence of the already known languages on the currently acquired language. Therefore, we need to have a look at the languages represented here and their expression of tense and aspect in order to hypothesize where differences may occur and how such differences, if available, support or negate the language acquisition models discussed in Chapter 3.1.2.

The following five sub-chapters will look at English, German, Russian, Turkish, and Vietnamese individually and try to establish a common ground for the later analysis. The most extensively discussed language is English, because this is the language that all participants are currently acquiring and that will be closely analyzed in what follows. Hence, this section serves two purposes: (i) to give a descriptive overview of tense and aspect in English, and (ii) to provide a basic outline of how learners of English are taught to use tense and aspect categories to create a coherent story in their English language classes. This chapter on English is succeeded by less extensive sections on the remaining languages. They will only serve the purpose of providing background information about form and meaning of tense and aspect in order to hypothesize and understand possible transfer phenomena. Different grammatical aspects will be stressed for each language and we will not follow one coherent pattern to describe the respective languages. This approach was chosen, because not every category is of equal importance in the languages that are discussed here.

4.2 Tense and aspect marking in English

In this section, we will give an overview of what can be found in general reference grammars of English. For the purpose of this study, Biber et al. (2000), Huddleston and Pullum (2002), and Quirk et al. (1985) were selected as the main sources with some additional information

taken from Baugh and Cable (2002), van Gelderen (2006), König and Gast (2012), Miller (2012), and Swan (2005), and others.

English is typically regarded as belonging to the West-Germanic branch of the Indo-European language family (Baugh and Cable 2002; van Gelderen 2006; among others). Yet, structurally, morphologically, and lexically, English does not behave as a typical Germanic language because Modern English shows heavy influence from multiple languages of other language families (Miller 2012: 236). One major feature that provides insight into how dissimilar English is in comparison to other Germanic languages is the simplification and loss of inflectional endings (Baugh and Cable 2002: 13). This naturally affects the representation of tense and aspect because, as we have seen earlier, both tense and aspect are typically formed by adding inflectional endings to the verbal stem. In English, however, tense and aspect (and also mood, but this will be disregarded here) are generally marked analytically, hence with auxiliaries that are added to the verb phrase (Huddleston & Pullum 2002: 115). There is only one tense distinction, namely that between simple present and simple past, that is marked inflectionally (Huddleston & Pullum 2002: 115). Therefore, English is not regarded as having a three-way distinction between present, past, and future, because “English has no future form of the verb in addition to present and past forms” (Quirk et al. 1985: 176). Before having a closer look at the tenses available in English, we take a brief detour to the inflectional categories of the verb.

English distinguishes two types of verbs, lexical verbs on the one hand, and auxiliary verbs on the other hand. All lexical verbs have six inflectional forms – we call this the six-term paradigm (Huddleston & Pullum 2002: 74). You can find the full verbal paradigm, exemplary for three verbs, in Table 2. Auxiliary verbs behave differently in that they additionally (i) have negative forms, such as *haven't* or *couldn't*, (ii) that all modal auxiliaries lack the secondary forms (i.e. the plain form, gerund and past participle form), (iii) that some of them (for instance *must*) lack the preterit forms, and (iv) that *be*, as a special type of an auxiliary verb, has additional person-number agreement forms (Huddleston & Pullum 2002: 75). See Table 3 (taken and adapted from Huddleston & Pullum 2002: 75) for the paradigm of the verb *be*. A further feature of auxiliary verbs is that they precede lexical verbs if they occur together in one clause (Bauer et al. 2013: 61). Auxiliary verbs can be further subdivided into modal auxiliaries (i.e. *can*, *could*, *dare*, *may*, *might*, *must*, *need*, *ought*, *shall*, *should*, *will*, *would*) and non-modal auxiliaries (i.e. *be*, *do*, *have*) (Bauer et al. 2013: 63). The auxiliaries of the latter group are used for different types of verb phrases. *Be* can be both a lexical verb and an auxiliary verb and is used to form the passive of an active verb. *Be* and *have* are needed to form complex tenses (for

instance present and past progressive and present or past perfect) and *do* is needed for the negation of lexical verbs (e.g. *we drink* vs. *we don't drink* and **we not drink* or **we drink not*) (Bauer et al. 2013: 63).

				let	catch	look
Primary	{	preterit	┐ 3 rd sg plain	let	caught	looked
		present tense		lets	catches	looks
Secondary	{	plain form		let	catch	look
		gerund participle		letting	catching	looking
		past participle		let	caught	looked

Table 2: Inflectional forms of the English lexical verb

Lexical verbs can be grouped into regular and irregular verbs. Regular lexical verbs form their past tense forms with the suffix *-ed*, irregular lexical verbs have irregular past tense forms (Bauer et al. 2013: 66). In Table 2, there are two irregular verbs (*let* and *catch*) and one regular verb (*look*). Irregularity could mean that the preterit and the past participle form are identical to the plain form, or that both past forms are identical but different to the plain form, or that all three forms are unique. If two or more forms of a lexeme have an identical form, we call this syncretism (Huddleston & Pullum 2002: 76).

		Neutral			Negative		
		1 st sg	3 rd sg	other	1 st sg	3 rd sg	other
Primary	{	present tense	am	is	are	aren't	isn't
	{	preterit	was		were	wasn't	weren't
	{	irrealis	were	-	weren't		-
Secondary	{	plain form	be		-		
	{	gerund participle	being		-		
	{	past participle	been		-		

Table 3: Inflectional forms of the verb *be* (taken and adapted from Huddleston & Pullum 2002: 74)

Due to the historical development that English underwent, many inflectional endings are now lost, and we find a considerable number of verbal syncretism (Huddleston & Pullum 2002: 76). In English, there exist identical forms, for instance, for numerous preterit and past participle forms. As can be seen in Table 2, the preterit and past participle forms of all three verbs are identical. There are, however, other examples, where the preterit and the past participle are not identical (see for example the lexical verb *go*: the preterit form is *went*, and the past participle form is *gone*). But even if verbs have the same form, their specific meaning can be derived from the context.

Type A (modal)	modal auxiliary + base form of a verb	should finish
Type B (perfective)	auxiliary <i>have</i> + <i>-ed</i> participle	have finished
Type C (progressive)	auxiliary <i>be</i> + <i>-ing</i> participle	is finishing
Type D (passive)	auxiliary <i>be</i> + <i>-ed</i> participle	is finished

Table 4: Basic types of complex verb phrases (adapted from Quirk et al. 1985: 151)

Furthermore, the English verb phrase can either be simple or complex. Simple verb phrases consist of a single verb. This verb can be in present tense or past tense, it can be an imperative or a subjunctive form (Quirk et al. 1985: 151). Complex verb phrases consist of two or more lexical items and can be further subdivided into four complex verb phrase types. Table 4 lists these four basic types. These types could also combine with each other to form further complex verb phrases of more than two words. The different types of verbs and the morphological features are relevant for forming tenses and for expressing aspectual meaning. From a morphological perspective, we distinguish only between two tense oppositions: past versus non-past (König & Gast 2012: 82). From this perspective, there is no future tense in English, because future time reference is expressed with auxiliary forms in combination with lexical verbs (König & Gast 2012: 82). Along this line, there are also no complex past tenses because all past tense forms are combinations of the auxiliary verb or perfect marker *have* in addition to a past participle form (König & Gast 2012: 82). Yet, for the purpose of the comparison later on, we will follow König and Gast (2012) and their inventory of six English tenses. This is done purely because (i) in German we find parallel tenses which therefore facilitates a direct comparison, (ii) even if there are no distinguished forms but only combinations, they nevertheless express a unique meaning different than the simple present or simple past, and (iii) because this classification is commonly used in classrooms for didactic purposes (König & Gast 2012: 83). The latter is especially relevant since we are analyzing learner language and these learners receive formal training in English. These learners are most likely confronted with exactly this classification.

Simple Present	I look at a fish.
Simple Past	I looked at a fish.
Future	I will look at a fish.
Present Perfect	I have looked at a fish.
Past Perfect	I had looked at a fish.
Future Perfect	I will have looked at a fish.

Table 5: Six tenses in English (adapted from König & Gast 2012: 83)

The simple present is normally used for present time reference, such as situations located at or around the moment of utterance, regularly occurring situations, scheduled situations, or habits; future time reference is only possible if it is a scheduled event (König & Gast 2012: 85). With stative verbs, the simple present form can be used to make timeless statements, which are generally true and located at a specific moment in time (Quirk et al. 1985: 179). The simple present form can also refer to the past in the historic present (a situation described, or a story told from the perspective of an eyewitness; it is clearly a past event but the simple present form is used) or it can be used in fictional narrative (similar to the former, yet here it is an invented story that happened in the past but which uses the present tense form) (Quirk et al. 1985: 181-183). All these different uses of the simple present are formed with a single verb in the plain form, or as it is also called in the base form. The only exception is the third person singular, which is marked with the *-s* form (Quirk et al. 1985: 97). This means that in English, there is person agreement and number concord in the simple present tense but only between the third person singular and all other singular or plural persons (Quirk et al. 1985: 149). As was already presented in Table 3, the verb *be* is an exception here and shows more person concord than any other verb.

- (15) Today is Friday! [Present time reference]
- (16) We go to the gym three times a week. [Regularly occurring situation, habit]
- (17) Water boils at 100°C. [Timeless statement]
- (18) It was really crazy. I was standing there, and then suddenly, this person comes and looks at me as if ... [Historic past]

Simple past locates a situation anterior to the moment of utterance (Huddleston & Pullum 2002: 137), the situation lies completely in the past and is over at the time of the utterance. This tense is formed with the preterit form of the verb. As was explained before, regular verbs form the preterit with *-ed* and irregular verbs have a unique preterit form that cannot be derived but needs to be learned individually for every verb (Swan 2005: 282-285). Typically, adverbials of time that refer to a time that lies in the past combine with simple past tense verb forms. Examples are *yesterday*, *last week*, *a year ago*, etc.

Although we explained that there is no future tense in English, there are several strategies to express future time reference; the one given in Table 5 is only one example. This strategy is the most basic form of referring to a future event and its form consists of *will*, or less frequently *shall*, and the plain form of a lexical verb (König & Gast 2012: 85). Very often, the *will*-future is used to express some kind of condition and is therefore frequently used in *if*-clauses (König & Gast 2012: 86). The second most frequent future marker is a form of *be going*

to and the infinitive form of a lexical verb. Originally, it derives from the progressive form, but the meaning of motion and moving was lost over time and it is now used to refer to the future. There is a meaning difference to the *will*-future form: the *going-to*-future is more than predicting something, it indicates intention of future fulfillment or is based on some kind of (outside) evidence (i.e. you could say *It is going to rain!* if there are dark clouds in the sky) (König & Gast 2012: 85). The present progressive form can also refer to the future, yet the underlying meaning of arrangements or plans that have already been made is present here (König & Gast 2012: 86). The least infrequent form of expressing future is with the auxiliaries *will* or *shall* and the progressive form. The meaning of this future form can either be drawn from putting together the meaning of the two individual parts or, and this is more a stylistic matter, it can express a more cautious sentence by indicating that a situation is not planned but the necessary consequence of another action (König & Gast 2012: 86). For the matter of clarification, the following examples are meant to underline these theoretical explanations.

- (19) I will win this competition! [Hidden condition: if I stick to my training schedule]
- (20) I am going to study tonight. [Intention]
- (21) She is flying to Hanoi later this week. [Arrangements have already been made]
- (22) You can come with us, we will be driving to Jena anyways. [Consequence]

In addition to future marking in the verb phrase, adverbials that express future time reference, such as *later today*, *tomorrow*, *next year*, etc., very often co-occur.

The present perfect is used to refer to a situation that has started in the past and is still relevant at the moment of utterance; it goes up to the present moment or could even include it (König & Gast 2012: 89). It is formed with the auxiliary *have* in the present tense and the past participle of a lexical verb. König and Gast differentiate between four different uses of the present perfect that heavily interact with *aktionsart* (2012: 90-91). The universal use, which refers to states or habits that reach up to the present moment, is formed with state or activity verbs. The existential use is restricted to bounded events that are clearly in the past but not definitely located in time. The resultative perfect occurs with achievement and accomplishment verbs because they indicate a change that has current relevance. The last type is the hot-news perfect. It can be used to introduce a yet unknown event in the recent past. Sentences (23) to (26) represent typical examples of each type. They were inspired by König and Gast (2012: 90-91).

- (23) I have lived in Hamburg for nearly 3 years now. [Universal use]
- (24) I have been to Vietnam once. [Existential use]
- (25) Someone has been here before. [Resultative use]

- (26) They have finally come to an agreement. (News about the German government after the coalition negotiations in February 2018). [Hot-news perfect]

Only adverbials that include the present moment can combine with the present perfect. Examples could be *this week*, *so far*, *until now*, and *today*. Adverbs that are used in combination with the simple past, hence, that refer to a definite point in the past, disqualify for being used with the present perfect (König & Gast 2012: 89).

The past perfect is a compound tense that combines the meaning of the simple past and the perfect. This means that the past perfect refers to a situation that is located anterior to a situation that lies in the past, or differently said that is anterior to the moment of utterance (Huddleston & Pullum 2002: 140). Hence, we find a double anteriority.

- (27) I had finished the book before he came home.

After having discussed the six tenses available in English, we will now turn to aspect. It should have become clear by now that in this study, the perfect tenses (i.e. present perfect and past perfect) are regarded as tenses and not as aspect. This is not entirely uncontroversial, and many scholars have addressed this issue (see for instance Radden & Dirven 2007: 206) or regarded the present perfect as a form of aspect (Klein 1994; Quirk et al. 1985). We will follow König and Gast and consider English a language that has only one aspectual contrast, namely progressive aspect versus non-progressive aspect (2012: 92) and we will disregard perfect in this section on aspect.

Biber et al. define the progressive as being “used to describe activities or events that are in progress at a particular time, usually for a limited duration. The present progressive aspect describes events that are currently in progress or are about to take place in the near future” (2000: 470). Huddleston and Pullum outline that the progressive aspect has to do with the perspective: it is a way of looking at a situation, activity, or event from an internal point of view (Huddleston & Pullum 2002: 117). You could clearly use a simple form instead, but the meaning of the situation would differ. A typical example of a progressive sentence would be the following, taken from König & Gast (2012: 93):

- (28) Charles is working.

This sentence stands in direct opposition to its simple form *Charles works*. The former expresses a situation where Charles is right now in the middle of doing an action (i.e. work), whereas we can classify the simple aspect in the present tense as habitual, i.e. the general property of Charles of having a job.

The progressive in English is not restricted to a specific time; it is rather that someone is referring to a particular situation which is happening at a moment that could lie in the past,

the present, or the future. In that sense, the progressive combines with all tenses available in English. In addition to tense interacting with the progressive aspect, the *aktionsart* of the verb plays a crucial role. Biber et al. state that the progressive aspect can only be used with verbs expressing activities or describing events, so-called dynamic verbs (2000: 471). Such verbs are, for example, *to dance*, *to march*, *to bring*, *to laugh*, *to play*, *to work* (Biber et al. 2000: 471). This means that verbs, according to their *aktionsart*, combine more or less easily with the progressive: activities and accomplishments typically combine with the progressive, but achievements and states are less likely to be used in the progressive form. In addition to the verbs commonly used in the progressive, Biber et al. (2000) present verbs that only rarely occur in the progressive aspect. Some examples are: *to agree*, *to believe*, *to know*, *to want*, and *to appreciate* (Biber et al. 2000: 472). These belong to the group of mental/attitudinal state verbs. Other linguists agree and also claim that verbs expressing states do not normally occur in the progressive (Huddleston & Pullum 2002: 119; Smith 1983: 482). Swan even gives a list of common non-progressive verbs (Swan 2005: 457). Those are: *to believe*, *to doubt*, *to feel*, *to hate*, *to imagine*, *to know*, *to (dis)like*, *to love*, *to prefer*, *to realize*, *to recognize*, *to remember*, *to see*, *to suppose*, *to think*, *to understand*, *to want*, and *to wish* (Swan 2005: 457). Hirtle and Bégin, however, claim that, even though it is not common and occurs only infrequently, state verbs can, under certain circumstances, appear in the present progressive (1991: 101). This can somehow be considered a recent innovation in English. Originally, the progressive appeared in Middle English, or even Old English, and was far more limited in its use (Hundt 2004: 47). It was shown that the progressive started out to be restricted to animate subjects, and that it has now spread to inanimate subjects as well (Hundt 2004: 51). In other words: “the meaning of the progressive has extended well beyond the original definition of progressivity as the combination of continuous meaning and nonstativity” (Comrie 1976: 38). In Kranich, you can also find the notion of an extended use of the present progressive as “a modern invention” (2010: 202). The use of the progressive with dynamic verbs that describe events and actions is, as we have seen, very frequent, but this grammatical structure seems to be spreading to state verbs, too (Aarts et al. 2010: 162). This use is still not widely dispersed (Kranich 2010: 251) and only a small number of state verbs are infrequently used in the progressive aspect as an addition to the more or less restricted, standard use of the present progressive. Only in certain contexts, it is appropriate to use them in the progressive aspect. This latter use is by far not the most frequent use and certainly associated with highly advanced learners, because in order to express such fine nuances, one needs to have a very high command of that language. The present progressive has in general been demonstrated to be a problematic area for English as a Second Language

(ESL) learners (Bland 1988: 55, Mauranen 2017: 239). For this study, the progressive will be one of the focus areas because of the general features of the progressive and because of its changing nature (see more about the progressive aspect in Chapter 4.8.2).

Apart from the type of verb, genre also plays an important role in the frequency of the progressive aspect. In speech, the progressive is used significantly more often than in written English (Aarts et al. 2010: 158). Furthermore, it is more frequently used in informal registers than in formal registers (Axelsson & Hahn 2001: 12; Hundt 2004: 61; Kranich 2010: 251). Again, this information is important for the current study, because we will analyze written and spoken language and the expected genre is neutral or colloquial as opposed to formal style.

Furthermore, we have to stress (again) that in English, we find a fully grammaticalized system for progressive vs. non-progressive aspect (König & Gast 2012). Fully grammaticalized refers to its obligatoriness: for every utterance, we must choose between the progressive, i.e. the auxiliary *be* plus the *-ing* ending at the main verb, or the simple form of the verb. The progressive and the simple form are not (always) interchangeable (Comrie 1976: 33) as they express different meanings. The progressive adds dynamicity, duration and ongoingness to the, so-called, basic meaning expressed in the simple tenses. In some instances, it would be grammatical to use either form.

(29) They go to the lake.

(30) They are going to the lake.

Considering sentences (29) and (30), we notice that both are grammatically correct and could be uttered or written when describing a picture where you can see some people who are on their way to a lake. The only difference is that the focus shifts: the simple present sentence focuses on the general situation that people are on their way. The present progressive, however, focuses on the actual action, the activity of going somewhere. This choice, however, as we have seen earlier, is said to not be possible for all verbs. This is another reason of why the use of the progressive aspect is a problem area, especially for learners of English.

Verbs of perception, for example *hear* or *see*, can be used either with an object following a verbal infinitive or the *-ing* form of the verbs (Swan 2005: 222). Consider examples (31) and (32) (taken from Swan 2005: 222) to understand the meaning difference between the infinitive and the progressive form:

(31) I saw her cross the road.

(32) I saw her crossing the road.

Example (31) communicates that the entire situation, i.e. the crossing of the road, from the beginning to the end was observed; sentence (32), however, expresses that we focus on the an

action in progress, hence, we saw her while she was crossing (without implying the starting or endpoint of this action) (Swan 2005: 222). Notice, that for this progressive use, we do not find the auxiliary verb *be* (Swan 2005: 222). Yet, very often, verbs of perception are not used in the progressive; if we refer to a particular moment and want to express that we see or hear something, the modal verb *can* is commonly used, i.e. *can hear* or *can see* (Swan 2005: 102).

Last but not least, one further use of lexical verbs will be introduced. In numerous utterances, lexical verbs are used that do not show tense marking. These are called nonfinite forms as opposed to the finite forms that have previously been discussed (Quirk et al. 1985: 153). There are four nonfinite forms of the verb: (i) the bare infinitive, (ii) the *to*-infinitive, (iii) the present participle with *-ing*, and (iv) the past participle with *-ed* (Quirk et al. 1985: 150). Nonfinite verb phrases cannot be the only verb phrases of an independent clause which means that they cannot occur with a subject (Quirk et al. 1985: 150, 153). There is always another finite verb phrase present. The following example sentences represent the four types of nonfinite verbs. There are two examples of an *-ing* form given, one is a gerund (that acts as a noun in the sentence, see sentence (36)) and one is a present participle (35). For more information on the difference between gerund and present participle see Swan (2005).

- (33) She may move to a different city. [bare infinitive]
- (34) I wanted to talk to her yesterday. [*to*-infinitive]
- (35) Before going out, I always check my purse. [*-ing* participle]
- (36) I don't like swimming. [gerund]
- (37) Papers submitted later than on Friday will not be accepted. [*-ed* participle]

This was only a very brief summary of important points concerning the English verb phrase. For further explanations on each individual topic, it is recommended to consider one of the main reference grammars mentioned in the beginning (Biber et al. 2000; Huddleston & Pullum 2002; Quirk et al. 1985). The information given was meant to point out how English marks tense and aspect and which areas may be difficult for learners. Throughout the next sections, by explaining tense and aspect categories of other languages, it should become even more pronounced where learners of English with certain native languages may produce non-target-like structures. In section 4.8.1, we will discuss this even further, by joining the findings of all individual discussions within one chapter.

4.3 Tense and aspect marking in German

German belongs, like English, to the Germanic branch of the Indo-European language family and therefore shares numerous grammatical categories with English. Yet, in many respects, German differs from English because both languages developed differently due to their specific historical situation (for an overview see Baugh & Cable 2002; Chambers & Wilkie 2014; and Hogg & Denison 2008; see also König & Gast 2012 for a detailed comparison of German and English). Whereas German belongs to the group of fusional or inflecting languages, English is developing into an isolating or analytic language (König & Gast 2012: 314; Iggesen 2013; Siemund 2004; Velupillai 2013: 96). Even though this is a fundamental difference between German and English, both languages have, nevertheless, syntactic constructions, which means that affixes attach to the stem of a word to express grammatical categories (Bickel & Nichols 2013a). English can maximally express two categories (tense and person) with one inflected verb form and the same can be said about German (Bickel & Nichols 2013a). In German, three categories, i.e. tense, person, and mood, can be expressed by inflectional morphology; but according to Bickel and Nichols (2013a), they appear as cumulated exponents, and therefore, we find maximally two categories attached to a. Overall, both languages mark tense mostly with affixes, hence, as a syntactic string of elements (Bickel & Nichols 2013a; Dryer 2013a), which is an important feature, as the ongoing debate will show.

	Präsens/simple present		Präteritum/simple past	
1SG	ich tanze	I dance	ich tanzte	I danced
2SG	du tanzt	you dance	du tanztest	you danced
3SG	er/sie/es tanzt	he/she/it dances	er/sie/es tanzte	he/she/it danced
1PL	wir tanzen	we dance	wir tanzten	we danced
2PL	ihr tanzt	you dance	ihr tanztet	you danced
3PL	sie tanzen	they dance	sie tanzten	they danced

Table 6: Conjugation in German and English (adapted from Hentschel 2010: 378)

To start off with, we will consider the differences that can be observed in the area of verbal morphology. In German, the verbal ending changes depending on person, number, tense, and mood (Hentschel 2010: 378; König & Gast 2012: 69). We have seen that in English, we only find a few inflectional endings (König & Gast 2012: 71). For example, we only add the suffix {-s} to the stem of the verb to form the third person singular in the present tense (an exception is the verb *be*), but all other forms of the verb in present tense do not change. This is the result of the historical development that English has undergone. German, however, has preserved

many inflectional endings (König & Gast 2012: 69). Consider the conjugations of the German verb *tanzen* ('dance') and the English equivalent in simple present and the simple past tense (Table 6). We can clearly see that the German verbal morphological system is much more complex and diverse than in the English one.

In the following, we will look at individual tenses and explain how tense and aspect is realized in German. In order to establish comparability, we will mainly rely on König and Gast (2012) and Hentschel (2010) in this Chapter and explain the use of tense distinctions and aspectual distinctions of German in comparison to English.

In general, there is much formal overlap with English when it comes to the formation of the six tenses that were already explained in much detail in the previous chapter. Table 7, which includes example sentences for each tense in English and German, shows this formal parallelism. Yet, the meaning and use of the German tenses show remarkable differences to the English tenses, and this will be outlined and explained in the remainder of this section.

		English	German
Simple Present	Präsens	I look at a fish.	Ich schaue den Fisch an.
Simple Past	Präteritum	I looked at a fish.	Ich schaute den Fisch an.
Future	Futur I	I will look at a fish.	Ich werde den Fisch anschauen.
Present Perfect	Perfekt	I have looked at a fish.	Ich habe den Fisch angeschaut.
Past Perfect	Plusquamperfekt	I had looked at a fish.	Ich hatte den Fisch angeschaut.
Future Perfect	Futur II	I will have looked at a fish.	Ich werde den Fisch angeschaut haben.

Table 7: Six tenses in German in comparison with English (adapted from König & Gast 2012: 83)

Let us start with the use of the simple present/Präsens. In German, we use the present tense to refer to situations that refer to non-past situations or to the present moment (examples (38) and (39)), that are currently ongoing (40), and to express future time reference (41) (Hentschel 2010: 27; König & Gast 2012: 92).

- (38) Ich trinke morgens Kaffee.
 1SG drink.PRS.1SG morning coffee.
 'In the morning, I drink coffee.'
- (39) Ich wohne seit drei Jahren in Hamburg.
 1SG live.PRS.1SG for three year.PL in Hamburg.
 'I have lived in Hamburg for three years.'

- (40) Es regnet.
 3SG rain.PRS.3SG.
 ‘It is raining.’
- (41) Morgen gehe ich ins Kino.
 tomorrow go.PRS.1SG 1SG into cinema
 ‘Tomorrow, I will go to the cinema.’

As can be noticed from the English translations, only in sentence (38) is the simple present tense used. This marks a clear contrast between German and English: in German, we can use the present tense for all four situations, even situations that started in the past but are still relevant at the time of speaking, for situations that are currently ongoing, or for future situations. In English, however, it would not be target-like to use the simple present for situations that started in the past and have current relevance, but we would use the present perfect instead. Similarly, future time reference is expressed with the *will*-future or the *going-to*-future. There is one situation, where in English, we can also use the present tense to refer to the future, but this is restricted to scheduled events (see again Chapter 4.2). Furthermore, situations that are currently ongoing are not uttered in the simple present tense, but the present progressive is used instead (more on how progressive aspect is expressed in German can be found towards the end of this section).

We have already seen that in German, future time reference can be expressed with the verb in present tense. In fact, the present tense is the default tense that is used to refer to the future (König & Gast 2012: 84). There is, however, another way of referring to prospective situations namely by using the future marker *werden*, an auxiliary verb, and the infinitive form of the main verb (König & Gast 2012: 84). This means that sentence (41) could also be expressed by using the future marker *werden* (Futur I), as shown in sentence (42).

- (42) Morgen werde ich ins Kino gehen.
 tomorrow will.PRS.1SG 1SG into cinema go.INF
 ‘Tomorrow, I will go to the cinema.’

Both the present tense and the *werden*-future (Futur I) are used in German to make a statement about situations or events that are yet to come. There is, however, a slight meaning difference which has to do with certainty or definiteness – the present tense is associated with a higher degree of certainty, when compared to Futur I (König & Gast 2012: 84).

The simple past/Präteritum is used to refer to situations in the past, without implying how long this situation has lasted (Hentschel 2010: 273). Furthermore, it is used to tell stories (Hentschel 2010: 273). Especially in spoken discourse, however, this tense is rarely used, but

the present perfect/Perfekt is used instead (see Hentschel 2010: 40). Yet, in written texts, the simple past is more frequently used for past time reference and it is considered more formal than the present perfect form (Hentschel 2010: 41). Example (43) and (44) demonstrate this use. Both sentences refer to a completed situation in the past; yet, the former is more common in writing and the latter in spoken discourse.

(43) Ich schlief den ganzen Tag.
 1SG sleep PST.1SG DEF.ART.ACC whole day
 'I slept the whole day.'

(44) Ich habe den ganzen Tag geschlafen.
 1SG have.PRS.1SG DEF.ART.ACC whole day sleep.PTCP
 'I slept the whole day.'

Having said this, we can now continue with the present perfect/Perfekt, because the narrative use of the present perfect (sentence (44)) cannot be expressed with the present perfect in English, but the simple past is used instead (König & Gast 2012: 92). In German, however, we can use past tense adverbials, such as *gestern* ('yesterday') or *letzte Woche* ('last week'), together with the present perfect, which we excluded for English; this is called the narrative use according to König and Gast (2012: 87). In this narrative use, the simple past and the present perfect are, as already indicated, nearly always interchangeable, with the former being more formal than the latter.

Apart from this use, we can also find the present perfect in the resultative use (König & Gast 2012: 87), which was explained in Chapter 4.2 for English. The resultative perfect indicates that something has recently changed, and it appears mostly with verbs that denote a change of state (König & Gast 2012: 91). For this function of the present perfect/Perfekt, we find similarities in form and function in German and in English, see sentences (45) and (46), taken from König & Gast (2012: 92).

(45) Jemand hat mein Auto gestohlen.
 someone have.PRS.3SG my car steal.PTCP

(46) Someone has stolen my car.

The German Perfekt also works with future time reference, which could be seen as a special type of the resultative perfect (König & Gast 2012: 87). We can refer to some possible result or event that lies in the future. An example is sentence (47). In English, we would have to use the future perfect (see below). This would also be possible in German (sentence (48)), but the future perfect/Futur II expresses less certainty than the same situation expressed with a perfect form (see the discussion of the future perfect/Futur II below).

- (47) Nächstes Jahr habe ich meine Dissertation fertig
 next year have PRS.1SG 1.SG my thesis finish
 geschrieben.
 write.PTCP
 ‘Next year, I will have finished my thesis.’
- (48) Nächstes Jahr werde ich meine Dissertation fertig
 next year will.PRS.1SG 1.SG my thesis finish
 geschrieben haben.
 write.PTCP have.INF
 ‘Next year, I will have finished my thesis.’

Furthermore, another difference between the German Perfekt and the English present perfect has already been mentioned when we talked about present tense/Präsens. For situations, that started in the past but are still ongoing, we can use the simple present in German, but we have to use the present perfect in English (see sentence (39) again) (König & Gast 2012: 92).

We stated that there is formal overlap in terms of forming the German Perfekt and the English present perfect; however, there is a clear difference concerning word order. The present perfect in German is built with the present tense forms of the auxiliary verbs *sein* (‘be’) or *haben* (‘have’), instead of only one auxiliary form like in English (*have*), and the past participle form of the main verb (Hentschel 2010: 233).¹³

As we have seen in Chapter 4.2, in English, the main verb directly follows the auxiliary verb in the present perfect, or there may be an adverbial between the auxiliary and the main verb. Though, in German, we find the auxiliary verb in second position (for example after the subject) and the participle form at the end of the sentence as the last constituent (compare sentences (44) to (46)) (Hentschel 2010: 254; König & Gast 2012: 92).

Let us now briefly touch upon the two remaining tenses, the past perfect/Plusquamperfekt and the future perfect/Futur II, because there is not just formal similarity between these tenses in German and English, but they are also used in fairly similar contexts and functions. The Plusquamperfekt refers to a situation in the past that happened before another reference point in the past or also concurrently, see sentence (49) (Hentschel 2010: 250). In German, we also use the auxiliary verbs *sein* (‘be’) und *haben* (‘have’) plus the

¹³ The choice between the auxiliary verbs *sein* (‘be’) and *haben* (‘have’) depends on syntactic and semantic properties of the verb (Hentschel 2010: 233). Most verbs form the perfect with *haben* (‘have’), such as transitive verbs, reflexive verbs, modal verbs, and intransitive verbs that do not denote a change of state (Hentschel 2010: 233-234). The verbs *sein* (‘bleiben’) and *bleiben* (‘stay/remain’) and intransitive verbs that express a change of state form the perfect with *sein* (‘be’) (Hentschel 2010: 234). For a more detailed explanation see Hentschel (2010: 233-237).

past participle to build the Plusquamperfekt (see (50)) (Hentschel 2010: 250-251). Yet, differently to the present perfect, for the past perfect the auxiliary verbs appear in the simple past form. This is analogously done in English (see (51)).

- (49) Als sie nach Hause kam, hatte er schon
 when 3SG.F to home come.PST.3SG have.PST.3SG 3SG.M already
 gekocht.
 cook.PTCP

‘When she came home, he had already prepared the meal.’

- (50) Ich hatte gekocht.
 1SG have.PST.3SG cook. PTCP

- (51) I had cooked.

The future perfect/Futur II, expresses a future result, hence, something happens before a specific point in time in the future (Hentschel 2010: 92). In both German and English, it is a complex tense that consists of three verbal forms (example (52); taken from König & Gast 2012: 92). For further information, see Hentschel (2010: 91-96).

- (52) Ich werde das bis morgen erledigt haben.
 1SG will.PRS.1SG DEF.ART until tomorrow do.PTCP have.INF
 ‘I will have done this by tomorrow.’

After having discussed how tenses are formed and used in German and also in comparison with English, we will now consider the grammatical category aspect. In German, there is no grammaticalized form that signifies an aspectual distinction (Hentschel 2010: 40). Therefore, there is no grammatical category comparable to the progressive aspect in English (König & Gast 2012: 92-93). This, however, does not mean that German cannot express what is conveyed with the progressive in English, because “not all languages have aspects, but all languages can express aspectual distinctions by lexical means” (Siemund 2013: 134). In German, we do not find one lexical item but several lexical items that correspond to the English progressive aspect (König & Gast 2012: 92-93). Sentences (53) to (56), possible translations of sentence (28) from above (*Charles is working*), also taken from König & Gast (2012: 93), should serve as examples to demonstrate how flexible German is, meaning how many different (optional) structures German can use as an equivalent for an (obligatory) progressive sentence in English.

- (53) Karl arbeitet gerade.
 Karl work.PRS.3SG now
- (54) Karl ist am Arbeiten.
 Karl be.PRS.3SG at work.NMLZ

- (55) Karl ist beim Arbeiten.
 Karl be.PRS.3SG by work.NMLZ
- (56) Karl ist arbeiten.
 Karl be.PRS.3SG work.INF

One might argue that we find indications of grammaticalization in German. Even though it is not obligatory in German, we find constructions that are particularly common and serve in some contexts and with certain (intransitive) verbs as markers of progressive aspect. This is especially apparent in some regions, namely southern German varieties and those close to the Netherlands (Hentschel 2010: 40; or see König & Gast 2012: 94 for a more detailed discussion). Yet, the status of the progressive in English is undeniably different from German.

4.4 Tense and aspect marking in Russian

Russian is, like English and German, also part of the Indo-European language family, but, in contrast, it belongs to the Slavonic branch (Comrie 2011: 329). Russian uses the Cyrillic alphabet, which is considerably different from the Roman script used for English and German (Comrie 2011: 335). Additionally, Russian, like German, belongs to the group of fusional languages (König & Gast 2012; Iggesen 2013) and it is classified, also like German and English, as “strongly suffixing” (Dryer 2013a, b). Therefore, tense is predominantly marked with affixes; Bickel and Nichols (2013a) list Russian among the languages where up to four or five categories attach to the stem of a verb. Hence, Russian verbs have an infinitive stem from which (most) tenses are formed (Wade 2011: 240). This is a crucial point, because we saw earlier that English and German mainly rely on periphrastic tenses and that maximally two categories attach to the verb stem in these languages (see Chapters 4.2 and 4.3). This also applies to the category of aspect, which will be discussed in the second part of this chapter. Overall, this means that when we find a complex tense in English, it corresponds in many cases to a complex word form in Russian.

Yet, let us now move away from a general overview and take a closer look at specific features of tense and aspect in Russian. We will largely rely on Wade (2011) and Comrie (2011) as references. First, we have a look at different tenses, then we will consider aspect, and last, we pay attention to the use of the copula verb *byt’* (‘be’).

In verbal morphology, we find a binary distinction between non-past and past; in the non-past, person and number distinctions are marked inflectionally on the verb, and in the past, we find gender and number agreement (Comrie 2011: 340). There are two conjugation patterns;

every verb either conjugates following the first (-e-) or the second (-i/ja-) conjugation (Wade 2011: 241). This shows that Russian has, in terms of conjugation, a more complex paradigm than English. Consider Table 8 for the present tense.

	First conjugation/e-conjugation		Second conjugation/i-conjugation	
1SG	ja čitáju	I read	ja govorjú	I speak
2SG	ty čitáeš'	you read	ty govoríš'	you speak
3SG	on/oná/ono čitáet	he/she/it reads	on/oná/ono govorít	he/she/it speaks
1PL	my čitáem	we read	my govorím	we speak
2PL	vy čitáete	you read	vy govoríte	you speak
3PL	oní čitájut	they read	oní govorját	they speak

Table 8: Non-past conjugation in Russian (adapted from Comrie 2011: 340)

As was mentioned above, in the past tense, we do not conjugate for person and number (as was the case for the present tense and as we have seen was true for German as well) but for gender and number (see Table 9). This is a remarkable difference to the present tense, on the one hand, and also English, on the other hand. Furthermore, over the course of the past, Russian has lost all other (periphrastic) past tenses, which makes this simple past the only past tense in Russian (Comrie 2011: 342). This is another noteworthy contrast to English, where we differentiated between simple past, present perfect, and past perfect tenses.

	First conjugation/e-conjugation		Second conjugation/i-conjugation	
SG masculine	čitál	'read'	govoríl	'spoke'
SG feminine	čitála		govoríla	
SG neuter	čitálo		govorílo	
PL	čitáli		govoríli	

Table 9: Past tense conjugation in Russian (adapted from Comrie 2011: 340)

However, apart from the present tense and the simple past tense, there are also two periphrastic tenses in Russian (Comrie 2011: 341). There is a conditional form and an imperfective future. The conditional is formed with the past tense form of the verb and the clitic *by*; the clitic can appear before or after the verb (Wade 2011: 333). Usually, we find the perfective aspect of the verb, but the imperfective is also possible. Consider example (57), which is in perfective aspect and see below for an explanation of perfective and imperfective aspect. For further uses and more examples see Wade (2011: 341).

- (57) Ja pošél by.
 1SG go.SG.M.PFV COND
 'I would go.'

The imperfective future, or compound future, consists of a form of the verb *byt'* ('be') and the imperfective infinitive form (Comrie 2011: 341; Wade 2011: 266). There is another future tense, the perfective future, which is not formed periphrastically but this tense is formed by conjugating a perfective verb (Wade 2011: 267). Compare the following example sentences (adapted from Wade 2011: 266-267).

- (58) Ja búdu otdychát'.
 1SG be.1SG.FUT rest.INF.IPFV
 'I will rest.'
- (59) Ja napišú pis'mó.
 1SG write.1SG.PRS.PFV letter
 'I will write a letter.'

Apart from different tenses, there is another relevant category that we need to introduce. We have already mentioned perfective and imperfective uses of verbs when we talked about the conditional and the two future tenses. This distinction is crucial in Russian, because "[t]he Russian verb system is dominated by the concept of aspect" (Wade 2011: 268). More specifically, we distinguish between perfective and imperfective aspect (Comrie 2011: 340). Essentially, Russian possesses verb pairs; the simple form of a verb is either the imperfective part of the pair, and with a prefix, the verb is turned into the perfective counterpart; or, the verb stem is perfective and by adding a suffix it changes into an imperfective verb (Comrie 2011: 340-341; Lehmann 2013: 258).¹⁴ Examples of perfective-imperfective verb pairs are the following (60), taken from Comrie (2011: 340) and Lehmann (2013: 258); the variant on the left is the imperfective verb form; the verb on the right side represents the perfective counterpart.

- | | | | | |
|------|-----------|---|-------------------|-------------|
| (60) | pisát' | – | n apisát' | 'to write' |
| | čitát' | – | pro čitát' | 'to read' |
| | zakryvát' | – | zakrýt' | 'to close' |
| | rešát' | – | rešít' | 'to decide' |

In Chapter 4.1.2, we explained that aspect is not about situating an event in a specific time (this is tense), but that aspect is a way of considering or "viewing the internal temporal constituency of a situation" (Comrie 1976: 3). For the sake of simplicity and because it is relevant for Russian, we will revisit what was indicated in Chapter 4.1.2. Imperfect aspect focuses on the inner constituency, the internal structure of a situation and regards it as incomplete (Comrie

¹⁴ For exceptions, i.e. verbs that form this aspectual distinction slightly differently, see Lehmann (2013: 258).

1976: 24). Perfective aspect, on the contrary, views a situation as a complete whole; so to say, it projects a situation or event in its entirety (Comrie 1976: 12). The former is then usually used for ongoing or habitual situations and it provides background information of a concrete event (Comrie 2011: 341). This means that if an action or event is ongoing or in progress, we use the imperfective aspect. This applies to situations in the past, present, and the future (Wade 2011: 273). We also use the imperfective for repeated situations (Wade 2011: 273) and for attempts (Wade 2011: 298). We can also use the imperfective past to make a claim about an isolated situation, without specifying whether it is a completed or ongoing situation (Wade 2011: 300). Moreover, in the present tense there is only one aspect, namely the imperfective aspect (Wade 2011: 295). Without having captured every situation that requires or implies the imperfective aspect (this would go way beyond the scope of this study and can to a large extent be found in Wade 2011: 295-320), we may note that the imperfective aspect is the unmarked aspect in Russian and that it “may denote anything but explicit boundary selection” (Sonnenhauser 2004: 249).

The perfective aspect, however, is used to introduce completed events. It can be seen as the marked aspect form, where the boundaries of the event are clearly included in the topic time (Sonnenhauser 2004: 249). An example would be to refer, in a narrative, to a series of completed occurrences (Comrie 2011: 341). To be a bit more precise, “the *perfective* focuses on the *completion* of a single action in the past or future. Usually, a result is implied” (Wade 2011: 273; italics in original). Furthermore, if the focus is not on the process but rather on the result (even if everyone knows that it must have taken a while to produce this result, hence an ongoing situation is automatically implied), the perfective is also used (Wade 2011: 273-274).

The subsequent examples, taken from Wade (2011: 273) illustrate what has just been explained.

- | | | | |
|------|-----------------------------------|--------------------|-----------------------|
| (61) | On | učít | urók. |
| | 3SG.M | learn.3SG.PRS.IPFV | lesson |
| | ‘He is learning the lesson.’ | | |
| | | | |
| (62) | On | búdet učít’ | urók. |
| | 3SG.M | be.3SG.FUT.IPFV | learn.INF.IPFV lesson |
| | ‘He will be learning the lesson.’ | | |
| | | | |
| (63) | Oná | platíla | reguljárno. |
| | 3SG.F | pay.3SG.PST.IPFV | regularly |
| | ‘She paid regularly.’ | | |

Sentence (61) refers to an ongoing situation at the present moment and (62) in the future. To form the imperfective future, we have already seen that we need the future form of the verb *byt* ‘be’ and the imperfective infinitive form. Example (63) refers to a repeated situation in the past. This shows that the imperfective aspect combines with all tenses. Sentence (64) and (65) (taken from Wade 2011: 300) are examples where the imperfective is used to refer to isolated situations that are not clearly bounded, i.e. we cannot decide whether they are completed or incomplete.

- (64) Vy zvoníli emú? – Da, zvoníl.
 2PL ring.2PL.PST.IPFV him yes ring.1SG.PST.IPFV
 ‘Have you rung him? – Yes, I have.’
- (65) Ja gdé-to vídel vas.
 1SG where see.1SG.PST.IPFV you
 ‘I have seen you somewhere.’

Quite different are the other example sentences (also taken from Wade 2011: 273) to demonstrate the use of the perfective aspect.

- (66) Oná pročítála knígu.
 3SG.F read.3SG.PST.PRF book
 ‘She has read the book.’ (Now *you* can read it; i.e. it has current relevance.)
- (67) Oná zaplátit za električestvo.
 3SG.F pay.3SG.FUT.PRF for electricity
 ‘She will pay the electricity.’ (The account will be settled.)
- (68) Oná prigotóvila úžin.
 3SG.F cook.3SG.PST.PRF dinner
 ‘She cooked the dinner.’ (The focus is on the finished product and not on the process.)

Sentence (66) and (67) report a single action, the former makes a comment about a past situation, she has now read the book, and the latter makes a claim about a single action in the future. Example (68) is what Wade (2011: 273) explains to be a “culmination of a process”, i.e. the focus on the result of a longer process. Hence, situations that are expressed with the perfect form of a verb are not necessarily short or instantaneous, they can clearly refer to durative actions; yet, the focus is then never on the actual process but always fixates the completion. Moreover, we notice that the perfective examples all have an additional implication (in contrast to the imperfective examples); this demonstrates the marked character of the perfective aspect.

Summing up, we have now seen that aspect is a category on its own, separate from tense. However, it co-occurs with tense in that we find imperfective aspect for present, past, and future situations and perfective aspect for past and future situations. In addition, we always need to make a choice between imperfective and perfective aspect. Here, we can clearly see some overlap to the progressive aspect in English. For English as well, we remarked that for every tense, a choice as to whether the simple or the progressive aspect is used needs to be made (compare Chapter 4.2). Yet, there are clear differences between the English progressive/non-progressive distinction and the Russian perfective/imperfective opposition.

Imperfectives in the present tense tend to express ongoing processes (Comrie 1976: 63), which corresponds to the English progressive aspect here (see (69), taken from Wade 2011: 267). In English, we need the auxiliary verb *be* and the suffix *-ing* to form the progressive. The corresponding expression in Russian would only need the verb in imperfective form and no additional auxiliary. To illustrate what this means, consider the following example of an imperfective sentence in Russian and its English translation (69).

- (69) Ja pišú pis'mó.
 1SG write.IPFV letter.
 'I am writing a letter.'

When we have a look at the past tense, we notice that ongoing situations are expressed with the imperfective aspect in Russian and the progressive aspect in English and that completed actions are expressed with the perfective aspect in Russian and with a non-progressive form in English. However, for repeated actions in the past, we use the imperfective aspect in Russian but a non-progressive form in English. Sentence (70) demonstrates this mismatch between aspect in Russian and English (taken from Wade 2011: 299).

- (70) On zvoníl nam po večerám.
 3SG.M ring.3SG.PST.IPFV us by evening
 'He used to ring us in the evenings.'

In addition, after having discussed tenses and aspect, we need to mention another important feature of Russian which may be crucial for the ongoing study. The verb *byt'*, which is similar in meaning to the English copula verb *be*, behaves quite differently in Russian than in English, because there is generally no copular use in Russian. Plus, in many contexts, for example in the present tense, it is not expressed (Wade 2011: 257). The verb *byt'* is not used in the present tense and there are no equivalents for the common English expressions *it is* or *there is/are* (Wade 2011: 257). What we find instead is either no verb (see sentences (71) and (72)), a dash – this may be used for emphasis or in definitions (see (73) and (74)), an impersonal expression

without a subject (75), the verb *est'* for questions and in positive answers (76), or when the desired meaning is 'to exist' (77). For more examples and more contexts, see Wade (2011: 257-259).

- (71) Ja stúdent.
1SG student
'I am a student.'
- (72) On némec.
3SG.M German
'He is German.'
- (73) Ja malen'kij, a on – net.
1SG small and 3SG.M not
'I am small and he is not.'
- (74) Berlin – stolíca Germanii.
Berlin capital Germány
'Berlin is the capital of Germany.'
- (75) Chólodno.
cold.3SG
'It is cold.'
- (76) Jábloki ést'? / Ést'!
apple.PL exist.INF / exist.INF
'Are there any apples? / Yes, there are.'
- (77) Ést' takíe ljúdi, kotórye ljubjat lingvístiku.
exist.INF such people who love.3PL.PRS linguistics
'There are people who love linguistics.'

As can be seen from the variety of examples, there are many uses in English that require the copula verb *be*, which has no equivalent in Russian. Though, in the past tense, the copula verb *byt'* ('be') is used; compare the present tense sentence (71) with the past tense version in (78). This particular feature of Russian, not to have a copula verb in present tense, may be problematic for learners of English with a Russian background.

- (78) Ja byl stúdent.
1SG be.M.PST.IPFV student
'I was a student.'

Summing up, the Russian tense system distinguishes between past and non-past situations and there is a perfect/imperfect opposition. Whereas Russian has only one past tense, we distinguish

between three past tenses in English. Furthermore, in some instances, the Russian imperfective aspect and the progressive aspect overlap, yet not always and also formally, the imperfective aspect is different from the English progressive aspect. English uses an auxiliary verb and the suffix *-ing* and in Russian we only find an inflectional ending to mark imperfective aspect. Another major difference is the use of the copula verb in English and the fact that in many situations, there is no such equivalent in Russian. These are the main points that we will regard when analyzing the texts of the bilingual Russian-German and the monolingual Russian students.

4.5 Tense and aspect marking in Turkish

Turkish belongs to the Turkic languages and is classified as an agglutinating language (Göksel & Kerslake 2005: viii; Taylan 2001: vii), or maybe even “an agglutinating language *par excellence*” as Jendraschek (2011: 246; italics in original) puts it. The complex system of tense and aspect, which is subject of this chapter, demonstrates what is meant by this statement. As in Russian, temporal and aspectual information is expressed by adding affixes to the verb (Cinque 2001: 47-55); this means that the verb in Turkish “can host a series of grammatical morphemes” (Taylan 2001b: vii). More precisely, we largely find suffixes, mostly with a “one-to-one relationship between morpheme and function” (Kornfilt 2011: 628). We can clearly see that this is a major contrast to English, as we discussed earlier that English mainly relies on auxiliary verbs and has only few inflectional endings.

The following chapter will give some insights into tense and aspect distinctions in Turkish by focusing on the central principles. Kornfilt (2011), Göksel and Kerslake (2005), and Jendraschek (2011) serve as the main sources. Especially Jendraschek (2011: 246) remarks that even though Turkish is one of the best documented and described languages, there is a vast amount of disagreement among linguists and grammarians. Taylan (2001c: 97) also states that the analysis of tense and aspect in Turkish is a complicated matter, because one morpheme may represent both tense and aspect and in other situations we find clearly differentiated functions. Since we are here more interested in the basic principles and not in a detailed analysis of Turkish, we will not try to do justice to this complex discussion but refer to Jendraschek (2011) and Taylan (2001a) for more information about this dissent.

Göksel and Kerslake (2005: 284) explain that Turkish distinguishes between past and non-past. Present and also future is expressed with a zero marker, i.e. the absence of the past marker (Göksel & Kerslake 2005: 284, 286). The past tense is characterized by verbal suffixes

and a copular marker that attach to the verb stem (Göksel & Kerslake 2005: 285). Those suffixes are *-DI* and *-mİş* and the copular marker is *-(y)DI* (Göksel & Kerslake 2005: 285). The past with the *-DI* suffix corresponds to the simple past and the present perfect in English (Lewis 1967: 127) and it is used to report events that a speaker has experienced or witnessed him- or herself (Lewis 1967: 128). In other words, it locates an event prior to the moment of utterance (Göksel & Kerslake 2005: 285). The opposite is true for the past formed with the suffix *-mİş*; it can be considered a relative past, because it can locate an event before any point of reference and not just the moment of utterance (Göksel & Kerslake 2005: 285). In addition, Lewis explains that it can be used to “convey that the information given is based on hearsay, less often that it is based on inference” (1967: 122). This distinction is demonstrated with the following examples (79) and (80) (adapted from Göksel & Kerslake 2005: 258). Notice that both a simple past and a present perfect reading in English would be possible.

- (79) Ev-i sat-tı-nız mı?
 house-ACC sell-PST-2PL INT
 ‘Did you sell/have you sold the house?’
- (80) Kerem’in babası ona biraz para ver-miş.
 Kerem-2SG father him some money give-PST
 ‘Apparently, Kerem’s father gave/has given him some money.’

Furthermore, in morphologically rich languages like Turkish, we find a special feature that has so far not come up and that is vowel harmony. It means that the past tense marker assimilates to the stem of the verb. In other words, we can say that the realization of suffixes depends on the features of the preceding vowel such as in these two examples. The suffix *-ti* is used for verbs that end in an unrounded front vowel and a consonant that is voiceless, for example *git-ti* (the past of the English verb *go*) and the suffix *-di* attaches to a verb that ends with an unrounded front vowel and a consonant that is voiced, for example *gel-di* (past tense of *come*) (Bickel & Nichols 2013b).

To demonstrate zero marking (=present tense) as opposed to past tense marking, observe the non-verbal predicates in (81) and (82) (taken from Jendraschek 2011: 247, 250). We here follow Jendraschek (2011: 247-250) and demonstrate this present-past distinction with non-verbal predicates, because verbal predicates have less complex inflectional marking possibilities where we do not have to refer to aspect (which will be discussed further down).

- (81) Bodrum’-da-Ø-yım / Bodrum’-da-ydı-m
 Bodrum-LOC-PRS-1SG / Bodrum-LOC-PST-1SG
 ‘I’m in Bodrum. / I was in Bodrum.’

- (82) Hasta-Ø-yım. / Hasta-ydı-m.
 sick-PRS-1SG / sick.PST-1SG
 ‘I am sick. / I was sick.’

In addition, Göksel and Kerslake (2005: 287) also list a future tense marker *-(y)AcAK*. Jendraschek (2011: 256), however, claims that it is not a future tense but rather the combination of present tense and the prospective aspect. We display the reference to a future event with both interpretations, as a future tense (83) (adapted from Göksel & Kerslake 2005: 287) and as a combination of present tense and prospective aspect (84) (adapted from Jendraschek 2011: 257). In the former, the suffix *-acak* is regarded as the future marker, in the latter as the marker of the prospective with a zero marker for present tense.

- (83) Herkes bu roman-a bayıl-acak.
 Everyone this novel-DAT love-FUT
 ‘Everyone will like this novel.’
- (84) Hakan yarın ev-de ol-acak-Ø-Ø.
 Hakan tomorrow house-LOC be-PROSP-PRS-3SG
 ‘Hakan will be at home tomorrow.’

Moreover, as one could see from the present tense and past tense examples ((81) and (82)), gender is not expressed with pronouns but also with a suffix that is attached to verbs or adjectives (verbal agreement) or nouns and nominalized verbs (nominal agreement) (see Table 10, taken from Kornfilt 2011: 632). In nominal agreement with nouns, the suffix expresses possession (Kornfilt 2011: 633). Again, we find the principle of vowel harmony to affect the form of the suffix.

In addition to tense distinctions, we find aspectual distinctions. In Turkish, like in Russian, aspectual information is also expressed by adding suffixes to the verb (Cinque 2001: 47-55; Taylan 2001: vii). Yet, we find different classifications. For example, Göksel and Kerslake (2005) differentiate perfective and imperfective aspect, whereas in Jendraschek (2011) we find four different aspects, namely progressive, dispositive, prospective, and perfective. Since we already discussed perfective and imperfective for Russian, we will take this viewpoint here as well. We briefly explain again, what both labels express. Perfective aspect refers to completed situations, i.e. the starting and endpoint are included, and imperfective aspect expresses incompleteness and refers to situations that are ongoing (Göksel & Kerslake 2005: 288). This is mainly relevant for past tenses.

	Verbal agreement	Nominal agreement	
1SG	-Im	-(I)m	'my'
2SG	-sIn	-(I)n	'your'
3SG	-Ø	-(s)I(n)	'his/her'
1PL	-Iz	-(I)mIz	'our'
2PL	-sInIz	-(I)nIz	'your'
3PL	-IAr	-IArI(n)	'their'

Table 10: Gender agreement markers in Turkish

In addition, the imperfective aspect can be further subdivided into progressive and habitual, and this is relevant for both non-past and past situations (Göksel & Kerslake 2005: 289). The differentiation between progressive and habitual is the following: the “[p]rogressive aspect views a *specific situation* as incomplete. This situation may be dynamic (an event) or static (a state)” (Göksel & Kerslake 2005: 289; italics in original). Habituals, however, also present a situation as incomplete but as “part of a *recurrent pattern*” (Göksel & Kerslake 2005: 289; italics in original). We find two imperfective markers that are used to express progressive and habitual situations; *-(I)yor* and *-mAktA* (Göksel & Kerslake 2005: 289).¹⁵ The difference between the two markers is mainly stylistic. The former (*-(I)yor*) is more common in spoken conversation, because it is less formal. The latter (*-mAktA*) is relatively formal but can, under specific circumstances, occur in informal speech as well (Göksel & Kerslake 2005: 289). According to Lewis (1967: 112), there is a meaning difference between *-mAktA* and *-(I)yor*; *-mAktA* can only be used for actions that are in progress but not for situations that are anticipated.

Have a look at examples (85) to (89), taken from Göksel and Kerslake (2005: 288-289), as an illustration of this aspectual difference between perfective and imperfective. The first represents a perfective situation and the latter four are imperfective sentences.

- (85) Geçen hafta her gün iki saat çalış-tı-m.
 last week each day two hour work-PRF-1SG
 ‘Last week, I worked for two hours every day.’
- (86) Şu an-da ne yap-ıyor-sunuz?
 this moment-LOC what do-IPFV-2PL
 ‘What are you doing at the moment?’

¹⁵ Note that the form of the suffix, i.e. either *-(i)yor*, *-(ı)yor*, *-(ü)yor*, or *-(u)yor*, and either *-makta* or *-mekte*, depends on the preceding vowel or consonant following vowel harmony rules (see Göksel & Kerslake 2005: 21-25; Jendraschek 2011: 251-253).

- (87) Yemek yi-yor-uz.
meal eat-IPFV-1PL
'We're having dinner.'
- (88) Bugün aile yapı-sı hız-la değiş-mekte-dir.
today family structure-NC speed-INS change-IPFV-GM
'Today, the structure of the family is changing rapidly.'
- (89) Sen Ömer'-i ben-den daha iyi tanı-yor-sun.
2SG Ömer-ACC 1SG-ABL more well know-IPFV-2SG
'You know Ömer better than me.'

The imperfective aspect seems to be comparable to the progressive aspect in English. Yet, it is in several respects a contrast to English. Remember that in order to form the English progressive aspect, we add a form of the verb *be* before the main verb and attach the progressive marker *-ing* to the main verb (see Chapter 4.2). In Turkish, we find one of two suffix markers to express progressive meaning and no auxiliary verb. There is, however, not just a formal discrepancy, but there is also a difference in usage between the English progressive and the imperfective aspect in Turkish. The crucial difference to the English progressive aspect is that both Turkish imperfective markers are not only used for ongoing and incomplete situations but also for states. In English, however, states are not normally expressed in the progressive. For this contrast see again (87) and (89) and the English translations. In Turkish, both progressive events and states appear with the same aspectual marker; in English, however, sentence (89) would be ungrammatical or at least not target-like if expressed with the progressive form.

Furthermore, there is another special form in Turkish, namely the aorist, which could also be seen as an aspect (Göksel & Kerslake 2005: 295), or which is called dispositive aspect in Jendraschek (2011: 253). The aorist is expressed with the suffix forms *-(A/I)r/-mAz* in verbal sentences (Göksel & Kerslake 2005: 290). It is mentioned here, because it is comparable to the imperfective aspect, yet it expresses a different type of generalization (Göksel & Kerslake 2005: 295). Whereas the imperfect aspect relates more to the personal experience of the speaker, the aorist expresses a universal or general statement. This is exemplified with sentences (90) and (91), taken from Göksel and Kerslake (2005: 295). Note that *-(A/I)r* is used for positive contexts and *-mAz* for negative contexts. The difference between the imperfect aspect and the aorist can be seen in examples (91) and (92), also taken from Göksel and Kerslake (2005: 295). We offer the same English translation, yet the former Turkish sentence is understood as a general (negative) truth and the latter is a personal judgment of the speaker. For more information and further examples, see Göksel & Kerslake (2005: 295-297).

- (90) İki, iki daha dört ed-er.
 two two more four make-POS.AOR
 ‘Two and two make four.’
- (91) Para mutluluk getir-mez.
 money happiness bring-NEG.AOR
 ‘Money doesn’t bring happiness.’
- (92) Para mutluluk getir-mi-yor.
 money happiness bring-NEG-IPFV
 ‘Money doesn’t bring happiness.’

As was relevant for Russian, we will also briefly comment on the use of the copula verb in Turkish. We find copular markers in form of suffixes, i.e. *-(y)DI* (past copula), *-(y)mİş* (evidential copula), and *-(y)sA* (conditional copula), as bound stem *i-*, and *ol-* (Göksel & Kerslake 2005: 73, 79). The suffix markers attach to the verb stem and *i-* is now an obsolescent form that is only rarely used (for more information see Göksel & Kerslake 2005: 79). What is crucial, however, is that the marker *-(y)DI* is not expressed in the present tense, hence, in present tense, we find again zero marking as was presented above. This is a distinct feature, because these are non-verbal predicates, i.e. “noun phrases, adjectives, and adverbials phrases in equational clauses” (Jendraschek 2011: 247) which would in English be expressed with the copula verb *be*. In such non-verbal predicates in the present tense, we only find the suffixed personal pronouns, but no equivalent to the English copula verb *be* (Lewis 1967: 96); consider examples (93) and (94), taken from Lewis (1967: 98). These examples represent the different forms of the English phrase *to be at home* and *to be ready*.

- (93) evde-yim, evde-sin, evde-Ø, evde-y-iz, evde-siniz,
 at home-1SG at home-2SG at home-3SG at home-1PL at home-2PL
 evde-ler
 at home-3PL
 ‘I am/you are/he/she/it is/we are/you are/they are at home’
- (94) hazır-ım, hazır-sın, hazır-Ø, hazır-ız, hazır- siziz,
 ready-1SG ready-2SG ready-3SG ready-1PL ready-2PL
 hazır-lar
 ready-3PL
 ‘I am/you are/he/she/it is/we are/you are/they are ready’

We already saw this use above, in examples (81) and (82), and it is apparent in (95) and (96) (taken from Kornfilt 2011: 632) as well. The absence in present tense and the presence in past

tense is demonstrated in (97) and (98) (taken from Göksel & Kerslake 2005: 110). They nicely contrast with the last copula form that was mentioned, namely *ol-*, which is used for all other tense and aspect distinctions, such as when we refer to future situations in the past (99).

- (95) Bugün çok yorgun-um.
 today very tired-1SG
 ‘I am very tired today.’
- (96) Çok güzel-siniz.
 very pretty-2PL
 ‘You are very pretty.’
- (97) Necla öğretmen.
 Necla teacher
 ‘Necla is a teacher.’
- (98) Necla öğretmen-di.
 Necla teacher-PST.COP
 ‘Necla was a teacher.’
- (99) Necla öğretmen ol-acak-tı.
 Necla teacher be-FUT-PST.COP
 ‘Necla was going to be a teacher.’

With this short and by no means complete summary, we presented Turkish as a language that relies heavily on tense and especially aspectual distinctions and that are attached to the verb stem as suffixes. The form of the suffix changes according to vowel harmony rules and this is a main difference to English, where we only find few inflectional endings that are not affected by vowel harmony. Furthermore, the imperfective or progressive aspect in Turkish is only partly comparable to the progressive aspect in English, because states appear with the same marker than ongoing situations in Turkish, which occur in simple aspect in English. The last major difference is the Turkish equivalent to the English verb *be*. As was demonstrated with various examples above, there are numerous situations where we find either no expression in Turkish or simply in the form of a suffix. The only similar copular use is the suppletive form *ol-*. We need to keep these points in mind when analyzing the written and oral productions of the participants, because we may be able to find cross-linguistic influence that can be explained based on these properties of Turkish.

4.6 Tense and aspect marking in Vietnamese

The final language that needs to be discussed and that behaves strikingly different is Vietnamese. It belongs to the Mon-Khmer language group within the family of the Austro-Asiatic languages (Nguyễn 2011: 777). Vietnamese is an isolating language (Ngô 2001: 10); hence, it does not have inflectional endings, meaning that the form of the word is (more or less) fixed: “[g]rammatical relationships are expressed not by changing the internal structure of the words [...] but by the use of auxiliary words and word order” (Ngô 2001: 10). To ensure comparability to the previously described languages, we also consider the number of categories that can be expressed with one word. Since Vietnamese is an isolating language, there are no additional categories that can be expressed (Bickel & Nichols 2013a). This already demonstrates that Vietnamese is, in comparison to Turkish, which can be located on one end of a continuum, at the other end of this continuum, when it comes to expressing grammatical information such as tense and aspect. Likewise, we said that English is developing into an isolating language; yet, it has still more inflectional and derivational affixes than Vietnamese and lies somewhere between Turkish and Vietnamese.

Another distinct feature of Vietnamese is that it possesses tones that “differ from one another in terms of pitch level(s), length, contour, intensity and glottality” (Nguyễn 1997: 25-26). The six tones that we find in Vietnamese affect the meaning of the word; hence, they are phonemic (Nguyễn 1997: 25). Furthermore, due to the absence of morphological cues, syntactic and lexico-syntactic criteria play an important role to distinguish word classes and to derive meaning in Vietnamese (for more information see for example Nguyễn 2011: 786-792). Having said this, we take up the claim from the beginning, where we stated that Vietnamese is markedly different to all previously discussed languages.

We will now give a more detailed view of the expression of tense and aspect in Vietnamese. Vietnamese verbs are timeless, which means that they only express the existence of a state, action, or event (Thompson 1965: 217-218). In order to establish time reference, not the verb itself has a decisive function but the situational and linguistic context (Thompson 1965: 217-218). In general, temporal distinctions can usually be derived from the context, which means that an explicit tense marker is not needed but could be omitted (Ngô 2001: 17; Tang 2007: 17). Consider example (100) (taken from Nguyễn 1997: 17); the past tense marker *đã* is not necessary, and in fact it is usually left out; it would be considered as unnatural if expressed, because *sáng nay* (‘this morning’) already indicates that it refers to the (recent) past (compare Ngô 2001: 17).

- (100) Sáng nay tôi uống hai tách cà-phê.
 Morning this 1SG drink two cup coffee
 ‘I drank two cups of coffee this morning.’

Nevertheless, the verb *uống* (‘drink’) could in principle mean *drink*, *drank*, or *drinking* (Nguyễn 1997: 17), if it appeared in a different context. The same applies to aspectual distinctions; they may also be omitted if the context allows a concrete interpretation. For instance, if temporal adverbial, such as *chiều mai* (‘tomorrow afternoon’), *bây giờ* (‘now’), *tuần sau* (‘next week’), or *hôm qua* (‘yesterday’), which usually appear at the beginning of a sentence, are present, we normally do not find an additional tense or aspect marker, as it would be redundant (Nguyễn 1997: 153-155).

Yet, there are a number of tense and aspect markers in form of individual words that can be used to clearly mark tense and aspect and to explicitly express the necessary grammatical information (Ngô 2001: 17). The following sentences, variations of the first person singular pronoun and the verb *nói* (‘speak, talk’) exemplify the use of five of such tense and aspect markers and the modality marker *phải* (‘must’).

- (101) Tôi nói rất nhiều.
 1SG speak very a lot
 ‘I talk a lot.’
- (102) Tôi đang nói rất nhiều.
 1SG PROG speak very a lot
 ‘I am talking a lot.’
- (103) Tôi đang phải nói rất nhiều.
 1SG PROG must speak very a lot
 ‘I must be talking a lot.’
- (104) Tôi mới nói rất nhiều.¹⁶
 1SG PST speak very a lot
 ‘I have just talked a lot.’
- (105) Tôi đã nói rất nhiều.
 1SG PST speak very a lot
 ‘I spoke a lot.’

¹⁶ Here, all three recent past tense markers, i.e. *mới/vừa/vừa mới*, could be used with similar meaning and function (Tran Thi Minh, p.c.).

(106) Tôi sắp nói rất nhiều.

1SG FUT speak

‘I am about to talk a lot.’

(107) Tôi sẽ nói rất nhiều.

1SG FUT speak

‘I will talk a lot.’

There are several past tense markers, for example *mới/vừa/vừa mới* and *đã* (see above); one variant of the former is used to refer to the recent past, and the latter is the standard past tense marker (Nguyễn 1997: 186; Thompson 1965: 206, 209, 268). Similarly, the two future markers *sắp* and *sẽ* also express recent or immediate future (the former) and general future (the latter) (Nguyễn 1997: 186, Thompson 1965: 206, 209, 268). They are classified as particles, auxiliaries, or adverbs (see Nguyễn 1997: 87) and serve the function of a verbal modifier (see also Thompson 1965: 217-222). Interestingly, the progressive marker *đang* is also optional and it differentiates states from processes (Hanske 2013: 190). This latter function is comparable to the progressive aspect in English. See the following two sentences (108) and (109) (taken from Hanske 2013: 190).

(108) *Quyển sách đang ở trên kệ sách.

CL book PROG be.at RN shelf

intended: ‘The book is on the shelf.’

(109) Chị ấy đang cắt bánh mì trên đĩa.

3SG.F PROG cut bread RN plate

‘She is cutting the bread on a plate.’

Whereas the first sentence (108) is ungrammatical in Vietnamese (as would be the progressive aspect in English), the second sentence (109) works perfectly fine with the progressive aspect marker *đang* and expresses a current, ongoing situation. *Đang* may also appear with stative verbs, but then in the meaning of a state that is only temporary, see example (110) (taken from Hanske 2013: 190). Again, this is largely parallel to what we find in English. The only difference is that in English, the main verb changes in addition to the addition of the auxiliary verb *be* and that in Vietnamese we only find an additional word form.

(110) Chị ấy đang ở nhà.

3SG.F PROG be.at house

‘She is staying at home.’

Another point worth mentioning is the use of the auxiliary *có*. Thompson describes it as having a similar distribution to the English auxiliary verb *do* (Thompson 1965: 216). It can be used in

affirmative sentences where it emphasizes the following verb, it often occurs in negative sentences, and it is used in questions (Thompson 1965: 216). Two such uses are demonstrated with the following examples, (111) and (112) (see Thompson 1965: 216 for further explanations and example sentences).

- (111) Hôm qua tôi có đi săn.
 yesterday 1SG AUX go hunt
 ‘Yesterday I did go hunting.’

- (112) Tôi không có đi.¹⁷
 1SG NEG AUX go
 ‘I’m not going.’

Likewise, as we did for Russian and for Turkish, we also briefly discuss the Vietnamese equivalent of the English copula verb *be*, since we also find an interesting difference that may be important later on. As a short repetition, we use the copula verb in English to link a noun or pronoun to a noun or adjective. In all these cases, we need the copula verb. In Vietnamese, however, we also need the copula verb *là* before a noun, but not before adjectives or numerals. To understand this difference, see examples (113) to (116) (taken from Ngô 2001: 18).

- (113) Tên tôi là John.
 name 1SG COP John
 ‘I am John.’
- (114) Anh ấy là bạn tôi.
 3SG.M COP friend 1SG
 ‘He is my friend.’
- (115) Bộ phim ấy hay.
 movie that Ø good
 ‘The movie is good.’
- (116) Tôi 18 tuổi.
 1SG Ø 18 year old
 ‘I am 18 years old.’

For all three situations, we need a form of *be* in English. In Vietnamese, the use of *là* in (115) would be ungrammatical. This may be a potential difficulty for Vietnamese learners of English.

Again, we are only able to give a very brief overview and we are unable to provide a more detailed picture of tense and aspect in Vietnamese. It goes without saying that tense and

¹⁷ This sentence can also be uttered without the auxiliary *có*, as in *Tôi không đi* (see Thompson 1965: 216).

aspect is not as simple and straightforward as was presented here and we find, similar to all other languages that were discussed above, numerous exceptions and functions that work only for specific contexts or situation. For further readings see especially Nguyễn (1997) and Thompson (1965).

Nevertheless, we saw that Vietnamese is, on the one hand, crucially different from English in that tense and aspect is not obligatorily expressed but may be derived from the context and may be expressed with adverbials or direct time reference. Therefore, it may be difficult for Vietnamese learners of English to use the English morphological endings to mark simple past tense or to mark the third person singular in present tense (Tang 2007: 22). On the other hand, we noticed similarities in the use of the progressive aspect. We presented that both *đang* and the English *-ing* do not combine with verbs that have stative meanings (except if a temporary state is expressed, which may be overall more common in Vietnamese than in English (p.c. Tran Thi Minh)). In addition, in most situations, Vietnamese also uses a copula verb *là*, except before adjectives or numerals. Again, there are shared uses between English and Vietnamese, but we do not find a complete overlap. The following analysis of the student's production will show whether we find performance patterns that may be explained with the formerly described properties of Vietnamese.

4.7 Aspect Hypothesis

We cannot analyze the use of tense and aspect by foreign language learners without mentioning the (Lexical) Aspect Hypothesis. According to Fuchs and Werner (2018a: 148) it is presumably the most extensively discussed area in second language acquisition research that focuses on the acquisition and use of tense and aspect. Furthermore, they claim that, on the one hand, it is relevant for not just aspect but also for tense (albeit not visible in the name), and that, on the other hand, the predictions made by the Aspect Hypothesis (AH) should hold true for all second language learners, regardless of the L1, or more specifically the characteristics of tense and aspect marking of the L1s, or the context in which this additional language is being acquired (Fuchs & Werner 2018a: 148). Within this chapter, we examine the claims made by the Aspect Hypothesis based on Bardovi-Harlig (2000) and Shirai (2013). In addition, we also consider a corpus-based perspective presented in Fuchs and Werner (2018a) to demonstrate the importance and relevance for the current analysis.

As early as the 1970s, research on L1 acquisition found that tense and aspect marking is not used consistently across different contexts and verbs, but that it interacts with the meaning

of verbs (Shirai 2013: 39). Later, this research was extended to the field of L2 acquisition (see for example Andersen 1991; Bardovi-Harlig 2000), and works on a number of languages supported this semantic interaction with Vendler's (1957) classification of verbs into four types (see again the Chapter on *aktionsart* (4.1.3)), i.e. states, activities, accomplishments, and achievements (Shirai 2013: 39). Hence, we understand that there are two principal linguistic concepts relevant for the Aspect Hypothesis, namely grammatical aspect (see Chapter 4.1.2) and lexical aspect (see Chapter 4.1.3).

Initially, the Aspect Hypothesis was established to refer to how children acquire reference to the past and it relied exclusively on aspect and did not make any additional claims about tense (Bardovi-Harlig 2000: 268). Furthermore, in the beginning, there existed several versions of the Aspect Hypothesis, such as the Defective Aspect Hypothesis, which has by now been refined and formulated less strictly, and which does not exclude tense marking (Bardovi-Harlig 2000: 196). Andersen and Shirai (1994: 133), for instance, propose that "first and second language learners will initially be influenced by the inherent semantic aspect of verbs and predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs." Hence, what is crucial is that the AH refers to the initial stages, that the inherent meaning of the verb seems to be the driving force for the acquisition of tense and aspect, and that both grammatical markings, i.e. inflectional marking and tense and aspect marking with auxiliaries, are covered by the Aspect Hypothesis. Therefore, the AH should be applicable for many (or maybe even all) languages that use grammatical marking to express tense and aspect.

When looking at the AH in more detail, the following four generalizations (here taken from Bardovi-Harlig 2000: 227; see also Shirai 2013: 39-40), are claimed to be valid for first language acquisition as well as second language acquisition.

- 1) Learners first use (perfective) past marking on achievements and accomplishments, eventually extending use to activities and statives.
- 2) In languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfective past marking begins with statives, extending next to activities, then to accomplishments, and finally to achievements.
- 3) In languages that have progressive aspect, progressive marking begins with activities, then extends to accomplishments or achievements.
- 4) Progressive markings are not incorrectly overextended to statives.

Shirai (2013: 39-40) also follows Bardovi-Harlig (2000) in that these four claims of the Aspect Hypothesis hold for both L1 and L2 learners. Yet, he adds the constraint that it may not be true for number four, which means that L2 learners extend progressives to stative verbs (Shirai 2013:

39-40).¹⁸ Furthermore, there seems to be the tendency that L2 learners use tense marking first and only later aspectual marking (Shirai 2013: 40).

Bardovi-Harlig (2000) provides a comprehensive overview of studies that tested the Aspect Hypothesis (see especially Bardovi-Harlig 2000: 206-210). A number of different languages were tested, and all seem to largely confirm the Aspect Hypothesis. Since we are here exclusively interested in English, we can also narrow it down to English: we only need to consider “the spread of the perfective past, the distribution of the progressive, and the (non)use of the progressive states”, i.e. only three of the four claims (1, 3, 4) of the AH apply to English (Bardovi-Harlig 2000: 239-240). In her 1998 study, Bardovi-Harlig supported all three claims made by the Aspect Hypothesis on the basis of English (see also Bardovi-Harlig 2000: 239-251).

In its initial stages, the Aspect Hypothesis mainly relied on universality; this means that all claims were said to be true for all learners, irrespective of the language background (Shirai 2013: 40). Recently, however, this has changed and the influence of the L1 in second language acquisition is gaining attention in that L1 influence “appears to be stronger than previously thought” (Shirai 2013: 40). Additional factors seem to influence the use of tense and aspect marking, apart from L1 influence: (input) frequency, spoken versus written mode, and perceptual salience (Fuchs & Werner 2018a: 148; Shirai 2013: 40).

More recent research using corpus-based investigations supports this last claim; the Aspect Hypothesis was not found to be an absolute universal, but especially cross-linguistic influence from the L1 interacts heavily with the meaning of verbs, as well as the level of proficiency in the L2 (Fuchs & Werner 2018a: 149; Fuchs & Werner 2018b: 212-213). Fuchs and Werner (2018a: 149-150) argue that the reason for why these studies do not perfectly confirm the Aspect Hypothesis may be owed to the type of data that is used (i.e. experimental data in second language acquisition studies, more naturalistic learner data in learner corpus research studies; more about this distinction in Chapter 5.1.2). Hence, they conclude that it is useful and probably even desirable to include *aktionsart* as one predictor in studies focusing on tense and aspect use, but we should be careful with the interpretation because it seems as if “the AH in its strong form cannot be maintained” (Fuchs & Werner 2018a: 150). This argument that the type of data may influence whether support for the Aspect Hypothesis can be found or not was already repeatedly taken up in Bardovi-Harlig (2000: Chapter 5). She furthermore points

¹⁸ Later, in Chapter 4.8.2, we will revisit this last claim (see Fuchs & Werner 2018b).

out that also the type of analysis that is carried out has an influence on whether we approve or disapprove the claims made by the AH (Bardovi-Harlig 2000: 265).

Nevertheless, researchers have not yet come to an agreement on every claim of the Aspect Hypothesis and there is still a lot of skepticism; therefore, Shirai demands that “[f]uture stud[ies] should systematically investigate the effect of the L1 by comparing different L1 groups acquiring the same language to tease out the effect of natural acquisitional processes from the effect of the L1” (Shirai 2013: 40).

As should have become clear, we cannot, and it was not even our intention, cover every facet of the Aspect Hypothesis in this chapter. This was only a short reference to a highly complex and controversial topic. Furthermore, the Aspect Hypothesis will also not be the main focus of this study, yet, we include parts of it in the analysis and we revisit it again in the discussion. Further useful and more comprehensive readings about the Aspect Hypothesis are for example Andersen and Shirai (1994), Bardovi-Harlig (2000), Fuchs and Werner (2018a,b), Li and Shirai (2000), and Shirai (2009).

4.8 Linguistic Typology and Contrastive Linguistics

This study makes use of two approaches within linguistics, which are the basis of this chapter: linguistic typology and contrastive linguistics. Linguistic typology can be defined as the study of “structural differences, i.e. structural variation, between languages, working towards taxonomies of linguistic structures and their mutual relationship” (Siemund 2013: 13). The goal here is of course not to compare all known languages of the world or to explain the structural diversity or common properties and structures of the world’s languages or to find language universals. Yet, we are interested in the typological relation between the languages that are relevant for this study. It is known that languages do not differ arbitrarily but that much of the variation can be explained (Siemund 2013: 13). This is what typology is concerned with: it involves the comparison of linguistic systems, i.e. phonology, syntax, grammar, etc., either within a language or more typically between languages (Velupillai 2013: 15). Most commonly, one grammatical area in its complexity is the subject of investigation.

So far, this outline of the field of typology seems to partly correspond to the second branch of linguistics that was mentioned before, namely contrastive linguistics, and this branch will be the main focus of this section and the ongoing discussion. One way of defining contrastive linguistics is to state that it “traditionally refers to the synchronic comparison of two languages with respect to a large number of linguistic structures (or parameters). Its objective

is to work out not only what the two language systems have in common but especially in which respects they differ” (Kortmann 2005: 156).

Thus, both approaches compare languages based on linguistic categories; in typology, it is typically one linguistic system and a large number of languages, and in contrastive linguistic it is the opposite: a large number of features but mostly only two languages. Yet, this is not always true: König and Gast refer to the contrastive analysis as being the complement of a typological analysis (2012: 3). However, in a later paper, Gast (2013) differentiates between a narrow and a broad definition of contrastive linguistics. His narrow definition is a bit more precise than the one given by Kortmann (2005): “contrastive linguistics can be regarded as a branch of comparative linguistics that is concerned with pairs of languages which are ‘socio-culturally linked’” (Gast 2013). Socio-culturally linked is then specified as being the case if there is a considerable amount of translated material (oral or written) or if there are numerous bi- or multilingual speakers (Gast 2013). Again, this is limited to two languages, yet there must be some kind of connection between the languages, it should not be an arbitrary comparison. The broader definition, however, allows for more than two languages, i.e. for groups of languages that do not necessarily require any socio-cultural connection (Gast 2013). This would then not be the complement of a typological analysis, but, as Gast puts it, a “special case of linguistic typology” (Gast 2013).

One major goal of contrastive linguistics from its beginnings in the 1940s onwards was to understand foreign language acquisition and to enhance teaching materials and foreign language teaching in general by comparing the mother tongue as well as the foreign language that is being acquired (Gast 2013). The motivation for this rather educational perspective lies in the assumption that the acquisition of a foreign language is influenced by the mother tongue and that a precise comparison between these two languages could help to detect which areas are easy or more difficult to acquire (Kortmann 2005: 156). The concepts of negative and positive transfer that were discussed in Chapter 3.1.2 and that will come up again in Chapter 5.4, are exactly what lead to the understanding that by knowing the structural similarities and differences of the respective languages, one can predict learner errors (Kortmann 2005: 156-157). This claim turned out to be a bit too optimistic or idealistic (Gast 2013; Kortmann 2005: 159). On the one hand, it seems proven that many learner errors can be explained by knowing the mother tongue(s) (or any other languages that are known to that person, see Chapter 3.1.2); yet, on the other hand, the explanatory power should not be overestimated (Kortmann 2005: 159). Kortmann (2005) states that transfer explains only about 50 per cent of the errors in learner language and that other factors need to be considered as well to explain the other half of the

errors. This already partly limits this study as it becomes clear that the contrastive analysis has a restricted prognostic power (Kortmann 2005: 159). Yet, and this is what is relevant, it “can explain a considerable amount of errors” (Kortmann 2005: 159). By using a typological and contrastive approach, it is intended to explain recurring errors or non-target-like structures, comparably fewer grammatical mistakes, as well as over- or underuse of certain tenses or the progressive aspect in different groups of learners of English.

Furthermore, and to support the aforementioned claims, we include Odlin (2016) in this discussion. He also argues that cross-linguistic comparisons are essential when analyzing transfer in language acquisition research (Odlin 2016: 20). What he calls “crosslinguistic comparison” could be a synonym of the previously used term “contrastive analysis” (Odlin 2016: 20). Why this is so important can be seen in his definition of transfer. Odlin defines transfer as “the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (Odlin 1989: 27, cited in Odlin 2016: 3). In addition, he characterizes contrastive analysis as the “[s]ystematic comparison of two or more languages (Odlin 1989: 165, cited in Odlin 2016: 3). It now becomes even clearer, why a detailed description of tense and aspect in the languages at play and also a comparison between the languages are indispensable for this study on cross-linguistic influence and the analysis of learner language.

It remains that typically, typological studies compare a number of languages on the basis of one grammatical area and that contrastive linguistics takes a more comprehensive view by considering various grammatical areas. Hence, what the current study tries to do is to combine both approaches: a group of languages, i.e. English, German, Russian, Turkish, and Vietnamese, that are only to a certain extent socio-culturally related, are the basis of an investigation that focuses on the grammatical area of tense and aspect. It is necessary to have a close view on all languages because approximately half of the participants (i.e. the bilingual participants) have knowledge of three different languages. One such example is the group of the bilingual Vietnamese-German students. They know German, they have knowledge of their heritage language Vietnamese, and they study English as an additional language in school. Since we are only concerned with tense and aspect in the current study, only this grammatical area was discussed in Chapters 4.2 to 4.6 for each of the languages individually. The next step is to compare these languages with each other.

The following two subsections discuss similarities as well as differences in the systems of tense and aspect in English, German, Russian, Turkish, and Vietnamese by examining selected studies related to the acquisition of tense and aspect in English by non-native learners.

The former discusses English and regards the other languages as either matching or deviating from that system. The latter provides insight in, for instance, problems that all learners of English encounter or that Turkish learners of English face when using the English tense and aspect system. A substantial part of this chapter is devoted to the progressive aspect. Both sections are relevant as they provide information about potential problem areas or possible advantages of the participants of this study.

4.8.1 Similarities and differences in tense and aspect

Taking the aforementioned characteristics of English, German, Russian, Turkish, and Vietnamese into consideration (see Chapters 4.2 to 4.6), we can now make some comparisons. The aim of this chapter is to do a typological analysis. In order to compare different linguistic systems, we need to find the *tertium comparationis*, the third of comparison (Jaszczolt 2011: 112; König & Gast 2012: 5). Formal and semantic criteria should be considered here; formal criteria relate to linguistic categories (e.g. auxiliary, suffix) and semantic criteria to the meaning (e.g. past time reference, progressiveness).

Previously, we explained that the languages discussed in this study differ in terms of marking grammatical information. Vietnamese was presented as an isolating language and Turkish as a heavily agglutinating language. Both German and Russian belong to fusional languages and English, formerly also classified as a fusional language, is gradually developing into an isolating language. This, of course, shapes how tense and aspect is expressed in each language. In Vietnamese, since there are no inflectional endings, tense and aspect is expressed with separate markers in form of individual words or simply with time adverbials. A special feature is that in this language, tense or aspect markers are not obligatory but may be omitted in a sentence if the context allows to understand the intended meaning. All other languages use inflectional endings or additional words such as auxiliaries to mark tense and aspect distinctions. In fact, English and German were presented as largely relying on auxiliaries, and Russian and Turkish to mainly use inflectional suffixes. We understand this as Vietnamese being on one end of a continuum (no inflectional endings) and Turkish on the other end (almost exclusively inflectional endings) (see Figure 8). English, German, and Russian are lined up next to each other, ranging from some inflectional endings and many auxiliary verb uses (English), to more inflectional endings and also use of auxiliary verbs (German), to even more inflectional endings and fewer auxiliary verb uses (Russian).

This classification corresponds to Greenberg's (1960) morphological typology of languages (see also Siemund 2004: 192). Languages in general cannot easily be assigned to just one category, such as *analytic* or *synthetic*, but it is more a matter of degree or overall tendency (Greenberg 1960: 182). Some elements may belong to one, some elements to the other category. In order to estimate this relation and to capture language internal variation, Greenberg proposes a quantitative approach based on number of measures, such as the synthetic index (1960: 185). The synthetic index calculates the ratio of morphemes per word; its lowest possible value is 1.00 (one morpheme per word) and there is in principle no upper limit, though numbers higher than 3.00 are extremely infrequent (Greenberg 1960: 185). In his final comparison, Greenberg presents a number of languages, among these English, Vietnamese, and Yakut (which is related to Turkish) and clearly, Vietnamese is presented with the lowest synthesis index, namely 1.06, followed by English with 1.68, and Yakut with the value 2.17. This order can also be observed in Figure 8.

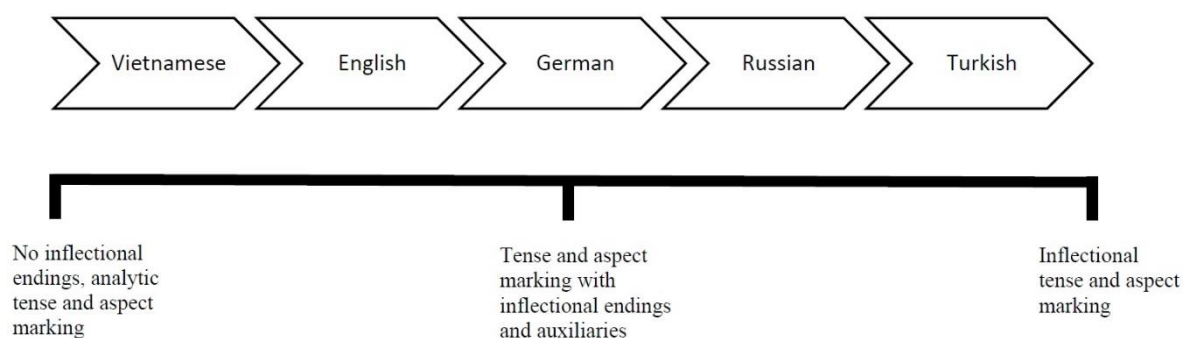


Figure 8: Continuum of analytic and inflectional tense and aspect marking

Furthermore, both English and German belong to the Germanic branch of the Indo-European languages and share numerous grammatical categories and grammatical functions. Russian, Turkish, and Vietnamese are genetically further apart from English and German. Russian belongs to the Slavonic languages, which is also part of the Indo-European languages. Turkish belongs to the Altaic languages and Vietnamese to the Austro-Asiatic languages (see for example Dryer & Haspelmath 2013). Even though there is this genetic relationship between English and German, major grammars classify English as having two tenses, i.e. past tense and non-past tense, and German as having six tenses, i.e. *Präsens*, *Präteritum*, *Futur I*, *Perfekt*, *Plusquamperfekt*, *Futur II* (König & Gast 2012: 82-83). On a formal level, however, English could also be seen as having these six tenses, i.e. simple present, simple past, future, present perfect, past perfect, future perfect (see König & Gast 2012: 83). The form of these six tenses

is largely parallel in English and in German, with meaning differences especially in the use of the present tense, the present perfect, and the future (see again Chapter 4.3 and König & Gast 2012: 92). This formal correspondence but occasional asymmetry in usage may be potentially problematic for learners of English with a German background (see also Swan 2001: 41).

Moreover, in Russian, for example, we only find one past tense form. In English, however, we differentiate between simple past, present perfect, and past perfect. In Vietnamese, though, we find different markers for past, to distinguish between common past and recent past, and also for future, to refer to recent future events and future events that are further away. Yet, as a special characteristic, as was repeatedly explained, tense markers are not obligatory in Vietnamese. In Turkish, we showed that there are two past tense markers that are used to refer to events located prior to the moment of speaking, either for known events, or to refer to events from hearsay. Both markers could be used to convey what can be expressed with the simple past or the present perfect in English. This clearly demonstrates different problem areas for Russian, Turkish, and Vietnamese learners.

Despite the close genetic relationship between English and German, we find further points where German differs from English and this may cause additional problems for German learners of English. One such potentially problematic area is the use of aspectual distinctions. In English, we differentiate between simple aspect and progressive aspect. The progressive is formed with the auxiliary *be* and the *-ing* suffix that attaches to the verb stem. In German, we do not find grammatical aspect; hence, there is no grammaticalized form of the progressive aspect. Progressiveness can of course be expressed, yet, a number of different (optional) linguistic means are available in German. When we now look at the other languages that are present in this study, we can make some interesting observations. Russian and Turkish are two languages that rely heavily on aspect marking and also in Vietnamese, we find aspectual markers. Russian, for instances, differentiates between imperfective and perfective aspect; this means (i) that there are grammaticalized aspectual distinctions available in Russian (other than in German), and that (ii) in some situations, the Russian imperfective aspect overlaps with the use of the progressive aspect in English. Yet, formally, these two aspectual oppositions are different. In Russian, there is only an inflectional affix that marks imperfective aspect. Hence, we find (partial) functional overlap and a formal contrast.

In Turkish, we also find aspectual distinctions. A subcategory of the imperfective aspect, which is used for progressive situations, is comparable to the use of the English progressive. A crucial difference is that states, which typically do not occur in the progressive aspect in English, are used with the same marker that is used for progressive situations in Turkish. Similar

to what we saw in Russian, there is no auxiliary verb but only an inflectional ending in Turkish. Furthermore, Vietnamese has a separate word form as a progressive marker, which could be classified as an adverb or auxiliary and which was explained to express progressiveness. Yet, it seems that it is frequently used with stative verbs when they are used for situations that are currently ongoing. This marker is also not obligatory but may be omitted if it is apparent from the context that it refers to an ongoing situation. Thus, there is in fact more overlap between English and Turkish, Russian, and Vietnamese, on both a formal and a conceptual level, than between English and German.

In addition, we learned that there are many uses of the copula verb *be* that do not find a direct equivalent in Russian, Turkish, and Vietnamese. There are various contexts in the three languages where no verbal form is present to link the subject to the subject complement. In Russian and in Turkish, for example, the copula verb is not used in the present tense. In Vietnamese, there is no copula verb before adjectives or numerals. For this particular phenomenon, we find parallel uses in English and in German and we expect that this use may not be problematic for German learners of English, though it may be more difficult for learners of English with a Russian, Turkish, or Vietnamese background.

As we have shown in this chapter and in the chapters before (4.2 to 4.6), all languages relevant in this study differ considerably in the use of tense and aspect and how time and aspectual distinctions are expressed. Table 11 presents a simplified summary of the tense and aspect properties of each of the five languages outlined above. Clearly, there is partial overlap for some features, and there are crucial differences for others. Approximately half of the participants have knowledge of three languages, hence, the linguistic interplay available to these participants is rather complex. This circumstance is exactly what makes this study special: all participants have access to English, because they learn this foreign language in a formal setting. In addition, all bilingual participants are speakers of German, and they know another language, namely Russian, Turkish, or Vietnamese, respectively. The remaining monolingual participant are either also speakers of German (the German monolinguals), or they do not have access to German. These latter participants are monolingual Russian, Turkish, and Vietnamese speakers who grow up in their respective native countries. The analysis of the written texts and oral recordings will show if these linguistic differences across the participants play a decisive role when it comes to the acquisition and mastering of the English tense and aspect system.¹⁹

¹⁹ Strictly speaking, of course, the data does not allow to draw any conclusions about the acquisition process of English, because we are only able to access the written and oral responses of the children, hence we can only make conclusions about their performance. We do, however, want to keep the term *acquisition*, because we can present results about the current status of the acquisition of English.

Feature	English	German	Russian	Turkish	Vietnamese
Morphological tense distinctions	✓	✓	✓	✓	✗
Adverbials to indicate tense distinctions	✓	✓	✓	✓	✓
Grammaticalized aspect	✓	✗	✓	✓	(✓)
Auxiliary verbs	✓	✓	✗	(✓)	(✓)
Copula verb <i>be</i>	✓	✓	(✓)	(✓)	(✓)
Predominantly affixes to mark tense and aspect	(✓)	(✓)	✓	✓	✗
Predominantly analytic tense and aspect marking	✓	(✓)	(✓)	✗	✓

Table 11: Simplified summary of tense and aspect properties

Overall, German and English are typologically closest, and this may exert a large influence on the performance in English for learners that know German. Yet, we also saw that when looking closer into individual features, English differs in many respects from German, but it shares certain features with one or more of the other three languages. In some cases, this could potentially lead to advantages in the English production of the bilingual participants, namely if cross-linguistic influence also came from the heritage language and not exclusively from German. However, it may also result in more non-target-like usage, if a grammatical property works differently in English and Russian, Turkish, or Vietnamese. We further elaborate on this argument in Chapter 5.4 and will now turn our attention to a number of studies that analyze the acquisition of tense and aspect in English by non-native learners.

4.8.2 Studies on the acquisition of tense and aspect by non-native learners

In this section, we summarize findings stemming from research that investigated how different L2 learners of English master the expression of tense and aspect. However, before examining learners of English as a foreign language, one could have a look at how native learners of English acquire tense and aspectual distinctions in their native tongue. Even though we established that L1 or native language acquisition is different from foreign or additional language acquisition (Cook 2016a; see also Chapter 3.1.1), there may still be some useful implications that can arise from this perspective.

Acquisition of tense and aspect by native speakers of English

For this short section on tense and aspect acquisition in the L1 English, we largely rely on Clark (2009) and Shirai (2009). At first, children that acquire English usually use verbs without their inflectional endings and produce only the verb stem (Clark 2009: 180). We saw that there are not many inflectional endings in English; yet, we find for example the third person singular

{-s} and the regular past tense ending {-ed} that attach to the stem of an English verb as well as irregular past tense forms (i.e. *go*, *went*, *gone*). These and other grammatical morphemes appear in child native speakers at a later stage, or to be more precise, at later stages, but in general, children start to use grammatical tense and aspect marking at a very young age, even before age two (Shirai 2009: 169).

There may be a more or less fixed order of acquisition, if we follow Clark (2009). She identified (based on Brown 1973) the acquisitional order of grammatical morphemes in English (Clark 2009: 182). In this list (see Table 12), we also find, among other morphemes, the inflectional endings that are necessary to mark tense and aspect distinctions in English. Hence, numbers 1, 5, 7, 9, 10, 11, 12, 13, and 14 are relevant here.

As we can observe from this enumeration, native learners of English acquire the *-ing* form of the verb quite early but typically as a single inflected form without the corresponding auxiliary verb; auxiliary verbs are acquired fairly late (Clark 2016: 183). We can also see that the third person singular {-s} appears only in the second half of that ranking and that it is listed before the irregular forms and also before the auxiliary verb *be*. Furthermore, it is also known that certain complex tense and aspect forms, especially the past perfect or combinations of tense and aspect, such as the past or future progressive aspect, are acquired fairly late; i.e. children acquire and master compound tenses and aspect successively (Clark 2009: 333).

Rank order	Meaning	Example
1. -ing	ongoing process	He's sitting down.
2. in	containment	It's in the box.
3. on	support	It's on the chair.
4. -s (PL)	number	The dogs bark .
5. irregular past, e.g., went	earlier in time	He went home.
6. -s (POSS)	possession	The girl's dog ran away.
7. uncontractible copula (was , are , in questions)	number, earlier in time	Are they boys?
8. a , the (articles)	nonspecific/specific	Jan has a book.
9. -ed (regular past)	earlier in time	He jumped the stream.
10. -s (third person singular regular)	number, earlier in time	She runs fast.
11. third person irregular (has , done)	number, earlier in time	Does the dog bark?
12. uncontractible auxiliary verb (is , were)	number, earlier in time, (ongoing process)	Is he coming? That's Tom, that is .
13. contractible copula verb	number, earlier in time	That's a spaniel.
14. contractible auxiliary verb	number, earlier in time, (ongoing process)	They' re running fast.

Table 12: Order of acquisition of grammatical morphemes in English (taken from Clark 2009: 182)

In addition, Clark (2009: 334) observes that when children refer to events or a string of events, they first mention them in the actual order of occurrence and only later, they use more complex patterns such as simultaneity, retrospect, anteriority, or prospect to structure their talking. For this, they use conjunctions, such as *while* or *after*, and they start to use simple past and past

perfect forms as contrasts (Clark 2009: 334). However, in first language acquisition in general, children make use of grammatical tense and aspect marking first, and lexical means, such as adverbials, start to appear rather late (Shirai 2009: 169).

Acquisition of tense and aspect by non-native speakers of English

When we now look at foreign language learners, we observe similar patterns but also crucial differences: early foreign language learners also rely on the chronological structuring of sequences of events and the use of pragmatic means to establish time reference (Shirai 2009: 168). It is possible to create coherence and to express time without any explicit linguistic means. This can most likely be explained because, as Fuchs and Werner (2018a: 144) point out, tense and aspect seems to be a central or maybe even a universal category in all human communication. Yet, what differentiates L2 from L1 learners quite clearly is the fact that the former have already acquired the concept or the idea of time and temporal reference in their native language and they can make use of this conceptual knowledge in their second language right from the start (Shirai 2009: 168). L1 learners have to both develop linguistic and also conceptual knowledge first.

Furthermore, as a second step, L2 learners (here specifically adult L2 learners) start to use adverbials to express tense and aspect (Shirai 2009: 169). This is a contrast to what we have just seen, namely that L1 learners make use of grammatical marking first and only later use adverbials in their language production. This clearly results in another contrast, namely that while L1 learners use grammatical means early, (adult) second language learners start to use these much later (Shirai 2009: 169). Shirai explains this again with the more matured time concept of (adult) L2 learners (in comparison to the “children’s conceptual immaturity”) and that (adult) L2 learners generally prefer to rely on lexical information (2009: 170).

Earlier, we presented the order of morpheme acquisition of native speakers of English. Analogously, studies investigating the morpheme acquisition order of second language learners of English came to the conclusion that L2 learners of English acquire different morphemes also in a more or less fixed order and that the L1 does not seem to interfere (Luk 2013: 442). In 1977, Krashen proposed a universal order, divided into four groups: (i) *-ing*, plural {-s}, copula verb; (ii) auxiliary verb, article; (iii) irregular past; and (iv) regular past, third person singular {-s}, possessive {-’s} (Luk 2013: 442). Bardovi-Harlig (2013: 6) presents the same order of morpheme acquisition, i.e. first *-ing*, then irregular past morphemes, and only then the third person singular {-s} and also claims that this order is true for both adult and child L2 learners

of English. In addition to this acquisition order, the lexical aspect, i.e. the inherent semantic meaning of the verb, governs the distribution of tense and aspect marking, especially in the initial stages of second language acquisition (Bardovi-Harlig 2013: 6), this was presented as the Aspect Hypothesis (see again Chapter 4.7).

As can be observed from this list, the acquisitional order defined for second language learners differs from the order proposed for native speakers of English. Nevertheless, we can also identify similarities: the progressive marker and the plural marker appear both relatively early, and the third person singular {-s} appears fairly late, for both native speakers and foreign language learners (Luk 2013: 442).

A bit surprising is the finding that this seems to be universal for all second language learners and that the L1 does not have an influence. Clearly, this goes against almost everything that has been stated so far. When discussing the Aspect Hypothesis, we already pointed out that this is rather unlikely. And in fact, a comprehensive review study that included different L1 speakers (i.e. learners of English with a Japanese, Chinese, Korean, and Spanish background) demonstrated that the order of morpheme acquisition is by no means universal for all L2 learners (Luk & Shirai 2009: 742). Quite the opposite is true: Luk and Shirai (2009: 742) identified a strong influence from the L1 and they claim that it is possible to predict, based on the grammatical categories present in the respective L1, the challenges or advantages learners have when acquiring English morphology (Luk & Shirai 2009: 742). In this review, both tutored and untutored L2 learners, as well as child and adult L2, were included (Luk & Shirai 2009: 749-754).

Despite this controversial discussion on the order of morpheme acquisition, we find a similarity between L1 and L2 learners that has to do with the form of tense and aspect, as well. We already saw this for native speakers of English, but for L2 learners of English this applies as well: verbs appear first only with the necessary suffix (e.g. *-ing*) and only later also with the required auxiliary (e.g. a form of *be*) (Ellis 2015: 79). Hence, the acquisition of complex tenses and aspectual distinctions follows a sequential acquisitional process.

As an example, and to support this last claim, we point towards one study on Arabic learners of English. Gass and Selinker show that native speakers of Arabic use the progressive in the early stages of learning English without the auxiliary verb (2008: 46-47). Is this now something characteristic for Arabic speakers who learn English, or is this the normal acquisitional path for all learners of English? The logic behind this reasoning is the finding that the process of constructing the form-function system does not exclusively depend on the input but also on the first language of the learners (Ellis 2015: 109; Shirai 2009: 182). To expand this

argument, especially after reviewing third language acquisition studies (see Chapter 3.1.2), we may also find that the L1 and the L2 affect the acquisition of tense and aspect, i.e. cross-linguistic influence from both the L1 and L2 may be possible. This could imply that some learners of English start using both forms of the progressive earlier or later than other learners, depending on the grammatical structure of their previously acquired language(s).

This claim needs to be examined in the present study. The analysis of the texts produced by the participants with different native languages will show whether this can be verified or not. As Chapters 4.2 to 4.6 demonstrated, the languages known to the participants of this study differ crucially in how they express progressive aspect or ongoing situations. In addition, some participants are bilingual, hence they have access to two different grammatical systems. If the mapping of the form-function system depends on the first language or first languages of the learners, then we should expect to find differences between the distinct groups in this study.

The English progressive aspect

Furthermore, the English (present) progressive has in general been demonstrated to be a problematic area for learners of English (see for instance Bland 1988: 55; Dose-Heidelmayer & Götz 2016). Apart from formal issues, this can be further substantiated because the progressive is restricted in its use. By that we mean that it is incompatible with certain verbs, especially verbs expressing states and achievements (Biber et al. 2000: 471–472). Above, we saw that in the languages that have a grammaticalized progressive aspect (i.e. Russian, Turkish, and to some extent also Vietnamese), we also find restrictions, yet, these do not always overlap with the distribution of the progressive aspect in English.

Hence, what we typically find, in language teaching material or grammar books are lists of non-progressive verbs, such as *believe*, *doubt*, *feel* to point learners specifically to this difficulty (Swan 2005: 457). We may add, however, that there is a general trend of a semantic and contextual expansions of the progressive aspect in Modern English (König 1994; Kranich 2010; Van Rooy 2014). Furthermore, recent studies, especially corpus-based analyses that investigate the use of the English progressive in varieties of English, demonstrated that it seems problematic to claim that there is a definite number of verbs that is never used in the progressive aspect (for an overview in the variation of the progressive in English see for example Rautioaho 2014).

However, there are of course prototypical progressive contexts and contexts that appear considerably less frequently in the progressive aspect (Fuchs & Werner 2018b: 198). In

addition, there are uses of stative progressives that are not target-like, but we find, though rather infrequently, stative progressives in large corpora such as the British National Corpus (BNC) (Davis 2004-) or the Corpus of Contemporary American English (COCA) (Davis 2008-) that are target-like (see also Fuchs & Werner 2018b: 208). Nevertheless, the combination with dynamic verbs and its use for actions or ongoing situations are still the core functions of the progressive aspect in English (Fuchs & Werner 2018b: 198). This has to do with the *aktionsart* of the verb (see again Chapter 4.1.3) and it is even in accordance with the Aspect Hypothesis (see Chapter 4.7). We already discussed that verbs, depending on their *aktionsart*, combine more or less easily with the progressive aspect in English: states and achievements do not normally occur in the progressive (except for some verbs in specific situations); activities and accomplishments, however, are frequently used in the progressive aspect (Rothstein 2004: 12, 22).

Hence, what we find is a potential difficulty for non-native learners of English to form the progressive aspect, on the one hand. On the other hand, we may also encounter issues with the correct usage of the progressive aspect. Non-native learners could potentially use the progressive in unusual or non-prototypical contexts and we may also observe that the progressive is underrepresented in prototypical situations. The former seems to find support in the relevant literature. A common overuse of the progressive aspect with stative verbs has been reported in numerous studies based on (advanced) L2 learners of English (for example Dose-Heidelmayer & Götz 2016; Meriläinen et al. 2017; and see Fuchs & Werner 2018b: 198-200 for a detailed overview).

In a more recent study, Fuchs and Werner (2018b) showed that we need to be careful with this claim as it may not be true for all L2 learners. They extended the previous studies to younger, less advanced learners of English (age range from 8 to 19-year-old school students) and found that the frequencies of stative progressives in learner language are in fact very low (Fuchs & Werner: 2018b: 212). With this finding they present evidence in accordance to one of the assumptions of the Aspect Hypothesis, namely that language learners do not expand the use of the progressive aspect to stative verbs and stative contexts (Fuchs & Werner 2018b: 212-213). This seems surprising, at first, because it is the opposite of what other studies have demonstrated (see above). Yet, Fuchs and Werner (2018b: 213) do not consider this to be negative evidence; quite to the contrary, they simply demonstrate that many more factors, and not just L2 acquisition on its own, affect additional language acquisition. The types of learners are crucially different: we find advanced adult L2 learners versus child learners that are in their beginning/intermediate stages of the L2 English (Fuchs & Werner 2018b: 213). This clearly

stresses what was mentioned before, namely that language acquisition is a complex process and that the type of L2 (or also L3) learner influences the outcome in language acquisition.

Furthermore, and this is probably even more interesting for the current study, Fuchs and Werner (2018b: 213-214) noticed dissimilar patterns for learners with different L1s, when controlling for languages that have a grammaticalized progressive aspect versus languages that do not have a grammaticalized progressive aspect. Interestingly, they found a negative effect of the former type on the use of target-like progressives with stative verbs. Yet, overall, L1 influence was rather small and all learners rarely produced stative progressives “in spite of claims in the literature to the contrary” (Fuchs & Werner 2018b: 215).

With the current data set, we are also able to assess younger and less proficient learners like Fuchs and Werner (2018b), though from a more limited age range (age 12 and 16; see Chapter 6.1.3). In addition, we can compare not only different L2 learners, but we can also examine whether there is a contrast between different L2 and different L3 learners.

Developmental progress

Furthermore, it was shown that in additional or foreign language acquisition, a new linguistic form appears first in one context or a very limited range of contexts and spreads only later to other contexts (Ellis 2015: 109). This is also something that needs to be kept in mind when looking at the learner data of the present study. We are able to assess two age groups – half of the participants are 12 years old, the other half is 16 years old. We may observe a development, which is actually something that is to be expected. Such a development could be visible in a greater number of different verbs that are used in the progressive aspect (to use the progressive as an example again) and in more contexts. Older age should relate to being more advanced in English. Here as well, we may observe cross-linguistic influence or differently put, the L1 or the two previously acquired languages may exert an influence that may be visible in frequency differences. The language(s) known to the learners and the respective grammatical system(s) could interfere and cause some students to use a greater variety of verbs earlier than other students that have a different heritage language or access to just one language.

In the remainder of this chapter, we look at research that focuses on particular groups of English learners and especially the acquisition of tense and aspect. This is largely based on second language learners. Clearly, we are unable to wholly cover the entire area; yet, these studies will highlight some major aspects and patterns which provide some useful indications for the following analysis.

German learners of English

We find a rather interesting discussion in Erling (2002). She specifically focusses on German university students (with English as one of their majors) and their use of English in the classroom (Erling 2002: 8). She observes a number of frequently occurring non-target English uses, such as incorrect uses of the present tense for situations that started in the past and lead up to the present moment (i.e. a present perfect use would be target-like here), the use of the progressive aspect for stative situations (i.e. simple aspect would be target-like for stative verbs), and the use of the present perfect where a simple past tense form would be target-like (Erling 2002: 11). Initially, she also interpreted these uses as indications for cross-linguistic influence from German, or differently put “as a common ‘German error’” (Erling 2002: 11). Erling then explains that she started to doubt that these are just German errors, because many of these structures can also be found in other varieties of English, the so-called “New Englishes” (Erling 2002: 11). Therefore, she proposes that these non-target uses were wrongly classified as cross-linguistic influence from the L1, and that “[i]t is more likely that these common features are actually a symptom of a change in the language which is coming about in non-native contexts” and not just the German context (Erling 2002: 11). She strengthens this claim in that she describes that the German learners of English she observed are highly proficient in English and frequent users of this language (Erling 2002: 12). She takes this as support for a new English variety which deviates from Standard English.

First, without weakening Erling’s argumentation and without questioning the development of a German-English (this is another story and will not be regarded here), we understand this as evidence of L1 influence. Since these students are advanced L2 English speakers, the non-target uses that are frequently used may come from erroneously acquired structures affected by the characteristics of their L1 and that have fossilized by now. Second, these errors are consistent with the results of the contrastive analysis of English and German (see Chapters 4.3 and 4.8.1). Third, others have also reported similar non-target-like English uses of tense and aspect because of cross-linguistic influence from the L1 German. Swan (2001), for instance, who provides an overview of common problem areas for German learners of English, based on teacher’s observations, presents strikingly similar findings to Erling (2002). He also lists the progressive aspect as one problem area, he explains that German learners of English may use the present perfect as if it was a narrative past, like it is the case in German, and that the simple past or the simple present is used for situations that require a

present perfect in English (Swan 2001: 42).²⁰ Furthermore, he also argues that in order to refer to future events, German learners of English frequently use the simple present tense (Swan 2001: 42). In addition, Swan (2001) identifies a number of other common non-target English uses by learners with a German background: German lacks an equivalent to the English auxiliary verb *do*, which may result in English questions and negated sentences where this auxiliary verb is omitted, and the German present perfect is formed with a form of *haben* ('have'), like in English, or a form of *sein* ('be') (see again Chapter 4.3). This may cause German learners of English to also build the present perfect in English with *be* instead of *have*, to name just two of these potential problems (Swan 2001: 41).

Russian learners of English

We find a brief overview of common mistakes, made by Russian learners of English in Monk and Burak (2001). They mention that due to the absence of present/past perfect and present/past progressive tenses in Russian, the simple present or simple past is typically used in contexts where a present perfect or past progressive, respectively, would be target-like (Monk & Burak 2001: 152). They also observe that the third person singular {-s} is frequently omitted (Monk & Burak 2001: 152).²¹ Also, since there is no copula verb in Russian in the present tense, as was extensively discussed in Chapter 4.4, it is not surprising that the use of the English copula verb was reported to be problematic for learners of Russian (Monk & Burak 2001: 152).

Pavlenko (2003: 45) also reports that "Russian learners of English find the English tense system challenging", because in English, verbs differ in terms of lexical aspect, but in Russian, we find verb pairs that have the same lexical aspectual distinction (i.e. *aktionsart*) but transmit a different meaning because of grammatical aspect, i.e. the meaning difference depends on the perfective or imperfective viewpoint (remember that Russian has perfective-imperfective verb pairs). Hence, a verb in Russian could correspond to a variety of English translations. Consider the following examples, the perfective and imperfective verb of the English equivalent *leave*, provided by Pavlenko (2003: 45):

(117) ushel 'left, has left, had left'

²⁰ An interesting and perhaps related development can be observed in Australian English. A fairly recent observation shows that there are attested uses of the present perfect tense which occur in typical simple past tense contexts in Australian English (see for example Collins & Peters 2004: 597-598; Engel & Ritz 2000: XX; Siemund 2019b: 616). This may even be an instance of language contact, as there are many German immigrants in Australia (p.c. Peter Siemund).

²¹ This may, however, given what we saw above, rather be a general problem for learners of English. We come back to this in Chapter 6.2.2.

(118) ukhodil ‘was leaving, left several times, used to leave’)

Some support for these claims can be offered by Flashner (1989), a study based on three Russian native speakers, which analyzes their oral production in the foreign language English. Flashner (1989: 95) reports that she finds cross-linguistic influence from Russian in the English performance. Recall that Russian shows a past/non-past distinction that does not correspond to distinctions between present and tense in English, but that is rather based on aspectual information. Hence, what she finds is that perfective contexts in the English production are expressed with simple past forms and that imperfective situations appear for the most part in the base form (Flashner 1989: 95). She argues that this demonstrates differences in cognition, i.e. that the Russian native speakers transfer their past/non-past opposition to their English production (Flashner 1989: 96). Certainly, this study is by no means representative, because it is based on a limited sample of speakers; yet, it provides some interesting indications and possibilities for cross-linguistic influence in the domain of tense and aspect by Russian speakers (for a more detailed description of the individual performance of each speaker see Flashner 1989: 77-95).

Turkish learners of English

In a small study, based on English writings of Turkish University students (n=20), Abushihab (2014) reports on different categories of grammatical errors. He finds a considerable number of errors that are related to the use of tense and aspect in English (Abushihab 2014: 217) and he explains these non-target uses with (negative) transfer effects from Turkish (Abushihab 2014: 213). Abushihab (2014) also relies on a contrastive analysis and stresses the importance of including the native language in the foreign language classroom (2014: 221). In total, 15% of the mistakes identified in the students’ writings are related to tense and aspect. He reports incorrect uses of the present progressive (instead of the target-like simple present form), and the simple present or simple past is erroneously used where a present perfect form should appear in English (Abushihab 2014: 217). He claims that this can be explained with differences between the English and Turkish tense and aspect systems (Abushihab 2014: 218).

Given what we discussed in Chapter 4.5, we notice that these non-target uses belong to two potential difficulties previously established. We saw that the progressive aspect in Turkish can be used with verbs expressing stative meanings – this can be related to the first error, namely the use of progressive forms where a simple aspect form would have been target like. Second, according to Lewis (1967: 127), we mentioned that the Turkish past tense suffix is used for

contexts which correspond in English to both simple past and present perfect situations. Hence, there is no simple past - present perfect distinction marked grammatically, but contextual clues are used to express this meaning difference (see also Abushihab 2014: 217-218). This could explain that 26% of all tense and aspect errors were cases where the simple past instead of the present perfect was used in English (Abushihab 2014: 217).

Another study, Çakır (2011), takes a more educational perspective and focusses on teaching the English tense and aspectual system to Turkish learners of English, also at University level, by observing common grammatical mistakes. We will not discuss his claims with regard to teaching, yet, the identification of grammatical errors is of interest for the current study. One of his major claims is that the mother tongue Turkish interferes with the acquisition of English in that many types of grammatical errors appear repeatedly (Çakır 2011: 123). For this study, Çakır (2011: 124) analyses written exams of first year students from various departments (n=330). He uses a typology of three groups of grammatical mistakes: (i) slips, i.e. the language learner observes him/herself that there is a mistake and corrects it; (ii) error due to L1 influence; and (iii) error due to the general language developing process (Çakır 2011: 125). The latter should be common to all learners, irrespective of their mother tongue(s). Hence, especially the second category, errors due to cross-linguistic influence from Turkish, are of importance in this section.

Çakır (2011: 125) reports the misuse of the present progressive form instead of the simple present form as a frequently occurring mistake. Especially stative verbs, such as *know*, *believe*, *like*, which are usually not used with a progressive meaning in English, were used by some students in the progressive aspect (Çakır 2011: 125). Again, we can relate this to the use of the Turkish progressive aspect understand this as cross-linguistic influence from Turkish. Moreover, similar to Abushihab (2014), Çakır (2011: 125-126) explains that Turkish learners of English find it particularly difficult to use the present perfect and the past perfect correctly and that quite frequently, the simple past is used in place of the present perfect. In some cases, we also find the present progressive where a present perfect would be the correct English choice (Çakır 2011: 126). Here as well, Turkish seems to negatively affect the target-like English production. A last major type of grammatical error, according to Çakır (2011: 126), is the overgeneralization of a past tense form of *be* instead of using the simple past tense of the main verb. This could result in sentences like, **He was study English yesterday* (Çakır 2011: 126). He explains this as a typical developmental process, namely that beginners usually produce such simple past tense forms (Çakır 2011: 126). Here, it remains less clear if this is a typical

developmental mistake committed by Turkish learners of English, or if this is common to other non-native learners of English as well.

Lastly, we mention the findings presented in Thompson (2001). These are again, like we saw in Swan (2001), based on English language teacher's observations. He confirms one of our assumptions about the use of the copula verb *be* (see Chapters 4.5 and 4.8.1), namely that due to the lack of a Turkish equivalent, the copula verb is frequently omitted (Thompson 2001: 219). Moreover, Turkish speakers of English may extend the progressive aspect to stative verbs, they may use present tense forms instead of present perfect forms to refer to situations that started in the past and are still ongoing (here German and Turkish learners seem to have the same difficulty), and they also frequently use the past perfect for situations that would rather require a simple present form (Thompson 2001: 220).

What we saw in Abushihab (2014), Çakır (2011), and also in Thompson (2001) was recurrent evidence for a number of tense and aspect uses that are non-target like in English due to L1 Turkish influence. Hence, we can assume that these represent potential problem areas for Turkish learners of English.

Vietnamese learners of English

There is surprisingly little that we can report about Vietnamese learners of English and the acquisition of tense and aspect. A small glimpse can be given, based on Sato (1990) and Schleppegrell and Go (2007). Sato (1990) presents the results of a longitudinal study of two Vietnamese children, age 10 and 12, who grow up in an American family and acquire English in a naturalistic setting. This is an interesting study, though, we have to admit that the context is very specific, and the number of informants is very low (Sato 1990: 51-52) and it may actually not be too fitting for the current study. We will still briefly comment on it, because it may yield some important indications. Sato investigated past tense marking and made a surprising observation: overall, there was a low frequency of past tense verbs and only lexical past tense forms (for example *saw*) and no inflectional past tense markers were found (Sato 1990: 66, 84-85). There was a small increase of lexical past tense forms, but in general, over the entire 10-month study period, only few past tense forms were used by the two Vietnamese learners of English (Sato 1990: 66). Sato explains that this finding can be attributed to transfer effects from the L1: in Vietnamese, there are no consonant clusters in syllable-final position, yet a regular past tense in English, such as *walk-ed* produces a consonant cluster [kt] in final position (Sato

1990: 68). It may, however, also be feasible that this lack of past tense marking is due to the lack of morphological tense and aspect marking in Vietnamese.

This last point finds support in Schleppegrell and Go (2007). In their study, they analyze two fifth and two sixth grade students, the former with a Vietnamese and the latter with a Chinese background, who had lived in the United States for a year and attend, in addition to their normal school classes, one hour of English as a Second Language (ESL) classes per day (Schleppegrell & Go 2007: 529). They were asked to narrate a past experience, a frequent exercise that children at this age engage with in school (Schleppegrell & Go 2007: 530). The analysis of the texts of the two young Vietnamese learners of English reveals that they rarely use verbal past tense marking (Schleppegrell & Go 2007: 536). One of the children relies exclusively on present tense forms (while using past tense adverbials), and the other uses two irregular past tense forms (*came* and *said*), however, not consistently throughout the narration and no inflectional past tense forms (Schleppegrell & Go 2007: 536).

While the analysis of two learners is by no means representative, it still provides an interesting indication, especially given what we saw in Sato (1990). Both studies that include Vietnamese learners of English (Sato 1990; Schleppegrell & Go 2007), found the same result, although relying on completely different data sets and test situations. They report that these beginners of English do not use inflectional endings for past tense and if past tense verbs appear, they were exclusively lexical past tense forms. This finding is very isolated and not comparable to the other languages discussed above, but it may be useful for the analysis of the texts and recordings produced by the Vietnamese learners of the current study.

Summary

This chapter discussed differences between L1 and L2 acquisition of tense and aspect by reporting on L2 acquisition of tense and aspect in some detail. We clearly saw differences between L1 and L2 learners. Here, not only the different time conceptualizations between L1 and L2 learners but simply the effect of the L1 explains most of the differences between the acquisition of tense and aspect in a native language versus a foreign or additional language (Shirai 2009: 182). Hence, we find the L1 to influence the acquisition of the L2. What Shirai (2009) reports are differences in the L2 production that can be explained with cross-linguistic influence from the L1. Hence, speakers of a language that does not have a progressive aspect may show a different acquisitional path than someone who is a native speaker of a language that has a grammaticalized progressive aspect. Another crucial variable is age and the

proficiency level of the learners of English. Most of these L2 studies that investigated tense and aspect acquisition focused on adult L2 learners. Yet, as research that focused on younger learners shows, less advanced L2 learners may behave strikingly different from adult L2 learners (Fuchs & Werner 2018b: 213).

In the current study, we do not only focus on younger, less advanced learners of English, but we add another dimension to this (still incomplete) picture and that is bilingualism. More explicitly, we compare different L2 learners (i.e. different L1s) with unbalanced, bilingual heritage speakers who acquire English as an L3. Shirai (2009: 184) clearly formulated that further research that systematically investigates the influence of different L1s on the acquisition of tense and aspect is still needed. Fuchs and Werner (2018a) also call attention to the importance of doing further research in the acquisition of tense and aspect based on corpus data. This is what the current study tries to do: we aim at adding to this ongoing research debate by comparing four different monolingual learners of English (monolingual German, Russian, Turkish, and Vietnamese) and three different bilingual learners of English (bilingual Russian-German, Turkish-German, and Vietnamese-German) based on a learner corpus compiled from experimental picture description tasks (see Chapter 5.2). The grammatical marking and the expression of tense and aspect differ considerably in all four languages (see again Chapters 4.3 to 4.6) and we find certain similarities with English and also profound differences. Therefore, we expect to find conclusive indications for how cross-linguistic influence works for tense and aspect marking in monolingual and bilingual learners.

4.9 Conclusion

After defining tense, aspect, *aktionsart*, and the Aspect Hypothesis in general, after illustrating how tense and aspect marking works in the relevant languages English, German, Russian, Turkish, and Vietnamese, after comparing the respective languages, and after briefly discussing how the acquisition of tense and aspect works in a native language and in non-native languages, we may now draw some tentative conclusions, also against the background of what was presented in Chapter 3.

Earlier, we saw that typological similarity may play an important role in additional language acquisition and that transfer may come exclusively from the language that is typologically closest to the one that is currently acquired (Rothman 2011; see again Chapter 3.1). From a general perspective, English is, out of all languages that are relevant here, closest to German, because these two languages are genetically related and come from the same

language family, i.e. the Germanic branch of the Indo-European language family. Nevertheless, and therefore it was important that we conducted a comparison between all languages present in this study (see Chapter 4.8.1), English does not share every feature of tense and aspect marking with German (consider for example the use of the present perfect or the present progressive). True, there is considerable overlap in both meaning and form, but there is also a lot of discrepancy between English and German. What is more, we also find a number of features that are not shared by German and English but that one or more of the other languages have in common with English. This is to a certain extent not surprising (and was addressed several times before). Exactly this fact led a number of researchers to the conclusion that not overall typological similarity but linguistic similarity on a property-by-property basis determines cross-linguistic influence in additional language acquisition (see for example Westergaard et al. 2017). Even if a language is generally not typologically similar to another language, these two may share certain grammatical features and this would enable learners of the former to use this structural knowledge of the latter.

Apart from typological similarity or linguistic proximity, tense and aspect acquisition may additionally be influenced by the rules of the Aspect Hypothesis. In the past, this theory had mainly been discussed from a generative perspective, arguing for language acquisition universals. Yet, more recent corpus-based studies have demonstrated that the acquisition of tense and aspect marking is unlikely to follow a strict universal pattern and that there are indeed differences between different learner populations. At first, cross-linguistic influence from the native language(s) was excluded, but systematic investigations that include structurally different L1s confirmed that the acquisition and use of tense and aspect depends indeed on the native language(s) (see again Chapter 4.7). Nevertheless, lexical aspect or *aktionsart*, i.e. the inherent meaning of a lexical verb, may still have an effect on the acquisition of tense and aspect. Most research that focuses on tense and aspect, is exclusively based on L2 learner populations and there is a lack of studies focusing on the acquisition and use of tense and aspect by different L3 learners. This stresses the importance of the current study.

In summary, as we have shown, all languages involved differ considerably in the use of tenses, or the expression of aspectual distinctions such as the progressive aspect or the conveyance of progressive meaning. The linguistic diversity found in this study and the necessary linguistic interplay in the participants is rather complex. This is exactly what makes this study special: all third language learners have German as one of their languages and they know another non-Germanic language; only the non-German monolingual groups do not have access to German (a more detailed description of the participants can be found in Chapter 6.1.3).

The analysis of the learner texts and oral recordings will show in how far access to one or two languages affects the use of tense and aspect in English and if there are significant differences between the different learner groups. In order to correctly interpret the learner language, it was necessary to understand the grammatical systems of each language. The following chapter explains the methodological procedure of this learner corpus study.

5. Methodology – English learner corpus based on written and spoken stories

The following chapter includes the first part of the empirical study. After theoretically introducing and discussing the linguistic background situation, we will now present and analyze the research design, explain the methodology we followed, and provide the basis for the data analysis (Chapter 6). We start with presenting some preliminary considerations: first, we will once again outline the motivations for conducting this research study; second, we introduce the research area of learner corpus research; third, the notion of target language and some related concepts are introduced; and fourth, we present the E-LiPS project and in addition, we report findings of previous studies that also used data of the E-LiPS project. The second part of Chapter 5 explains the data collection process for both the written task (5.2.1) and the oral task (5.2.2) and it outlines the contents of the two background questionnaires the participants had to fill in in addition to participating in the English production tasks. Subsection 5.3 presents the transcription procedure of the written texts and the oral recordings and introduces the coding scheme of the learner corpus. Furthermore, all linguistic variables that will be used for the analysis are defined and explained. The last section, Chapter 5.4, names and justifies the predicted outcome. This is exclusively based on prior research that was discussed in the previous chapters.

5.1 Preliminary considerations

The following four subsections are necessary because they once again state the importance of conducting this research and they present the motivation for choosing this method for answering the previously stated research questions. First, by briefly reflecting on former studies, we will once again give a reason for why this particular study, in this exact setting, and with these specific participants, is relevant for the study of third language acquisition. Second, we mention some properties of corpus linguistics and learner corpus research to justify the choice of method and to situate this study in the relevant research area. Then, we raise the issues of target language use, identification of cross-linguistic influence, as well as related concepts and discuss them with regard to the current study. Last, we present the E-LiPS project in greater detail than before and we also present numerous small studies that were conducted based on parts of the E-LiPS data set.

5.1.1 Motivations

We want to briefly mention the motivations for this study again, although parts of them have already been mentioned and explained in Chapter 3, especially in part 3.9. As the previous discussions have shown, there are numerous studies that deal with third language acquisition from various perspectives. The summaries and especially the contradictory findings of the previous studies attest the relevance for yet another research study. A strong claim was made by Bardel and Falk that “the L2 acts like a filter, making the L1 inaccessible” (2007: 480). More recent studies reject this claim and found counter-evidence for it (see for example Rothman 2011, 2013; Westergaard et al. 2017; and others). Typological similarity (Rothman 2011) and linguistic proximity (Westergaard et al. 2017) of the languages involved were identified as parameters that affect cross-linguistic influence in third language acquisition. Moreover, they type of bilingual speaker and the status of the languages present in the bilingual brain were demonstrated as having a significant influence on the acquisition of an additional language (Lorenz & Siemund forthc.).

Especially this latter point, the status of the languages, i.e. language dominance of one of the languages and the role that this dominant language plays in opposition to the role of the minority language, was discussed in Fallah a Jabbari (2018), Hopp (2019) and Lorenz et al. (2018) to name just three studies. Interestingly, these studies did not make the same observations and therefore, come to (partly) different conclusions. What they all share, however, is that the order of acquisition does not play a decisive role but that the dominant language is either the only source for CLI or at least the major source, besides other influential factors (Lorenz & Siemund forthc.).

Against this background, the project that is presented here tries to find and present evidence in accordance to these latter studies. We also argue that German, the majority or dominant language of the bilingual participants, has a proportionally large effect on the acquisition of an additional language. The heritage language, however, which is the minority language of the participants, also plays a role for the acquisition process of a foreign language, albeit to a smaller extent. To support this claim, we need to show that the monolingual participants differ from the bilingual participants when using written or spoken English.

Furthermore, as Titone et al. (2017: 286) phrase it quite strongly: we have been asking the question as to whether bilinguals have an advantage or not way too often and way too imprecise. It clearly is a relevant and important question and an incredible number of studies

have recently taken up this topic. Yet, we need a more nuanced perspective and we cannot expect to get a definite answer without making further subdivisions of bilinguals and also consider for example the interplay between executive control or cognitive capacities (see Titone et al. 2017: 286). Thus, we here approach this question first of all from a linguistic perspective (hence, we are not concerned with advantages in executive control) and concentrate on linguistic differences between second and third language learners. These differences (or similarities) may help us to find answers that could potentially have explanatory power for the bigger question of bilingual advantages. Namely, they would relate to the question whether bilinguals have advantages over monolinguals when learning a foreign language in school, as was proposed by several researchers (see for example Cenoz 2003).

Second, we additionally zoom into the category of bilinguals and focus on one particular type, namely unbalanced bilingual heritage speakers (see again Chapter 3.5 and see Chapter 6.1 for a detailed description of the participants). The previous discussion demonstrated that it would be too imprecise to generalize across all bilinguals because this group is simply too heterogeneous, and the language biographies are too diverse for any claim to hold for every bilingual. Even the group of heritage speakers is rather heterogeneous and among these bilinguals, we also find substantial internal variation. Yet, our aim is to find general patterns of cross-linguistic influence that distinguish L2 and L3 learners of English and we regard further background variables in addition to the language background. This comparison is based on a learner corpus that is composed of written and oral speech in English by monolingual learners and bilingual learners. The subsequent chapter will motivate the choice of learner corpus research for this purpose.

5.1.2 Learner corpus research

A suitable approach to investigate learner language as well as cross-linguistic influence in second and third language acquisition is with the help of a learner corpus. In a paper directed towards researchers working in the area of multilingualism Wulff (2017) discusses how learner corpus research (LCR) can be useful in the study of multilingualism. Building up on this, this chapter gives a short overview of learner corpus research in general and its development, and it exemplifies the suitability of the methods employed in learner corpus research for answering the research questions of the current study. Hence, we will include some theoretical points on how LCR can add to foreign language acquisition research and how learner corpora can be used

in L2 and L3 acquisition studies. We also explain the details of the current study and which specific methods are used subsequently.

Let us start by defining what a corpus is: a corpus is a collection of digitalized or machine-readable texts that could include spoken or written material; usually the texts or oral recordings are transcribed and stored in individual files (McEnery & Hardie 2012: 1-2; Wulff 2017: 734). A learner corpus is then a specialized corpus that includes a specific genre, namely learner language; i.e. texts or spoken language produced by learners of a (foreign) language. More specifically, learner corpora can be defined as collections of texts produced in a (near) natural setting by language learners (Granger 2008: 338; Granger et al. 2015: 1). Hence, they stand in direct opposition to general reference corpora, such as the BNC (Davies 2004-) or COCA (Davies 2008-), as examples of English reference corpora. In the following, we will clarify what is meant by “(near) natural setting” and how this relates to the current study.

As Granger (2008: 337) puts it “[a]nalyzing learner language is a key component of second and foreign language education research.” It allows us to investigate the development and mechanisms of foreign language acquisition and it is also a valuable resource for language teachers. Especially the former is of relevance for the current investigation. Being able to understand the mechanisms of additional language acquisition, here specifically the differences (or similarities) between second and third language acquisition, is what propels this study.

In the past, research investigating learner language, especially studies belonging to the area of second language acquisition (SLA), mainly relied on controlled experimental data and a limited number of participants (Granger 2017: 2). In such controlled settings, learners were typically asked to produce a very specific target form with usually only one or a limited number of correct possible answers, as in “fill-in-the-blanks exercises” and “reading-aloud tasks” (Gilquin & Granger 2015: 419). There is a clear advantage for using experimental data, namely the possibility to control several variables (such as the contextual setting of the experiment, the topic, and the language acquisition history of language learners) which then facilitates the analysis of the learner output (Granger 2017: 2). Without any doubt, these structured tasks allow one in most or even all cases to decide whether something is correct, i.e. target-like, or incorrect, i.e. non-target-like, in the respective language. Yet, the usually small number of language learners investigated often gave rise to doubt the representativeness of such a study (Granger et al. 2015: 1).

Driven by the desire to include larger numbers of learners, on the one hand, and to include more naturally produced language, or at least near naturally, on the other hand, a new field emerged in the late 1980s (Granger et al. 2015: 1). Learner corpus research could be

classified as an “offshoot of corpus linguistics” (Granger et al. 2015: 1). Corpus linguistics had relied until then on native language varieties (Granger et al. 2015: 1) and the methods employed had proven to significantly contribute to the field of linguistics in general (see for example McEnery & Hardie 2012). In that sense, learner corpus research is the merger of SLA research and corpus linguistics, by extending corpus linguistics to a new subfield and by adding new approaches and methods to SLA research.

Granger et al. (2015: 1) explain that access to large collections of data from second language learners enables researchers to not only conduct small-scale studies based on a limited number of language learners, but it paves the way for producing representative results. In addition, since these data are in an electronic format, they can be easily accessed with computer software and manifold analyses can be performed, much faster and more efficiently than before (Granger et al. 2015: 1). Admittedly, the learner corpus that is used in this study is also fairly small and only includes 42,887 word tokens (see Chapter 5.3). One reason for this, and this will be discussed in more detail further down, is the lack of freely available third language acquisition corpora (Wulff 2017: 751).

In addition, we do not need to rely on experimental settings, but, and this was one of the main goals that were mentioned above, more naturally occurring language use of learners is the focus in LCR. By naturally occurring language or language produced in a natural surrounding we refer to “authentic” language use, i.e. one of the principles in corpus linguistics (Gilquin & Granger 2015: 419). This means that ideally, a corpus consists of language that was not produced for the sake of corpus compilation but that had a communicative function. However, for learner language, it is not always possible to collect such data, simply because in many contexts, learners who formally acquire a foreign language may never actually use this language outside the classroom setting (Gilquin & Granger 2015: 419). This means that “the criterion of authenticity therefore needs to be relaxed in case of learner corpora” (Gilquin & Granger 2015: 419). Therefore, we largely find learner corpora that contain essays, a typical classroom activity (Granger et al. 2015: 2). This is in several respects a useful text type, because learners engage quite regularly in essay writing, at least after a certain amount of formal training. Also, essays usually contain not just a few words but a larger number of sentences or even paragraphs, which results in enough production data for a quantitative analysis.

Yet, there are also text types that are less naturalistic, or even peripheral, such as picture description tasks (Gilquin & Granger 2015: 419). This is definitely more controlled than essay writing, because not just the topic is given, but also the specific setting cannot be freely chosen by the learners. Moreover, certain vocabulary is triggered or even required. Though, it is still

considered to represent near naturalistic language, due to the fact that the students are not forced to use a specific word, as would be the case in a fill-the-blank exercise, but they can use their own words and demonstrate lexical as well as structural variety. There are also some spoken corpora available, but strikingly fewer than written corpora (Gilquin & Granger 2015: 419). Obviously, the transcription of spoken data is more time consuming than transcribing written data, and to collect a large number of essays is easier and quicker than to record the same number of participants. Also, students may even submit essays already in a text format, which would then eliminate the additional step of transcription.

Another bias found in LCR studies is that they largely focus on advanced learners and that there are only few studies that include less advanced learners or beginners (Gilquin & Granger 2015: 419). When we link this back to the most commonly used text type, it is understandable why we largely find advanced learners: early foreign language learners have not yet acquired the necessary language skills to write long essays. Hence, more controlled text types may be useful to also include younger and less advanced learners in research. Therefore, as was pointed out before, the current study does not rely on freely written essays, but it uses the more controlled text type of a picture description task (see Chapters 5.2.1 and 5.2.2). On the one hand, we can control the topic and trigger specific vocabulary items and also beginners or intermediate learners of English are already capable of producing some words for these pictures. With their still limited proficiency levels in English, the younger learners of the study would not be able to write a long argumentative essay. In order to use the same text type throughout the entire corpus, all learners were presented with the same task. On the other hand, however, we are aware that this is somewhat artificial and not a free writing task, but a written task that was designed for the sake of corpus creation. Nevertheless, we are convinced that this peripheral text type still produces interpretable output. What is more, we include both written texts and oral production, based on two different picture stories. Hence, we add an additional dimension and can thus compare written and spoken language use, a comparison that has not been frequently used in LCR studies so far.

Up until now, most learner corpora contain English as a foreign language, though other languages are slowly but steadily increasing (Granger et al. 2015: 2). This is by no means surprising, given the attention that English, as a native language, foreign language, and as a lingua franca, receives around the globe. The current study, as should have become apparent by now, adds to this bias, because we also focus on the acquisition of English as a foreign or additional language and we use a learner corpus that includes learner English. Furthermore, we make use of a cross-sectional corpus, i.e. the corpus includes two sets of learners at two different

developmental stages, which is again one of the most common types of corpora. There are fewer corpora available that are made up of longitudinal data, but these are also on the rise (Granger et al. 2015: 2).

The last bias that we mention here is that many corpora that are currently available include second language learners; these are either mono-L1 corpora, which means that all learners share the same native language, or they are multi-L1 corpora, with different L1s represented in one corpus (Gilquin & Granger 2015: 419). Yet, there are only few corpora available that include third language learners (Wulff 2017: 751). The current study combines both types, because the learner corpus that was compiled for this project includes both L2 and L3 learners and it includes a number of different native languages.

So far, we said that learner corpus research is a sub-field of corpus linguistics, and therefore, many methods that are used in LCR are taken from corpus linguistics. In spite of this, there are also a number of approaches that originated from LCR, one of them is called Contrastive Interlanguage Analysis (CIA) (Gilquin & Granger 2015: 425). This is especially important for the current study and we will briefly discuss this method, following Gilquin and Granger (2015) and Granger (2015). Within CIA, we find two approaches, one is a comparison between a learner corpus and a reference corpus that includes native language; the other is a comparison of different interlanguages, i.e. different (foreign language) learner populations (Gilquin & Granger 2015: 425).

The L1 versus L2 comparison is a very popular approach. It is commonly used to identify learner errors of advanced learners; especially the overuse of certain features or constructions, in comparison to native speakers of a language, provide useful indications for non-target-like uses of learners (Granger 2015: 11). Instead of relying on comparisons with reference corpora (such as BNC and COCA for large English reference corpora), a number of researchers also rely on novice writing, i.e. language samples that do not come from academically trained, expert native speakers, but that were produced by younger, novice native speakers, such as students (Granger 2015: 12). The reason to use such corpora, i.e. corpora that include student's essays like the Louvain Corpus of Native English Essays (LOCNESS)²², is that the language used in these better reflects the text types produced by learners (usually argumentative essays, as explained above) (Granger 2015: 17).

However, to use a native speaker baseline is not uncontroversial (Granger 2015: 11). Numerous researchers have recently criticized this L1/L2 comparison, especially if we take an

²² Available online at < <https://uclouvain.be/fr/node/11973>>.

idealized native speaker and portray learners as deficient (Granger 2015: 13). As an answer to this criticism, Granger rightfully argues that it is useful to be aware that learner language, or interlanguage, is a phenomenon in its own right and that it should be studied as such; yet, the L1/L2 comparison should not be abandoned but rather “be used to bring to light features of learner language that, once uncovered, can be analyzed from a strictly L2 perspective” (Granger 2015: 14). What is more, she stresses that native speaker performance should not be confused with being the norm, or even the target for native speakers, but they should simply be a reference (Granger 2015: 18). This becomes even more relevant if we take English as the example of foreign or additional language that is investigated. Especially against the background of World Englishes, and the fact that there is clearly not just one variety of English, we realize that it becomes more and more difficult to define a native speaker norm for learners of that language (we come back to this issue in the following Chapter 5.1.3; for a more detailed discussion see Granger 2012; 2015).

The second approach of the Contrastive Interlanguage Analysis is a comparison between different L2 varieties (Granger 2015: 12). The reason for this central premise is to differentiate between features of the L2 variety that are influenced by the L1, and features that do not depend on cross-linguistic influence from the L1 but are general learner difficulties (Granger 2015: 12). Clearly, the L1 is not the only variable that affects the acquisition of an additional language, and therefore, the addition of further variables within this comparison is necessary (Granger 2015: 12).

For the current study, we will mainly concentrate on the latter type, i.e. the comparison of different interlanguages, or differently put between different sub-corpora that include learner language from various L1s. We also consider a novice native speaker baseline and not a reference corpus based on expert native language, because the learners in the current corpus are not yet advanced and we wanted to have a text type that is comparable with the text type the foreign language learners produced. However, as our main focus, we investigate several L2 and several L3 learners of English to “identify the possible source of certain non-standard features” (Gilquin & Granger 2015: 425). Hence, with such an error analysis, we aim to find an indication for cross-linguistic influence in the learners that we can trace back to their native language or their two previously acquired languages.

Furthermore, corpora usually include metadata, i.e. non-linguistic information about the text itself (McEnery & Hardie 2012: 29). Metadata could include the author of the text, the gender, the year of publication, and the genre, for instance. The same applies to learner corpora, of course; we also need metadata to substantiate the analysis and to interpret the language

production (Gilquin & Granger 2015: 430; Granger 2015: 12). The more informative the metadata, the more informative can be the analysis and the comparison of different learner groups; with the help of statistical measures and approaches, we can determine how this background information affect the language production (Gilquin & Granger 2015: 430). Possible background information in learner corpus research could be the L1, or further previously acquired languages, age, gender, country of origin, country of current stay, proficiency level, and socio-economic-background, to name just a few.

In summary, with the help of learner corpora, it is possible to understand language acquisition processes. Learner corpus research combines second language acquisition research, corpus linguistics, and also a more applied perspective, i.e. foreign language teaching (Gilquin & Granger 2015: 428). It is therefore the ideal approach to investigate the current research questions. The reason for all the earlier mentioned biases and limitations that we can currently find in LCR is the still young age of learner corpus research (Gilquin & Granger 2015: 427-429). Therefore, the current study can add to this new research area by investigating the use of tense and aspect in a small learner corpus that includes written and spoken English production data of intermediate second and third language learners.

5.1.3 Target language use and related concepts

When we talk about English target language performance or use, we refer to what would be expected to be produced by a native speaker of English. Before we continue to discuss the issue of target language use and how exactly we define this term, we need to clarify the notion of a native speaker. There are various definitions available that specify the concept of a native speaker. We will follow McKay and Brown (2016), who talk about “an *idealized native speaker*” (2016: xiv; italics in original). In general, they define a native speaker of a language as someone who has acquired the respective language in childhood and who has intuitive knowledge about grammatical features of that language (McKay & Brown 2016: xiii-xiv). Yet, this concept cannot be related to a real person, but it is rather an idealized construct. Each individual speaker uses a unique idiolect; the sum of all these make up a theoretical construct of a native speaker who is capable of producing grammatically correct, educated, and proper language (McKay & Brown 2016: xiv).

This is a complicated and complex concept because there is not simply one standard that we could use to define native speaker English, since each individual native speaker output is unique. Hence, target language use is not a clear-cut phenomenon or easy to specify. In addition,

by defining a native speaker and by making claims about the language production of a native speaker, we touch upon another diffuse but at the same time indispensable term, and that is *standard*. A standard is somehow understood as being the norm, as something accepted, and in this sense, it is the average or the sum of all native speakers' idiolects (McKay & Brown 2016: xiv). This definition of a standard is only a superficial one and it will not be looked at in more detail here. The reason why it had to be briefly introduced is that when learner English of a particular group is compared to another group of learners, we make reference to which of the learners behaves more target-like. Hence, we have a certain standard, a certain idealized setting, in mind, which we understand as the preferred realization. Against this background, we compare the performance of the participants with each other.

Apart from the aforementioned obstacles, another critical comment also from McKay and Brown is that “the idealized native speaker standard is impossible for most learners around the world to achieve” (2016: xiv). They explain that more or less everywhere around the world, we find curricula that school children cannot completely fulfill and which, as a result, frustrates teachers and students equally (McKay & Brown 2016: xv). The topic whether it is desirable or even possible to aim at native speaker competence for learners of a foreign language has been and is still currently a matter of debate (McKay & Brown 2016; Seidlhofer 2004). According to Cook, only few learners (if at all) of a foreign language will ever reach a native like status; thus, we should regard the language of foreign language learners as a distinct system (Cook 1999: 189). Yet, it seems to be the goal in foreign language teaching to aim at making the learners achieve native language competence, which therefore ultimately results in a failure in most of the cases (Cook 1999: 189-199). McKay and Brown (2016) propose a solution to overcome this obstacle; yet, so far, the school systems adhere to the former native speaker target standard that all learners need to achieve.²³

Due to the lack of an alternative system, the approach of this study is the following: the texts of the learners of English will be compared to the texts written by native speakers of English. The aim is not to judge or to present the learner English as a deficient variety; yet, we regard native speaker English as a useful source for a comparison. Not only one native speaker but several native speakers performed the task. This way, we make up for a variety of idiolects, which are meant to represent native speaker English in this study. In addition, we did not use expert native speakers, i.e. we did not use educated adults that possess a university degree or even have linguistic expertise. Instead, we rely on English native speakers who are still in the

²³ For a detailed discussion about English as an International Language (EIL) see McKay and Brown (2016) and for a perspective on teaching world Englishes and English as a Lingua Franca see Jenkins (2006).

process of (formally) acquiring their native language English. They are the same age as the other participants of the study. We briefly come back to this issue in Chapter 6.1.2, when we discuss the participants of this study in more detail. In addition, we rely on the reference grammars Biber et al. (2000), Huddleston and Pullum (2002), and Quirk et al. (1985) as a basis for the analysis and the coding of the learner corpus.

Another crucial choice that had to be made is which variety of English will be chosen as the standard of this study. In general, one could assume that the most widely accepted varieties must be Standard British English and Standard American English. Yet, which standard is the one that is aimed at in the foreign language classroom in school? There is a so-called competition between British English on the one hand and American English on the other hand. Berns made a claim in 1995, which was reprinted in an edited volume in 2006 (Bolton & Kachru 2006) and could therefore be regarded as being relevant not only in the 1990s but also in the 21st century: “[u]sually English is thought of only as a foreign language – one needed to understand and communicate with the native speakers of that language, e.g. British or American; the instructional goal is to learn British or American English” (1995: 24). Hoffmann explains that in Europe, it was conventionally the Standard British English variety that was seen as the target language and this resulted in teaching material being mostly based on British English (2000: 7). Yet, Hoffman also stresses that Standard American English, due to its omnipresence, is the one that has gained importance and that it is the variety that mostly influences other languages and other English varieties (2000: 7).

This observation accords with what Mair (2013) proposes in his recent model of varieties of English. He classifies standard Englishes into four groups: (i) hyper-central variety (American English), (ii) super-central varieties (British English, Australian English, among others), (iii) central varieties (Irish English, Jamaican English, among others), and (iv) peripheral varieties (Maltese English, Papua New Guinea English, among others) (Mair 2013: 261). There is only one hyper-central variety, namely American English, which is claimed to potentially influence all other varieties (Mair 2013: 261). He specifically stresses that lexical borrowings are predominantly “downward” (i.e. from (i) to (iv)) and that upward borrowings, though possible, are less frequent (Mair 2013: 261-262).

In general, we can assume that a lot of the course materials in schools are based on British and American English and that at the same time, the students are influenced by American English via the internet, music, films, etc. Therefore, both standard varieties will be accepted here. If we considered another learning context, such as university classrooms, the picture could be different. At a university in Berlin, Germany, it was observed that the use of

English and the need for using English has changed, due to spending a certain amount of time abroad, traveling, and the increasing use of the internet, among others (Erling 2002: 10). Students meet situations in which they have to use English quite regularly in their daily lives (Erling 2002: 10). Erling noticed that here, the standard and the use of English is not limited to British or American English but that influences from a wide range of English varieties can be found (2002: 12). Nevertheless, the current study is limited to secondary-school children and it can be assumed that their English performance is mainly affected by British and American English due to the school curriculum. In how far this is changing in the (near) future is not relevant here.

Let us now turn to an even more difficult concept and that is language proficiency. We have already discussed it in Chapter 3.2, mainly from the perspective of balanced or unbalanced proficiency of two languages. In this study, in addition to discussing the status of the two previously acquired languages, we are primarily interested in the proficiency of the foreign language that is currently acquired. Hence, we look at the performance of the students in English and how proficient they are in completing a written and oral assignment. We now combine target-like or standard use with proficiency. This should give us some indication about language acquisition. As was explained earlier, it is not easy to measure acquisition *per se*; we can only analyze the results of the acquisition process, i.e. their actual performance.

One basic proficiency measure is simply the number of words that are produced (either in written or in oral performance). Vermeer argues that the number of sentences and words increases with increasing competence of that language (2000: 78). Furthermore, lexical diversity increases; hence, we find more infrequent words and more overall lexical variety in language use with increasing competence or proficiency (see for example Milton 2009: 126). This may not be a perfect measure, yet it qualifies as an approximation. By looking at the number of words produced and by including the token frequency, we have one point of reference when comparing the students. This suffices as a first overview, without regarding grammatical correctness, style, cohesion, and the like. These are of course relevant later on, and we will come back to additional grammatical variables in Chapter 5.3, when we discuss the annotation of the learner corpus.

Moreover, the design of the current study is a cross-sectional approach (see Jarvis & Pavlenko 2008: 32). This means that two different cohorts, students at the age of 12 and students at the age of 16, performed the same tasks. The language production in these tasks is the basis for the learner corpus. This corpus is not based on production data of one and the same student at measure point A and measure point B. Instead, we rely on an entirely different learner group

to estimate progress in language acquisition. It is not a longitudinal study that investigates the actual development of the individual participants; yet, this cross-sectional design, or “pseudolongitudinal design” allows analyzing learner English at two different points in time and it is possible to refer to a quasi-process (Jarvis & Pavlenko 2008: 37). When it comes to language acquisition, age, or more precisely the time of exposure to that particular language, is a variable that is highly correlated with proficiency (see for example Milton 2009 on proficiency measured with vocabulary size and linguistic diversity). We are interested in the process of language acquisition and the differences between students with differing language backgrounds, and therefore, we need participants that are at varying points in time, i.e. with different proficiency levels. Within this cross-sectional design, we do not only have a particular group of learners, i.e. bilingual learners of English, at two developmental points in time, but we complement this by several monolingual control groups. Hence, we can assess developmental differences between different monolingual learners of English, between three distinct bilingual learners of English, between bilingual and monolingual learners, and we also have access to a native speaker control group. Nonetheless, we are aware that a cross-sectional design is only an approximation and we need to carefully interpret the results and keep in mind that “cross-sectional research tends to be intersubjective” (Jarvis & Pavlenko 2008: 32).

We finish this section by turning our attention to cross-linguistic influence again, more specifically to the identification of cross-linguistic influence. This entire study is centered on cross-linguistic influence and on the identification of the language or languages that act as the source for cross-linguistic influence in additional language acquisition. We follow Jarvis (2000) and Jarvis and Pavlenko (2008) who identified three essential types of evidence that are needed to determine cross-linguistic influence (see Table 13).

Intragroup homogeneity	Evidence that the behavior in question is not an isolated incident, but is instead a common tendency of individuals who know the same combination of languages.
Intergroup heterogeneity	Evidence that the behavior in question is not something that all language users do regardless of the combinations of L1s and L2 that they know.
Crosslinguistic performance congruity	Evidence that a language user’s behavior in one language is motivated by her use (i.e., the way she demonstrates her knowledge) of another language.

Table 13: Evidence for cross-linguistic influence (taken from Jarvis & Pavlenko 2008: 35)

With the current study design, we are able to address all three types described by Jarvis and Pavlenko (2008). First, intragroup homogeneity can be based on features that are specific to one or more language groups in the current learner corpus, yet not for all. We clearly do not say for only one language group, because each group is at least partly overlapping with one other

language group and may potentially share certain features with the other group. Hence, identifying homogeneity between two or more groups would not automatically negate cross-linguistic influence. It depends, however, on the combination. Let us consider an example: the Vietnamese-German bilinguals share features with two groups, with the German monolinguals on the one hand, and with the Vietnamese monolinguals on the other hand. Thus, we may detect features that are shared by two of the three groups. One note of caution, we clearly do not want to equate bilinguals with the sum of two monolinguals, and we acknowledge that bilinguals are individuals with an independent language competence (see Franceschini 2016: 100). Nevertheless, we are convinced that bilingual speakers share at least some language specific properties and concepts with the monolingual speakers of the respective languages. We could then find similarities between the Vietnamese-German bilinguals and the Vietnamese monolinguals or between the Vietnamese-German bilinguals and the German monolinguals. In the latter case, we would expect to find the same pattern also in the other two bilingual groups, because we would then identify German transfer.

Second, intergroup heterogeneity can be assessed, because we have in total seven different groups of learners of English presented in this corpus. This means that the features that we identified as particular for one or more language groups should not be shared by the other language groups. This way we can assure that it is not something that is typical for all learners of English. The large variety of languages involved may help us to draw multiple comparisons to exclude features that are common for all learners of English.

Third, cross-linguistic performance congruity can be demonstrated with features that have a counterpart in one (or more) of the other languages. This would be most clearly visible in a grammatical structure found in the English corpus that is not target-like in English but in one of the other languages. The reverse may also be possible, albeit less clearly identifiable: a structure that works similar in English and another language may also be transferred to English. However, the existence of such a structure does not necessarily mean that is an instance of cross-linguistic influence. It could also simply mean that the student has successfully acquired this grammatical concept. Hence, it is easier to identify negative transfer (the former) than positive transfer (the latter). To make this a bit more understandable, let us come back to the example from above. This time, we would need to find a property that is shared by the Vietnamese monolinguals and the Vietnamese-German bilinguals but not by any other group. Remember, this could be either an ungrammatical or non-target-like structure in English, or a structure that these two groups use more frequently in a target-like way, in comparison to the other groups. Hence, we would then have evidence that this feature is related to cross-linguistic

influence from Vietnamese and that it is not a general learning step that all learners of English undergo. If, however, the feature is shared by all learners with access to German, we would then argue for transfer coming from German.

Figure 9 represents what has just been explained: it maps out the relations between the individual groups of learners of English. It connects the bilingual participants with two monolingual learner groups and the German monolinguals are in the center, connected to the three bilingual groups.

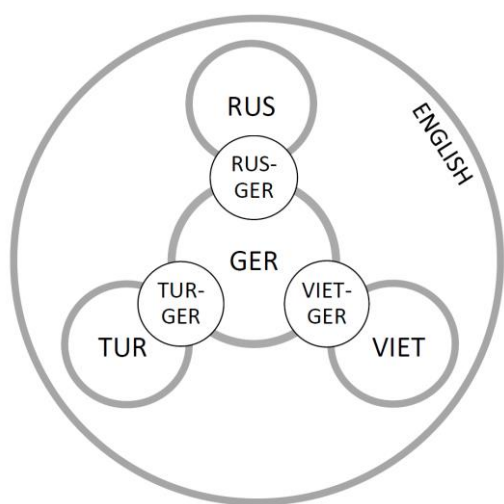


Figure 9: Interconnectedness of language groups

Furthermore, we once again come back to the claim that bilinguals are not the sum of two monolingual speakers and briefly discuss an important remark by Puig-Mayenco et al. (2018). When discussing the potential source(s) of transfer in L3 acquisition, the authors state that “we simply cannot take for granted that all L3 learners have acquired all domains of the L2 and thus actually have multiple sources from which transfer selection can obtain” (Puig-Mayenco et al. 2018: 20). This is a crucial point, and this is equally relevant for the current study. In their discussion, Puig-Mayenco et al. (2018) refer to second language learners that acquire this L2 as a foreign language. In our case, both languages of the bilingual heritage speakers can be seen as native languages. Nevertheless, this warning does also apply here, because we cannot be sure either that all grammatical categories of the heritage language are developed in these bilingual speakers. This means that certain properties of the heritage language may not be transferred to English, because the students do not know these grammatical concepts in Russian, Turkish, or Vietnamese. We assured that all participants have at least some knowledge of their heritage language (this was a pre-requisite for being a participant in this study) and the majority indicates

to use the heritage language at home with their parents (see more about this in Chapter 6.1.3). However, we also stressed that one property of heritage speakers is that the heritage language is less developed and less dominant than the language of the environment, in our case German. We need to keep this in mind when interpreting the results.

As a last point when discussing the identification of cross-linguistic influence on the basis of a learner corpus, we want to refer to an important claim, made by Kortmann (2005: 158-159), that was already briefly discussed in Chapter 4.8. When analyzing learner language, not every mistake or error can be explained with transfer (Kortmann 2005: 158-159). Hence, contrastive analysis, as a way of identifying cross-linguistic influence, is still a useful “diagnostic tool” which can help to explain errors and language production, but there are numerous other factors that must be taken into account as well (Kortmann 2005: 159). Nevertheless, we aim at identifying patterns across language groups that account for both positive and negative effects of cross-linguistic influence. We understand here transfer as both positive transfer (i.e. target-like production due to similarities to a previously acquired language) and negative transfer (i.e. non-target-like production due to a property found in a previously acquired language that has a different representation in the target language and is therefore misused in the target language), as was explained above. With the inclusion of additional variables, i.e. background information of the participants, we have further points of reference when analyzing the data (see more in Chapter 6.1). Yet, Jarvis and Pavlenko (2008: 13) rightly stress “that CLI is a highly complex cognitive phenomenon that is often affected by language user’s perceptions, conceptualizations, mental associations, and individual choices”. What this assumes is that learners are not homogenous (even if they belong to one group and even if they have similar background variables) and that cross-linguistic influence is not the same for every learner in every situation.

After having discussed a number of relevant concepts that will be taken up in the remainder of this study, we now turn our attention to the E-LiPS project. In this next section, we introduce the setting of the study and we discuss already published studies that are based on subsamples of the current data set.

5.1.4 E-LiPS project

General comments about the E-LiPS Project

The current study uses data from E-LiPS, a subproject of the Linguistic Diversity Management in Urban Areas (LiMA) Panel Study (LiPS) that was conducted at the University of Hamburg from 2009 until 2013 (Linguistic Diversity Management in Urban Areas, 2009-2013, directed by Peter Siemund and Ingrid Gogolin). The goal of LiPS was to document the linguistic development of multilingual children with a Russian-German, Turkish-German, and Vietnamese-German background. The study focused on the proficiency in the heritage languages and the proficiency in German, the language of the environment and language of instruction in school. E-LiPS was the extension of the study and focused additionally on foreign language acquisition. The hypothesis that led to this investigation was the assumption that the acquisition of a(n) (additional) foreign language is different for monolingual speakers than it is for bilingual speakers. As was outlined in Chapter 2 and in Chapter 3, bilingual speakers can, on the one hand, theoretically resort to more than one language as a source for transfer as opposed to monolingual speakers. On the other hand, bilingual speakers are said to possess more metalinguistic knowledge or to have a greater metalinguistic awareness than monolingual speakers, which should have a positive influence on the acquisition of languages in general. Different case studies were conducted with the E-LiPS data, to verify these assumptions (Siemund 2019a). The current project also uses the E-LiPS data, yet not only parts of it but the entire data set plus an extension, and it focuses on tense and aspect. The overall aim is, again, to find substantial support for or counterevidence against the aforementioned assumptions.

The E-LiPS project consisted of several different tasks. Each participating student wrote an English text, a narrative, and the older participants wrote in addition to this narrative another text type, namely an instruction for building a boomerang. Apart from participating in this written task, they also took part in an oral exercise; their performance was recorded and transcribed. A learner corpus that is based on these two individual parts, the written narrative and the oral task, was built. A more detailed documentation of the methodology can be found in Chapter 5.2.

Before we turn to the analysis, certain challenges which are known to be challenges in corpus linguistics in general need to be addressed as preliminary considerations before the actual study can be conducted. Gast discusses the issue of classifying semantic categories and

acknowledges that often, these coding decisions are based on the subjective interpretation of the researcher which ultimately leads to the negative consequence that “objectivity is compromised” (Gast 2006: 116). Yet, very often, it seems inevitable to make certain decisions in order to answer the research questions and in order to generate a productive outcome (Gast 2006: 116). Then again, one advantage that this study has, in comparison with other corpus analyses, is the fact that the analysis does not consist of the inspection of random texts with an unknown context, but that the students were presented with two carefully chosen picture sequences to which they should write or tell a story. Based on the pictures, it may be at least partially easier to make semantic classifications. Nevertheless, there remain controversial cases that will be discussed in more detail in the following chapters and that must be kept in mind when drawing conclusions.

A further limitation is that information about proficiency in English can only be drawn from two tasks – no additional C-test or similar test to evaluate the language level was conducted. Many comparable studies use testing instruments to evaluate the level of proficiency of their participants according to the Common European Framework of Reference for Languages (CEF or CEFR) (see for example Brehmer & Mehlhorn 2015; Gogolin et al. 2017). Yet, the goal of this study is not to compare the proficiency levels of the participants but to compare their usage of tense and aspect in a written and an oral task. It could be argued that it is relevant to assess the level of English to compare these texts. Yet, all participants study English in a school setting and it was possible to obtain their school grades (for English, German, and Mathematics). This will be used as a comparative figure.

Some further preliminary considerations concern four studies that analyzed a subset of the entire E-LiPS data set. Based on what Lechner and Siemund (2014a), Siemund and Lechner (2015), Lechner (2016), and Siemund et al. (2018) present, we extended the data set and conducted a more detailed study that looked at the use of tense and aspect. Before we present the details of the current study, we briefly outline what the aforementioned studies reported.

Siemund and Lechner (2014a)

The most relevant of the studies is without doubt Lechner and Siemund (2014a). Their qualitative study investigates the use of tense and aspect marking as well as subject-verb-agreement in a subsample consisting of five 16-year-old students of four different language groups (German monolinguals; Turkish-German, Russian-German, and Vietnamese-German bilinguals). In addition to language background, they include language external factors such as

gender, school type,²⁴ and the educational and socio-economic background of the family to investigate in how far these also play a role in the success of acquiring a foreign language or if bilingualism versus monolingualism is a stronger indicator for target-like versus non-target-like use of a foreign language (Lechner & Siemund 2014a: 334). School performance assessment studies, such as PISA in Germany, report a strong correlation between not speaking German at home, but conversing in the heritage language of the family instead, and low performance in school (Lechner & Siemund 2014a: 320). These assumptions are the foundation of their investigation.

First, they coded the data for target-like and non-target-like subject-verb-agreement. In all four groups they found the omission of the third person singular {-s} to be the most typical error (Lechner & Siemund 2014a: 327). They could not detect a statistically significant difference between the groups; this seems to be a problem area among all these learners of English (Lechner & Siemund 2014a: 327). Their expectation that the Vietnamese-German bilinguals perform worst was not met; even though Vietnamese is an isolation language and does not show subject-verb-agreement, no negative transfer in English was visible in the bilingual group (Lechner & Siemund 2014a: 327-328).

In general, they report coding difficulties, because some of the participants used the present tense and others the past tense in their writings. Since in English, subject-verb-agreement is only visible in the third person singular in present tense and in auxiliary verbs and the copula verb *be*, the interpretation of the data is slightly blurred (Lechner & Siemund 2014a: 238-239). Second, they concentrated on tense morphology and coded again for target-like and non-target-like occurrences (Lechner & Siemund 2014a: 329) and they also counted incorrect tense-switches (Lechner & Siemund 2014a: 330). These turned out to be better indicators, because other than with subject-verb-agreement, both are equally relevant in present and past tenses (Lechner & Siemund 2014a: 331-332). However, no statistically significant differences could be found, only tendencies. Finally, they calculated attainment scores for each participant. This score was based on textual complexity, lexical richness, overall correctness and length of the text (Lechner & Siemund 2014a: 332-333). Here, the Turkish-German group is clearly at the lowest end of the scale (Lechner & Siemund 2014a: 334).

In the following analysis, they included gender, age of onset for German, the socio-economic index, and the type of school. Interestingly, age of onset had little to no impact; yet

²⁴ There are several distinctive types of high schools in Germany, the university-bound secondary-school track, called 'Gymnasium', and the vocational tracks 'Realschule', 'Stadtteilschule', 'Gesamtschule'. More on this distinction and its relevance can be found in Chapter 6.1.

school type and socio-economic background of the family had a crucial effect (Lechner & Siemund 2014a: 336). The results show that the heritage language of the participants was not the main source for the non-target-like occurrences in their texts. One prominent explanation for that could be related to language typology: overall, German is typologically more similar to English than any of the other languages under investigation (Lechner & Siemund 2014a: 339). All participants live in Germany and are being schooled in German; hence, they are all highly proficient in German. This could explain the similar performance of the students. Language use at home did not turn out to correlate with low performance – they could not replicate what school assessment studies like PISA demonstrated. Using the heritage language at home instead of German is not responsible for a high number of non-target-like occurrences in their English texts.

In addition, Lechner and Siemund do not regard it as likely that the comparably low performance of the Turkish-German group can be explained with their characteristics of being bilingual (2014a: 337). If it was, it should be true for the Vietnamese-German and Russian-German bilinguals as well. However, the socio-economic and educational background of the families of the Turkish-German bilinguals is comparably lower and they attend lower-ranked schools than their peers.

Summing up, they admit that typology might play a role: “although the observed differences in English language production are not primarily related to the languages children have at their disposal, the typological proximity of German and English is likely to play a role, albeit one that is statistically insignificant” (Lechner & Siemund 2014a: 339). Yet, they demonstrated that it is crucial to include language external variables in second and third language analyses, as their predictive power is particularly high (Lechner & Siemund 2014a: 340). It is necessary to stress that not a single factor can explain the differences between particular language groups but that a number of language internal and external variables are needed to be able to explain the complex and diverse picture of foreign language acquisition (Lechner & Siemund 2014a: 341). One note of caution must be stated at last: the number of participants was fairly low and, in order to replicate or even support these assumptions, larger number of students’ writings need to be analyzed.

Siemund and Lechner (2015)

The second study that proves to be of importance for the current study was conducted by Siemund and Lechner (2015). This study was already partly discussed in Chapter 3.1, yet it is

necessary to have an extended look at it at this point. Initially, they present results from the DESI study (2008) which shows that children that grow up in Germany and that have a migration background have an advantage over their monolingual peers when acquiring English at school (Siemund & Lechner 2015: 148). Siemund and Lechner also report that another study, conducted by Maluch et al. (2013), also found a multilingual advantage (2015: 149). This success, however, was mainly limited to children that attended the university-bound secondary-school track ‘Gymnasium’ (Siemund & Lechner 2015: 149). On the one hand, it seems to confirm what Lechner and Siemund (2014a) have suggested, namely that the type of school is a strong predictor for successful or less successful performance in acquiring a foreign language. On the other hand, a so-called multilingual advantage could not be confirmed in Lechner and Siemund (2014a). Therefore, in their 2015 study, Siemund and Lechner analyzed a larger data set of E-LiPS participants to find transfer effects in the English production tasks. They excluded the Turkish-German bilingual group to even out the language external factors, as these had earlier turned out to considerably influence the outcome (2015: 151). This time they included two age cohorts, 12-year-old and 16-year-old students, ten participants of each language group, and they concentrated again exclusively on the written narrative.

Interestingly, they found transfer effects from the heritage language, at least in the domain of subject-verb-agreement (Siemund & Lechner 2015: 157). Though, this effect was only visible in the younger cohort, which made them conclude that the “initial advantages that bilingual immigrant children have when acquiring English are lost in the process of secondary-schooling in German” (Siemund & Lechner 2015: 159). A different situation was shown to be true in the domain of article usage. German is typologically more similar to English than Russian or Vietnamese in this particular area. The bilingual children were able, likewise as their German monolingual peers, to rely on their knowledge about the particularly similar article system in German and managed to transfer this to their English performance (Siemund & Lechner 2015: 157).

The question that now needs to be addressed is, in how far this contradicts the findings of the previous study or in how far this can also be seen as additional support. The pre-selection of the students was this time based on language external factors to have a homogenous group. In addition, the number of participants was increased (n=10) in the follow-up study and both age groups were included which allows to look at language development over time. The 2014 study admitted possible tendencies but was unable to find statistically significant evidence. In their 2015 study, Siemund and Lechner (2015) report that these tendencies could be enhanced and strengthened: bilingual students can use the knowledge of their heritage language; yet, due

to the dominant status of German, transfer happens mostly from German, especially in the older cohort. The multilingual advantage was only visible in the younger cohort. In addition, with their choice of grammatical phenomenon, they demonstrated that for each domain the results might vary: language transfer is not only influenced by language internal and external factors but happens on an individual level instead of being a holistic process.

Lechner (2016)

A third study that also analyzed the written narrative of the E-LiPS data set was done by Lechner in 2016. In order to measure the influence of the socio-economic background of the families of the participants she grouped the students according to their socio-economic scores into two groups: high versus low socio-economic scores (Lechner 2016: 117). Of each language group, five students with the highest and five students with the lowest scores were chosen. Similar to the former study (see Siemund & Lechner 2015), she used language scores for the participants that were calculated based on the written narrative. No significant differences were reported for the particular language groups or the two age-cohorts (Lechner 2016: 120).

In a second step she calculated a score for the accomplishment of the task, i.e. if the students wrote a complete and coherent narrative or not (Lechner 2016: 120-121). In the younger cohort (12-year-old students), it can be noted that the Russian-German and the Vietnamese-German bilinguals that belong to the higher socio-economic group outperformed the German monolinguals and the Turkish-German bilinguals (Lechner 2016: 122). In the groups with the lower socio-economic scores, the German monolinguals and the Vietnamese-German bilinguals performed best (Lechner 2016: 122-123). The situation in the older cohort (16-year-old students) is different: the German monolinguals outperform all other groups; in addition, the bilingual groups show overall lower scores for the accomplishment of the task in comparison with the younger cohort (Lechner 2016: 123).

Thirdly, as was done in former studies, she coded the data for subject-verb-agreement and found, and this is a new finding, that the monolingual German group performed noticeably better than all three bilingual groups, without being a statistically significant difference (Lechner 2016: 126). At first, these results seem inconsistent. The overall conclusion that Lechner (2016) offers attributes 12-year-old bilingual school children whose families have a high socio-economic score a slight advantage in the acquisition of English as a foreign language in school. This advantage diminishes over time, which ultimately results in the 16-year-old German monolinguals to outperform their bilingual peers regardless of a high or low socio-

economic score (Lechner 2016: 127-128). She admits that the number of participants was too low to generate statistically significant results and that longitudinal studies need to replicate and improve this research design to support the tendencies that she could identify.

Another variable that she only mentioned briefly in the end is the literacy of the students in their heritage languages: she explains that especially the Russian-German bilingual students received literacy training in Russian which seems to positively correlate with producing target-like grammatical structures in English (Lechner 2016: 129). Further studies need to include the level of proficiency in the heritage languages, as this seems to be another important indicator for success in acquiring a foreign language in school. Without presenting further or more fine-grained results, Lechner (2016) supports the previously mentioned studies and agrees that the acquisition process is a complex phenomenon, which should include multiple language internal and language external variables.

Siemund et al. (2018)

The last study that needs to be mentioned again and that was also already discussed earlier (see Chapter 3.1 and Chapter 3.7) is a study that was conducted by Siemund et al. (2018). We will not completely replicate what has already been said, but we want to stress that the study by Siemund et al. (2018), in accordance to the formerly mentioned studies that all looked at the E-LiPS data set, also comes to the conclusion that the acquisition process of English as a foreign language or any further foreign language for that sake, is a highly complex process. None of the currently available models that purely include language internal features manages to capture this complexity. Therefore, a more detailed study that includes both typological information of the languages relevant to the speakers and language external features is needed.

They mention one further variable that has so far, in the former three studies, not come up in that explicitness: proficiency and use of the heritage language (Siemund et al. 2018: 400, 403). It could play a crucial role how high the proficiency level in the heritage language is and how prominent it is in the lives of the participants. They explain that especially the Russian-German bilinguals belong to a more recent migration group. This might still reflect Russian language use and proficiency. A hypothesis could be that higher proficiency and more frequent use could make the heritage language more easily accessible for transfer than would otherwise be the case.

This and the formerly mentioned points will come up in the current study and will be addressed accordingly. Fortunately, we can access the entire E-LiPS data set and we were also

able to include further participants who were lacking from an earlier version of the data set. This substantially enlarges the data set and eliminates one of the former weaknesses of the project. The following sections focus on the specific nature of this study. The exact procedure of the data collection, and the transcription and manual annotation will be explained in the following two sections, in Chapter 6.1 and Chapter 5.3 respectively. This is followed by a section stating the research objectives and predictions for a possible outcome. A detailed explanation of the selections process of the final set of participants and a comprehensive description of the background variables is part of Chapter 6, which deals with the data analysis.

5.2 Data collection

As was mentioned before, the data come mainly from the E-LiPS project which is part of the English LiMA Panel Study, carried out at the University of Hamburg. It was conducted from 2009 until 2013 and directed by Peter Siemund and Ingrid Gogolin.²⁵ The following researchers were also involved in the data collection process: Simone Lechner, Sharareh Rahbari, Jessica Terese Mueller, Mark Gerken, and Anika Lloyd-Smith.²⁶ Their help is greatly appreciated. This chapter describes the data collection process of both the written and the oral production data and the process of building the English learner corpus, and it briefly comments on the questionnaires the students had to fill in, in addition to completing the written and oral task in English.

Most of the data were collected between 2009 and 2013 in Germany, Russia, Turkey, and in the UK. Then, in 2016 and 2017, additional data collections were carried out. These additional interviews were conducted in Hamburg (2016) with an English native speaker control group, and in Hanoi, Vietnam (2017), with monolingual Vietnamese learners of English. This was necessary to complete the data set.

²⁵ The financial support of Hamburg's "Behörde für Wissenschaft und Forschung" is gratefully acknowledged.

²⁶ In addition, the following student assistants were also involved in the data collection and/or transcription process of the handwritten texts and oral recordings: Perihan Akpınar, Sevilay Arabacı, Aybül Babat, Merve Bas, Julia Benz, Alexij Benz, Can Bilici, Phan-Ngoc Binh, Bartu Bosdurmoz, Philip Braun, Eugenia Budnik, Viktoria Diana Bui, Irem Bulut, Ayregül Cokiroglu, Thi Tan Dang, Halil Demir, Jana Endres, Volker English, Mark Gerken, Onur Gündüz, The Hung Huynh, Anna Kaiser, Sara Kalitina, Tülay Karakaya, Cham Anh Khoung, Lena Knutz, Shari Knutz, Thieu Lien Kong, Sengül Kotan, Viktoria Kronhard, Cem Küçük, Svenja Lubinski, Tarik Meric, Alexander Michaelis, Mehmet Moderba, Olga Neufeld, Tuyet Mai Nguyen, Thi Phuong Hon Nguyen, Efehan Nodasbas, Begüm Oktay, Akin Özbek, Tansel Öztürk, Dao Ngoc Phuong, Ton Kom Phuong, Tran T Phuong, Süreyya Polat, Martina Ruß, Volka Sacok, Malis Sahmanija, Kathrin Sarudko, Jennifer Schemtschuk, Sophia Spiewok, Inci Toksoy, Maria Tschistjakova, Beyla Urgan, Nadja Victoria, Anna Vinets, Hai-Van Vu, Hoai Nam Vu, Paula Marie Walter, Sophie Wedemeyer, Berfin Yavuz, Mihriban Yavuz, Merve Yücel.

Even though there was a considerable number of people involved in the data collection process over a long period of time, all researchers and student assistants strictly adhered to a set of defined rules to assure a uniform data collection process. The exact procedure will be explained in the three sections that follow.

5.2.1 Written Task

The main subject matter of the study is the analysis of texts written by learners of English. In the English LiMA Panel Study (E-LiPS), one of the exercises the participants had to perform was to write a narrative based on a picture story by Erich Ohser, “Gut gemeint...” (English: “Good intentions”), see Figure 10 (Ohser 2003). For the study, we used a colored version of the story. The participants had a time limit of 30 minutes to complete the task: they were asked to write at least two sentences for each of the six pictures of the story. The students were required to complete the task without additional help. Hence, they were not allowed to use any grammar book or dictionary, and they were not allowed to ask the interviewer or the teacher for vocabulary. If such a question came up, the interviewer did not provide an answer to this question but reassured the participant and motivated him or her to think again and to do the task as best as possible.

During the 30 minutes, the interviewer and the teacher made sure that each participant focused only on their sheet of paper and was not able to either talk to their neighbors or to look at their neighbors’ writings. Some children refused to write or gave up writing early. Those were kindly encouraged to continue and to think again if they may be able to write down a little more. It was always stressed that they should not be afraid of any consequences or bad school grades and that they should write as freely as possible, something that came to their minds in this moment.

The main aim of this task was to elicit natural learner language in a guided setting. This may seem at first impossible, especially when keeping in mind what was explained to be premises for learner corpus research and the definition of naturally occurring language (see Chapter 5.1.2). However, the advantage of such a directed writing task (and as we will see later, this is also true for the speaking task) is that all participants have, to a certain extent, the same activity setting (see Coughlan & Duff 1994 for a critical look at learner tasks and replicability). What is more, by selecting a specific set of pictures, the topic and the potential vocabulary can be manipulated, and the specific context of the writing task is known to the researcher, which facilitates a comparison across different learners (Bardovi-Harlig 2000: 199). Hence, the

availability of the task and the exact pictures provides useful guidance for the analysis of the written texts. Therefore, we will be able to compare the language production of the different groups with this peripheral text type.²⁷



Figure 10: "Gut gemeint..." by Erich Ohser.

In addition, picture descriptions or writing short stories are activities that secondary-school students are familiar with, because such tasks are introduced in the English classroom early on (see for instance Seidl 2006 as one example of an English workbook, school year 5). Using

²⁷ Peripheral text type refers to the premises of learner corpus research to use production data from a naturalistic language production context, see again Chapter. 5.1.2.

picture stories to elicit written (and also spoken) language has proven useful and effective for analyzing a number of linguistic features (Pallotti 2010: 171). Yet, Pallotti (2010: 171) remarks that the analysis of tense and aspect may prove difficult, because using either simple present or simple past would be acceptable and that with such data one can only analyze “the forms that are used, not those that are missing”.²⁸ Nevertheless, this method of using a picture sequence to elicit written production data seems suitable for comparing learner language.

Furthermore, we are convinced that certain vocabulary items or grammatical structures are triggered because of the story that is portrayed in the pictures. However, we are aware of the fact that even if participants are presented with one and the same task, the results need not necessarily be the same. As Coughlan and Duff (1994: 185) explain, “the basic task can be conceptualized differently by different people.” Having said this, we have to interpret the results carefully, because every task or activity is always part of a specific sociocultural setting and this context affects the task fulfillment and the outcome (Coughlan & Duff 1994: 190).

5.2.2 Oral Task

Some of the children did not only participate in the written task but were also presented a second picture sequence that they should retell orally (Figure 11). This picture story was created by Simone Lechner (2013), based on Gagarina et al. (2012) as part of the LiMA project. The oral task was conducted after the written task. This way the participants had already met the interviewer and were already familiar with him or her and they were familiar with participating in such a study. This was especially crucial for this oral task, because a writing assignment is something the students are already familiar with, because they do similar tasks in their foreign language classes, too. Yet, being recorded while saying something in a foreign language is much more intimidating and, in order to familiarize the students as much as possible, this task was presented last.

The assignment was as follows: *Please tell me what you can see happening in the pictures!* Before the actual recording, the student was given some minutes to have a closer look at the pictures and to think about what he or she could say about these pictures. When the participant was ready, the oral production was recorded. Again, like the written task, the interviewer was not allowed to answer any questions related to vocabulary or grammar. Here, however, we must acknowledge that the context and especially the presence of the interviewer

²⁸ We come back to this issue in Chapter 5.3, where we discuss the annotation of the learner corpus data.

clearly interferes with the performance of the students. Many different interviewers were involved in the data collection process and small differences, such as smiling or encouragingly nodding, be it consciously or unconsciously, potentially influences the participants (see again Coughlan & Duff 1994). This is a variable that we cannot control for in this study.

The comparison with the written texts should allow to get detailed information in how far writing and speaking differs for each student and, on a more general level, for each language group.

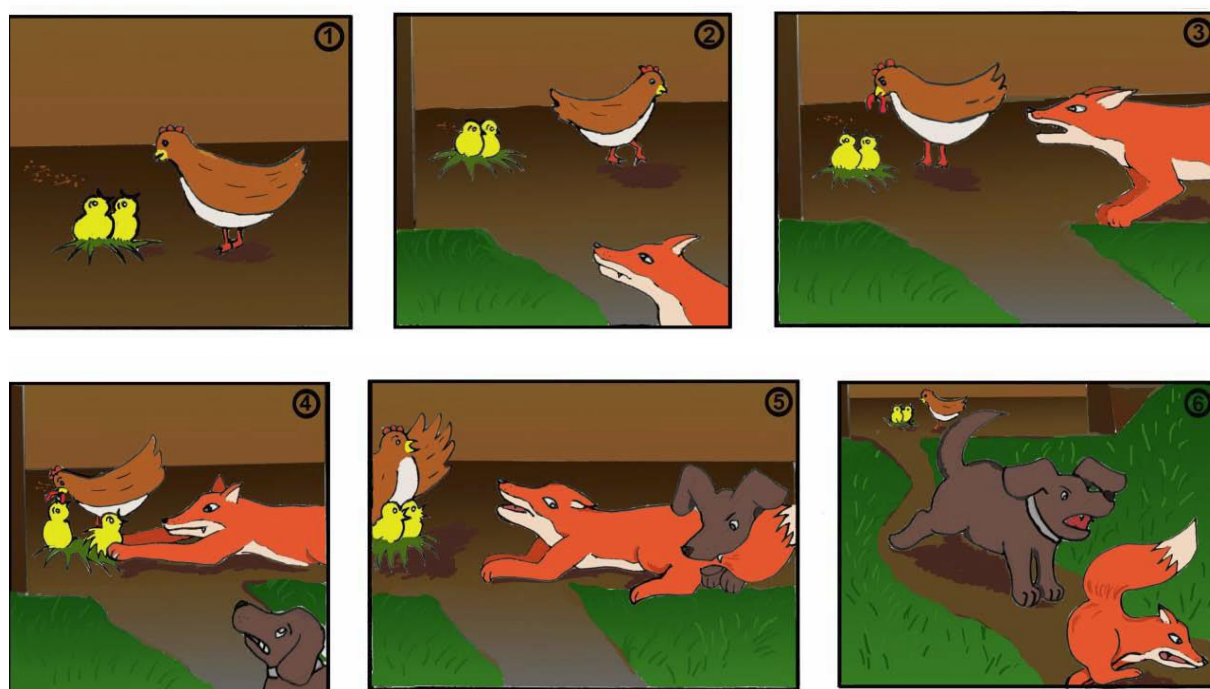


Figure 11: Fox and Chicken by Simone Lechner

5.2.3 Questionnaire

In addition to describing the two picture stories, the children had to fill in two questionnaires. One was about personal information such as age, native language(s), foreign language(s), years of studying English, profession of mother and father, etc. The other was about their attitudes towards English and situations in which English is used in their daily lives. This background and demographic information is relevant for the analysis and the comparison of the different groups.

For this task, and this is a difference to the other two tasks, the students were allowed to ask content questions and to ask for vocabulary. This was frequently done, for instance for the question about the profession of their parents, the students often ask for help. Here again, if

students refused to fill in the questionnaires, or if it seemed as if they had not filled it in completely, they were gently encouraged to have another look at it and to try their best to help with the study. The handwritten answers in the questionnaires were later copied into an Excel spreadsheet.

The following background variables and questions, taken from the questionnaires the participants had to fill in, were selected for this study. They are discussed and explained in more detail in Chapter 6.1:

- a. Age of onset of learning German
- b. School type
- c. School grades in German and English
- d. Socio-economic status of mother, father, and highest socio-economic status value (HISEI) per family
- e. Number of books per household
- f. Language use at home: language use of parents with each other; language use of participants with mother, father, and sibling(s)
- g. Which statement would you agree with?
 - English is a beautiful language. (Yes/No)
 - English is a useful language. (Yes/No)

In addition, the interviewer filled in a form for each participant containing the following information:

- a. Age
- b. Gender
- c. Language Group

Ideally, every participant would have filled in the necessary information. Unfortunately, this idealized situation was not met. As we will later see (in Chapter 6.1), there is a lot of information missing due to non-response. These nonresponses center around certain participants, and especially specific groups of learners, which can probably be traced back to the data collection. Nevertheless, we decided to keep the entire data set, even if that means that a number of background variables are missing, which can then not be used to explain and support the written and oral data. There were too many nonresponses of too many participants missing; therefore, we could not use data imputation methods to fill the blank spaces (see for example Rubin 2004).

5.3 Transcription and manual annotation

Transcription

This chapter describes the transcription process of the handwritten texts and the oral recordings of the learners of English and it explains the manual annotation process of the learner corpus. It was necessary to transcribe the handwritten texts and the oral recordings in order to create a machine-readable learner corpus that can be accessed with concordance programs such as AntConc (Anthony 2016).

For both the written and the oral transcriptions, a text editor was used that did not have the function of automatically correcting spelling mistakes. This was crucial, especially for the written texts, because one of the most important points when creating a learner corpus is to copy the learner's writings as exactly as possible and to include all (spelling) errors. In addition, in the written texts, we paid special attention to capitalization and punctuation.²⁹ The structures of the texts were kept, i.e. if a student started a new paragraph, this was copied in the text document. Furthermore, some students did not write a coherent story but rather wrote one or more sentences for each picture and started each picture with the corresponding number. These numbers were included in the learner corpus. We made sure that the texts were copied as exactly as possible; however, if a student crossed out a mistake in his or her writing, this was not marked in the corpus. Hence, a sentence such as example (1) appears as sentence (2) in the E-LiPS learner corpus.

- (1) A mann catcht a **fisch** off the water.
- (2) A mann catcht a **fish** off the water.

If a word or individual letters were illegible, the @-symbol was used; the number of @'s within a word represent the number of letters that were unreadable, and a total of four @@@@-symbols demonstrates that the entire word was not decipherable.

The procedure of the oral data description was slightly different. All grammatical and lexical mistakes were transcribed; yet, we did not pay attention to pronunciation. Hence, a non-target-like pronounced {th}, as in *this*, was still written down as *this* and not as *dis*. Short pauses up to two seconds within the recordings were marked with squared brackets, i.e. [...]. If the pause was longer than two seconds, the approximate duration was included within the squared

²⁹ This was not of importance for the current study; yet, it may be relevant for future studies.

brackets. For example, there appears [...5...] in the text for a pause that lasted approximately five seconds. In addition, we also marked incomprehensible words with @-signs to keep it consistent with the transcripts of the written data.

Some students asked short questions in between the recordings, such as *What does this mean?*, or they said *ehm* or *mh*. Those cases were marked similarly like pauses in squared brackets. This was done to later exclude these easily from the analysis, yet to leave them in the document itself, should further analyses aim at focusing on different phenomena than the current study. Comments that were made by the interviewers were not transcribed. In most recordings, the interviewer said nothing, or only *Thank you very much!* in the end, and therefore, no comments were transcribed.

Furthermore, the students occasionally repeated single words or groups of words. This co-occurred sometimes with pauses. In case of such repetitions, we marked them with squared brackets, and these words were not included in the analysis, that is, we only counted those words once. Consider examples (3) and (4). The former consists of eight tokens, the latter of six tokens; the lower number was included in the analysis.

(3) The fox **the fox** goes to the chicken.

(4) The fox [**the fox**] goes to the chicken.

The simple reason for this was that we wanted to calculate the total number of words that were used to describe the pictures. We consider more words as a sign for higher proficiency (see Chapter 5.1.3); yet, if we included all repetitions, this would distort this measure.

Each text or recording was saved in an individual file, labeled according to the student's ID in case of the written texts and with the addition “_oral” for the files of the oral recordings. In sum, a learner corpus was compiled that consists of 249 written text files, and 176 files of oral recordings. This adds up to a corpus size of 42,887 tokens, separated into a written section (28,427 tokens) and an oral section (14,460 token).

Annotation and coding

These files were then, in a second step, analyzed and manually coded. We did not automatically tag the corpus, because there is to date and to our knowledge no error free tagger available that can easily be applied to learner language. Since it is only a small corpus and since we were interested in tense and aspect, i.e. a grammatical category that cannot be easily or automatically searched for, we had to go through each text individually. However, for some frequency

measures and for the analysis of the progressive aspect, the concordance program AntConc (Anthony 2016) was used.

We wish to remark here that we are aware of the fact that we can only analyze what was used in these texts, which means that we cannot make any claims about grammatical structure, lexical items, tense forms, etc. that were not used. This is a well-known weakness in corpus linguistics and was also rightly addressed in Pallotti (2010: 171).

For the sake of consistency, each verb was coded two times. In a second step, these two rounds of coding were compared, and irregularities were adjusted accordingly. In addition, some of the written texts and all oral texts were also coded by the student assistant Philip Braun. His coding choices were also compared to the former data set and readjustments had to be incorporated several times. We are convinced that the data set has considerably improved due to these three, or in some cases only two, rounds of coding.

In the following, all variables are listed and later, they are described and, in some cases, also exemplified with examples.

- | | |
|--|--|
| a) Number of words | p) Number of missing copula verbs |
| b) Number of sentences | q) Number of auxiliary verbs |
| c) Length (minutes, seconds) | r) Number of missing auxiliary verbs |
| d) Number of verb phrase tokens | s) Number of required 3 rd person singular {-s} |
| e) Number of verb phrase types | t) Number of missing 3 rd person singular {-s} |
| f) Type-token-ratio verb phrases | u) Overuse of 3 rd person singular {-s} |
| g) Number of: infinitives, to-infinitives, gerunds, progressives, present progressives, past progressives, simple presents, simple pasts, present perfects, past perfects, will-futures, going-to-futures, passives, modals, conditionals, imperatives | v) Correct subject-verb-agreement (suppletive verbs) |
| h) Direct speech | w) Incorrect subject-verb-agreement (suppletive verbs) |
| i) Non-English verb | x) Correct form of progressive aspect |
| j) Temporal adverbials | y) Target-like meaning of progressive aspect |
| k) Connectors | z) Number of grammatically correct verb phrases |
| l) Time verbs | aa) Number of verb phrases with target-like meaning |
| m) 1 st , 2 nd , 3 rd , ... | bb) Unclear |
| n) Missing verb (phrase level or sentence level) | cc) Use of present or past tense |
| o) Number of copula verbs | dd) Consistent use of tense or unmotivated switch |

We calculate the number of words that were written or spoken, and we exclude the words that are not part of the story or that were crossed out. By the former, we refer to those words or utterances in the oral recordings that were clearly content questions and not related to the picture story or that were repeated (as explained above). We also count the sentences for the written

task. This is an important measure, because the task for the students was to write at least two sentences per picture. With this variable, we can assess task completion. Yet, it is not always easy or straightforward to decide what should count as a full sentence. After manually inspecting the individual text files, we came up with the following guidelines. Most students used punctuation; hence, periods, question marks, and exclamation marks indicate the end of a sentence. Some students did not use punctuation (consistently), but they visually structured their text by starting new lines. We consider such instances also as sentences. In addition, very often, students used interjections, such as *Snap!*, *Yippe*, *Yippe!*, *Daddy?*, *Ok son.*, or *Bye, bye fishy*. These are not counted as full sentences. Hence, the minimum criterion for a sentence is the presence of a noun phrase (subject) and a verb phrase, or of a noun phrase (subject) and another constituent such as a noun or adjective. In these last cases, we code this as instances of a missing verb (see more about this below).

For the oral recordings, we note down the length instead; yet, this measure proved to be not particularly useful, because a longer recording does not automatically mean that the student produced longer descriptions, but it could be full of pauses and breaks, for instance.

Since we are interested in the use of verb phrases and tense and aspect, we count, in addition to the overall number of words, the number of verb phrase tokens and verb phrase types. We differentiate these two measures, because many students used the same verbs repeatedly, and we want to include verb phrase variation in the analysis. Therefore, we also calculate the type-token-ratio of the verb phrases.

We also look at each verb phrase and label it accordingly (see g) above). The following example sentences represent each one of the labels.

- (5) His Grandpa suggest, that he **cut** him to death. (infinitive)
- (6) So they decided **to return** the fish to its home. (to-infinitive)
- (7) From that day on baby Ron re has stopped **eating** fish. (gerund)
- (8) A man and his son **are spending** their free time at the lake. (progressive)
- (9) The young boy **is looking** into the cup. (present progressive)
- (10) The sun **was shining**. (past progressive)
- (11) The boy **is** happy. (simple present)
- (12) They **waited** for hours on end without any results. (simple past)
- (13) Dad was happy too then he **have catch** a fish. (present perfect)
- (14) Happy about what they **had caught** Jack and Bob go home. (past perfect)
- (15) At home Harry **will kill** the fish for eat. (will-future)
- (16) The cute fish **going to die**. (going-to-future)

- (17) The fish **was put** in a bucket of water. (passive)
- (18) But the fish **can't** swim away. (modal)
- (19) But even **if he wants to kill him**, his son is very sad and tears come from his eyes. (conditional)
- (20) **"Don't kill** the fish, Dad." (imperative)

Some participants used direct speech in their writing; therefore, we code whether direct speech was used or not. Consider example (21).

- (21) The little boy jumped in the sky and shouted "Yeah, he survived" [...] "No!", the little boy shouted. "That's not fair!"

Another variable is the use of non-English verbs. Examples of such verbs are for instance *weint* ('cries'), *frisst* ('eats'), or *nim* ('take'). These three examples were taken from the monolingual German group and show the use of German verbs within the English texts. Furthermore, we code the data for temporal adverbials, connectors, and time verbs (see some examples in (22) to (24)). These interact with tense and aspect and also create coherence (see a more detailed explanation below).

- (22) suddenly, after, in that moment, soon, quickly (temporal adverbials)
- (23) then, but, so, because (connectors)
- (24) to start, to begin, to wait, to happen (time verbs)

In addition, some students wrote a coherent story; yet others described each picture individually and started each new picture with *In the first picture you can see...*, *In the second picture you can see...*, *In the third picture you can see...*, and so on (or in a slightly modified version). Hence, we also marked whether a text contains such picture labeling. This clearly influences the choice of verbs.

Moreover, we marked whether a verb or verb phrase is missing. This could be either a copula verb, an auxiliary verb, or a main verb. See the following sentences as examples. We count all missing verbs and differentiate between auxiliary, copula, and main verb.

- (25) The cute fish \emptyset going to die. (auxiliary verb missing)
- (26) They \emptyset happy. (copula verb missing)
- (27) But Bennie would'nt \emptyset it. (main verb missing)

In order to give a more fine-grained analysis, we also count the number of copula verbs and auxiliary verbs that were present.

Furthermore, we are interested in subject-verb-agreement and count required, missing, and overuse of 3rd person singular {-s}. Required 3rd person singular {-s} is the sum of all uses and all non-uses of the inflectional ending. There are also a few cases where an

{-s} appears but no inflectional ending is required. As a separate category, we consider the number of instances of correct subject-verb-agreement and incorrect subject-verb-agreement of suppletive verb phrases. Hence, we distinguish between verbs that only have the inflectional ending {-s}, and between verbs, such as *be*, that have a more complex verbal paradigm.

- (28) David take a fish and he go at home with Bennie. (3rd person singular {-s} missing)
- (29) The man and the boy looks angry. (overuse of 3rd person singular {-s})
- (30) They **are** happy. (correct subject-verb-agreement)
- (31) Both of them **was** happy. (incorrect subject-verb-agreement)

All occurring progressives in the students' writings were counted and classified according to formal correctness and target-like use of the verb (see Lorenz 2019). Formal correctness relates to spelling mistakes, for example **lauthing* versus *laughing*, and the absence or presence of the auxiliary verb, for example **the boy looking* versus *the boy is looking*. Target-like use denotes that the verb represents a verb that is commonly used in the progressive aspect, i.e. describing an action or ongoing situation, based on the standard reference grammars (Biber et al. 2000; Huddleston & Pullum 2002; Swan 2005), on the *aktionsart* of the verb (Vendler 1957), but also in comparison with the English native-speaker control group that was presented with the same task and the same picture story. Examples (32) and (33) demonstrate two grammatically incorrect sentences; yet, they differ in the type of error. Sentence (32) is formally correct, but the use of the verb *see* in this particular meaning 'being able to see someone or something' is non-target-like. The opposite scenario is represented by sentence (33). This sentence is formally incorrect, because the auxiliary verb *be* in the correct form is missing. The verb *walk*, however, expresses an activity and it is commonly used in the progressive aspect. Therefore, this sentence is coded as having target-like meaning.

- (32) They **were seeing** a much bigger fish [...]
- (33) The man and child **walking**.

Let us briefly consider sentence (32), to motivate the choice to label this as a non-target-like progressive. The form *were seeing* is a formally correct past progressive form, i.e. the spelling is accurate because of the presence of a form of the verb *be* plus the suffix *-ing*. However, the verb *see* is not commonly used in the progressive aspect in English and here, in particular, the verb should be in the simple form and not in the progressive to adhere to grammar rules. It is, of course, possible to formulate a sentence with the verb *see* in the progressive aspect, such as *She was seeing a police officer*. Yet, the meaning of this sentence contrasts with the meaning of the simple form *She saw a police officer*. As was explained in Chapter 4.2, the former

describes a situation where a female person was dating a police officer and in the latter sentence, a woman could simply perceive with her eyes that there was a police officer present. Of course, it is not easy to state with certainty what the writer of the story wanted to say; however, since the pictures are available and were the basis for the story in the first place, it is possible to guess the intended meaning of the verb. Therefore, in example (32), it is assumed that the intended meaning is ‘to perceive someone or something’. By including these two parameters, i.e. formally (in)correct, and (non-)target-like meaning of the progressive aspect, the analysis of the texts will be more precise and more conclusive (see Lorenz 2019).

A number of unclear examples that could not be clearly identified or categorized remain. Consider the following examples.

- (34) Children **is cry**.
- (35) The man **is throw** the fish in river.
- (36) The child **is sees** fish.
- (37) They **ayt** a fish in river. Fish was happy.

The unclear cases in the format *is* and a main verb (see examples (34) and (35)) or a main verb with singular {-s} inflection (see sentence (36)) appear mostly in the Turkish monolingual texts. In principle, this could be either a form of the progressive, where the *-ing* ending is missing, such as *is throwing*, or it could be a way of trying to use the simple present of a verb, such as *cries*, but incorrectly formed with a form of *be* and the infinitive form. One could argue that it could be a progressive, but there are in some cases progressives with the *-ing* suffix present, and, in many examples, there are no other simple present verbs used, only in this *be* + verb format, or as a copula verb. Therefore, we marked such examples as unclear verb forms.³⁰

The same applies to examples such as (37); the meaning of the verb (*ayt*) cannot be unambiguously identified, nor the form assigned to a specific tense. The final plosive /t/ could indicate that it is a simple past form, and the rest of the text is also mainly written in the simple past, yet, it remains unclear. It may actually mean *ate*, at least you could get that meaning if you pronounced the word, but this is not part of the story and also the following sentence does not point to it meaning ‘to eat the fish’. Therefore, we had to mark these and similar examples as unclear verb forms.

For the analysis, we will follow a meaning-oriented approach (Bardovi-Harlig 2000: 22-25) which focuses on the devices and the range of devices that the students used in their written

³⁰ An alternative explanation or classification is offered by García-Mayo et al. (2005). They regard instances of *is* before infinitives/the bare stem of lexical verbs as “*placeholders*” (García-Mayo et al. 2005: 447, italics in original), which function as agreement morphemes (García-Mayo et al. 2005: 472). Furthermore, they argue against the interpretation that *is* plus lexical verb represents a present progressive (García-Mayo et al. 2005: 472).

and oral picture descriptions. A meaning-oriented study could target (i) how the learners express temporality and aspectuality, (ii) how this temporal reference and aspectual reference changes in the course of time, and (iii) the factors that explain a development over time in contrast with the target-like use of the relevant temporal and aspectual devices (Bardovi-Harlig 2000: 23). The following study will concentrate on these three questions, yet it will extend the focus. In addition, the study is not limited to the development over time, but it also relates the performance and the development to the different languages the participants know.

When analyzing the written and oral production data, we have to be aware that tense and aspect cannot only be expressed with verbal morphology, as in adding *-ed* to an English verb in the infinitive form. Locative adverbials (i.e. *now, yesterday, afterwards, today*), connectives (i.e. *then, and, meanwhile, after*), specific reference points (i.e. *first of October, Independence Day*), nouns (i.e. *Monday, weekend*) or verbs (i.e. *begin, end*) can also be used to structure a story and to express time reference and aspectual relations (Bardovi-Harlig 2000: 36). This means, that independent of the grammatical system of a language, there is an interplay between several devices to express time reference and aspect. Bardovi-Harlig states that “[t]he verbal categories of tense, aspect, and lexical aspect interact with each other and with adverbials, the type of text, and the order of mention” (2000: 36). Moreover, we do not only find interaction between morphological devices and lexical devices, but studies with adult learners of a second language have shown that the learners are able to convey temporal relations even when the tense and aspect morphology has not yet been acquired (Bardovi-Harlig 2000: Chapter 2). It means that the texts must be analyzed and coded not only for grammatical tenses but also for additional devices that are used to express temporal and aspectual information, such as locative adverbials or connectives.

A further point that plays a crucial role in studies that investigate the acquisition of tense and aspect is the differentiation between form and function (Bardovi-Harlig 1992, 2000). We already briefly saw this when discussing the coding of the progressive aspect. Bardovi-Harlig (2000: 120) claims that with such a two-tier coding system it is possible to recognize the attempts of producing target-like language, which should allow to detect differences in the level of proficiency between the individual groups. Bardovi-Harlig reports results from cross-sectional studies and describes the usefulness of such an approach because it allows to detect a development and it does not simply portrait the end-state result (2000: 120). The advantage of this two-tier coding scheme can be demonstrated with example (38) and sentence (39) (this is sentence (32) from above, here repeated for reasons of readability), taken from the data set of this study.

(38) [...] they **caugchet** the fish [...]

(39) They **were seeing** a much bigger fish [...]

Sentence (38) is formally inaccurate, yet the use of the simple past is appropriate in this position of the story and represents target-like use. On the contrary, as was explained above, the use of the progressive aspect for the verb *see* is ungrammatical here.

Analogously to these two sentences, we analyze the overall use of verb phrases throughout the learner corpus (see Lorenz 2019). We evaluate whether the verb phrases are formally correct and whether they express target-like uses in English or not. As explained before on the basis of the progressive aspect, formal correctness and target-like use are two concepts that need to be evaluated separately (Bardovi-Harlig 1992). The former only takes into account the correct forming of tenses and aspectual distinctions, including the presence of an auxiliary verb, the use of correct inflectional endings, and correct subject-verb-agreement, regardless of whether this particular tense was appropriate in that context or not. The latter measure ignores formal errors and targets the assumed tense by distinguishing between target-like or non-target-like meaning. We especially pay attention to consistency; unmotivated switches between tenses are coded as non-target-like uses. By unmotivated, we refer, for example, to verb phrases that are in a different tense than the previous and following verb phrases. Consider the short passage in (40) as one such example. This story of one of the participants is written in simple past; however, the verb *throw* appears in simple present. Hence, this use of *throw* is coded as formally correct, but it is also categorized as a non-target-like use.³¹ We are able to use contextual information for these coding decisions, because every student described the same picture story (see Lorenz 2019). Again, we base the coding decisions on the standard reference grammars (Biber et al. 2000; Huddleston & Pullum 2002; Swan 2005).

(40) So father and son went back to the sea. Alex was very proud of his father! They **throw** the fish in the sea. And Alex was very happy.

Related to this classification is the coding of which overall tense is (mainly) used throughout each text. We differentiate three measures, ‘present’, ‘past’, and ‘mix’. If we find exclusively verb phrases in the present tense, or not more than three past tense forms, we choose the label

³¹ At this point, we may have to add a brief comment. The reverse coding is in principle also possible. We could assume that the participant intended to use a simple past form of *throw* as well, in accordance to the other verb forms in the story. Yet, the correct form *threw* may be unknown, or the student may have thought that *throw* is the simple past form. Then, the resulting coding of this verb form would be (i) incorrect form, and (ii) target-like meaning. Based on the learner corpus data, we cannot solve this dilemma. Therefore, we decided that the formal cues rank higher, because these are the only items that we can assess in the corpus. Since this is a formally correct simple present form and not an ill-formed past tense, such as the example *the caugchet* from above, we code this particular verb as formally correct and as having non-target-meaning.

‘present’. The same applies for past tense. If there is considerable variation, as in alternating between simple and past, or if there are four or more verb phrases of one tense, and the rest of the verb phrases in another tense, the text is labeled ‘mix’. With this category we want to assess how consistently the texts were composed.

After describing the coding of the learner corpus, we can now present the possible outcome in the subsequent chapter.

5.4 Research objectives and predictions

This final chapter, before we continue with the data analysis, deals with the research objectives and the projected outcome. We have one main objective which can be subdivided into a number of research targets. With the help of the learner corpus, we want to identify cross-linguistic influence in third language acquisition by unbalanced bilingual heritage speakers that grow up in Germany and study English as an additional language in school. We hereby want to determine whether cross-linguistic influence comes from the majority language German, the heritage language, or both languages. We aim at supporting or correcting the findings of previous studies (as discussed in Chapter 3.1.2 and Chapter 3.1.3). Furthermore, we would like to find an answer to the question as to whether bilingual heritage speaker have a linguistic advantage in further foreign language acquisition over their monolingual peers. In addition, we compare two different age cohorts, which allows us to adopt a developmental perspective and we may gain insights into how cross-linguistic influence is affected by increasing age and increasing competence in the language currently acquired. All these questions will be approached from the perspective of tense and aspect and will be based on an English learner corpus composed of written and oral production data. After the previous discussions, we formulate a number of predictions:

- 1) We expect, based on what we gathered from Kortmann (2005: 158-159) and Jarvis and Pavlenko (2008) (see Chapter 5.1.3), to find a considerable amount of individual variation. Hence, it is unlikely to find homogeneous learner groups whose language background defines the outcome in English. However, with the help of additional personal variables and by focusing on general properties and overall trends, we expect to discover both differences and similarities between the language groups.

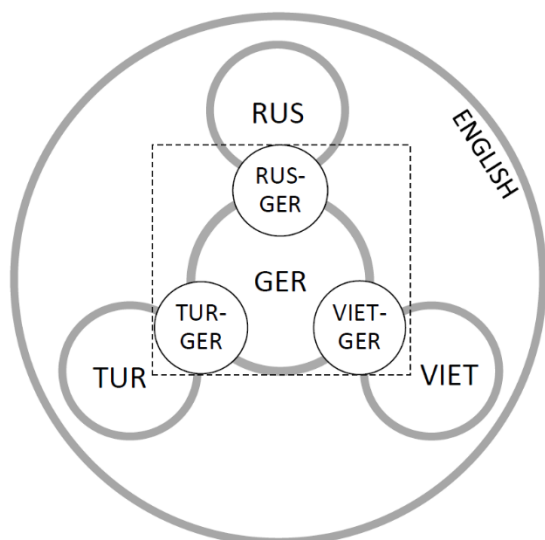


Figure 12: Cross-linguistic influence from majority language German

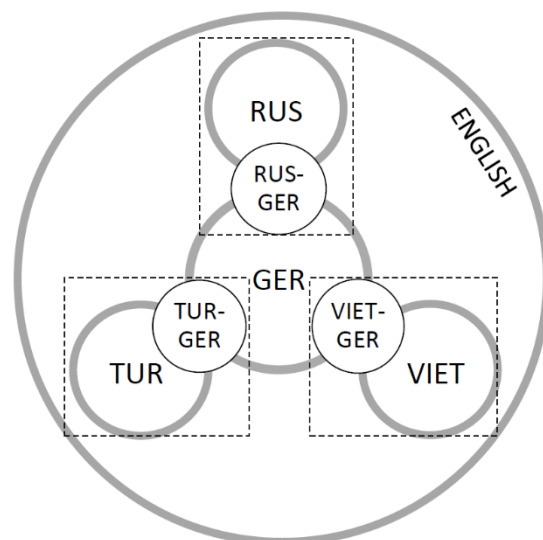


Figure 13: Cross-linguistic influence from heritage language

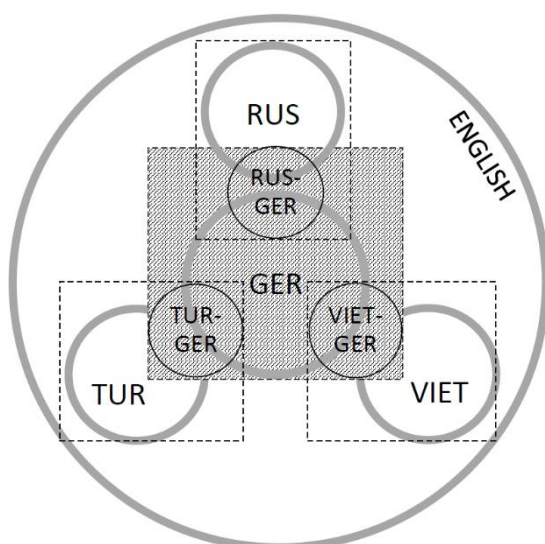


Figure 14: Cross-linguistic influence from German and the heritage language

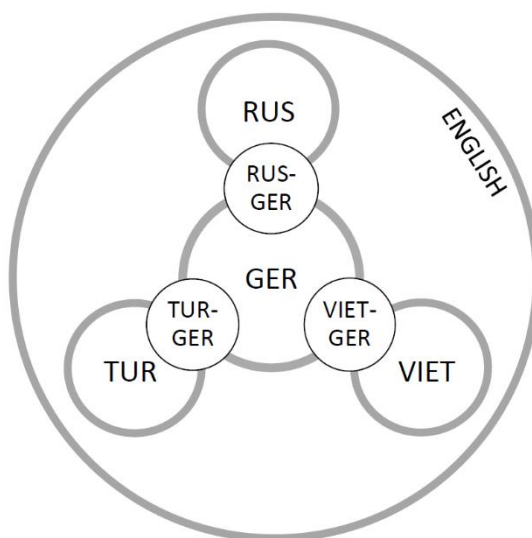


Figure 15: No cross-linguistic influence

- 2) Yet, despite this heterogeneity, we will be able to identify whether cross-linguistic influence comes from the majority language German, the heritage language, or from both languages because of the triangular, cross-sectional setting. The bilingual participants may either largely behave like the German monolinguals, or they may resemble the monolingual Russian, Turkish, or Vietnamese speakers. It is also possible that they are somehow in between the two monolingual groups. In order to visualize these possibilities, we modified Figure 9 (see Chapter 5.1.3) and indicated, in addition to the interconnectedness of the groups, shared language features in English with a dashed box. In the first scenario (Figure 12), which visualizes cross-linguistic influence

from the majority language German, we find corresponding patterns in four of the learner groups, namely the Russian-German, Turkish-German, Vietnamese-German bilinguals, as well as the German monolinguals. If transfer comes from the heritage language, here seen in the second scenario (Figure 13), then the Turkish-German bilinguals should show the same or at least similar patterns as the Turkish monolinguals. The same applies to the Russian-German and Russian participants, respectively, and also to the Vietnamese-German and Vietnamese participants. The German monolinguals, however, would differ from the others. The third possibility suggests that there are some similarities between the bilinguals and the German monolinguals and that we also find some similarities between the bilinguals and the respective other monolingual language group, as can be seen in Figure 14. As a last representation, we inserted the original graph again (Figure 15). This indicates the fourth possibility, namely that we cannot find any cross-linguistic influence, but that all learners show the same learning patterns. This last option is highly unlikely, because most research on second language acquisition agrees that the L1 influences the L2 and that the no-transfer-hypothesis is implausible; therefore, there must at least be some cross-linguistic influence visible in the L2 and the L3 learners (see again the discussion in Chapter 3.1.2). Yet, in theoretical terms, this is in principle possible; therefore, it is added here.

- 3) From these four possibilities, we mainly predict that our results will show that cross-linguistic influence comes from both previously acquired languages (Figure 14). We base this on what was discussed in Chapters 3.1.2 and 3.1.3. Furthermore, we expect to find both positive as well as negative transfer, and we anticipate that cross-linguistic influence is different for different grammatical phenomena. Hence, we expect to support the ‘Linguistic Proximity Model’ proposed by Westergaard et al. (2017). Yet, we assume that this model is not the only relevant principle at work in bilingual heritage speaker contexts, but we also regard typological similarity between German and English and the dominant status of German as significant factors. Therefore, we expect that cross-linguistic influence from German is proportionally larger than the cross-linguistic influence coming from the heritage language. This means that we predict to find more overlap between the bilinguals and the German monolinguals than between the bilinguals and the other monolingual control groups. Therefore, in Figure 14, the grey shadowing which includes the German monolinguals and the bilinguals is more prominent than the areas that include the languages Russian, Turkish, Vietnamese as well as the respective bilingual combinations. In Chapter 4, we compared the individual

tense and aspect systems of the languages present here, and we noted that there is a lot of conceptual and formal overlap between German and English, more than between English and the other three languages. In addition, German, as the language of instruction and as the majority language of the bilinguals, is the language they most frequently use, and they are most proficient in. These two factors taken together in combination with the evidence presented in studies such as Hopp (2019), Fallah and Jabbari (2018), and Siemund et al. (2018), to name but these three, strongly suggests that we largely find German transfer. Yet, we do not claim to find exclusively German transfer, but we expect additional heritage language influence to be visible in the bilingual data.

- 4) Apart from the language background, we also assume further variables to play an important role. The most important one will be the socio-economic status of the families, the type of secondary-school the students attend, and age of onset of learning German. Additional influence may also come from language use at home and from attitudes towards learning English.
- 5) Another background variable, which deserves a section on its own, is age. Many previous studies (see for example Lorenz et al. 2018; Maluch et al. 2016; Şahingöz 2014) assigned explanatory power to the age of the participants. These studies reported differences between younger L2 and L3 learners. Yet, these differences were either less pronounced or even gone when looking at older L2 and L3 learners. Since our participants come from two similar age groups, we also expect to find more differences, which can be explained with cross-linguistic influence, between the younger participants, and fewer differences between the older participants.
- 6) Furthermore, cross-linguistic influence also depends on the type of language competence that is tested. Grammaticality judgment tasks may lead to different conclusions than when considering sentence repetitions tasks (see again Chapter 3.1.3). Therefore, we also expect to find differences between the oral and the written data. For writing a story, the participants have more time to think and they may also correct and change earlier versions. Spoken production, however, is more spontaneous and also more terrifying and unusual for the participants and this may have a negative effect on the outcome in English. With terrifying and unusual we mean that secondary-school students are quite familiar with writing stories, but they are less familiar with being recorded while telling a story. This is assumed to have an influence on the data.

In the following chapter, we will finally come to the analysis of the English learner corpus. First, we introduce the participants, and second, we present four case studies that are based on the written and the spoken section of the E-LiPS learner corpus.

6. Data analysis – English learner corpus based on written and spoken stories

In the following sections, we present the results of the analysis of the written and spoken learner corpus and we also provide a comprehensive examination of the participants whose productive data is included in the learner corpus. Within the linguistic analysis, the use of English by the monolingual and bilingual learners will be combined with the non-linguistic background variables that were collected with the additional questionnaires. Earlier and less detailed findings have already been published in Lorenz (2018, 2019) as well as Lorenz and Siemund (2019). These studies are based on fewer participants and only consider some of the grammatical aspects that will be discussed in the remainder of this study.

This analysis chapter includes a section about the participants and four case studies. In part 6.1, we present the participants, including background variables such as age of onset of learning German, age, attitude towards English, and socio-economic status. After this section, we focus on four linguistic case studies. The first case study analyzes the overall use of tenses throughout the texts produced by the learners. Within this section, we will look at overall frequency measures such as number of verb phrase types and number of verb phrase tokens. In addition, we consider subject-verb-agreement and differentiate between suppletive verbs and lexical verbs. Furthermore, we investigate the presence or absence of the copula verb *be*. Lastly, we distinguish between formal correctness of verb phrases and target-like meaning. The second case study investigates the use of the progressive aspect. The third case study examines the use of past time reference, hence, the choice between simple past, present perfect, and past perfect will be investigated. Finally, the fourth case study compares the overall written performance of the learners with their oral production.

6.1 Participants

We now turn our attention to the subjects of this study, i.e. those monolingual and bilingual learners of English whose written and oral performance in English is part of the learner corpus that is going to be analyzed later in this study. First, we briefly comment on why we focus on young bilingual heritage speakers who learn the additional language English in a formal setting in school (6.1.1). Second, we explain the selection process of the participants and describe the final data set that was used for the compilation of the learner corpus (6.1.2). Third, we provide additional metadata for the corpus in form of background variables of the participants (6.1.3).

This last part includes the description of a number of variables that are used in the analysis in addition to the linguistic variables that were presented in Chapter 5.3.

6.1.1 General remarks

Throughout the study, we addressed the characteristics and types of participants that are part of the study on several occasions. This chapter, however, presents these children in a more systematic manner. First, we make some introductory remarks, and map out why the groups of language learners that were investigated are of particular interest for the study of language acquisition in general. Second, we introduce the individual groups and provide background information.

Rothman differentiates between adult language acquisition and child acquisition and the respective types of bilinguals that emerge (2011: 108). He claims that bilingual children are the only ones interesting to study for the purpose of detecting what is transferred to an additional foreign language. His argument is based on the assumption that only bilingual children have access to two distinct linguistic systems (as opposed to adult bilinguals, who, so he argues, possess only one underlying system because that of the L1 was directly transferred to the L2). Two distinct linguistic systems are relevant here, because we follow the question of which system is transferred to the L3 in this study. Differently put, we are interested which of the two language systems, the L1, the L2, or both, serve as the basis for cross-linguistic influence in additional language acquisition. Current studies about third language acquisition mostly explore the roles of the native language and the first foreign language and the influences they have when acquiring another, a third, language (see for example Bardel & Falk 2007; Dewaele 1998; Na Ranong & Leung 2009; Chapter 3.1.2).

Yet, the participants of this study do not belong to the aforementioned group: they were not raised monolingually and acquired a foreign language later in school, but they were, and this is the typical situation for German immigrant students in general, raised bilingually. They can be counted to the group of unbalanced bilinguals, because it is unlikely that the knowledge of their two languages, the heritage language and German, the language of the environment or majority language, are absolutely identical. Hence, they do not all belong to the narrow definition of bilingual speakers, since not every participant started learning two languages from birth onwards. Some were exposed to German only from age one, two, and three onwards or even later. Yet, as was explained in detail in Chapter 3.5, all of these children meet the requirements for belonging to the broader definition of bilingual speakers.

That is to say, we here focus on bilinguals with knowledge of a heritage language, either Russian, Turkish, or Vietnamese, and knowledge of German, the majority language of the participants. In addition, we focus on children and not on adults. The point of interest for the analysis later is how these bilingual students acquire an additional foreign language, as opposed to children that were raised monolingual (in Germany, Russia, Turkey, and Vietnam).

6.1.2 Selection of participants

We now turn to the selection of the participants. Most of the data that are analyzed in the remainder of this study are, as mentioned before, from a project that was based at the University of Hamburg, called E-LiPS. These original E-LiPS participants were a subset of the LiPS participants. Within the E-LiPS project, the desired number of participants was not reached during the first step of the data collection process and therefore, the original subset had to be extended to reach higher numbers. Table 14 summarizes the total E-LiPS sample, which includes the original E-LiPS participants as well as the additional students.

Language group	E-LiPS (12-year-old students)	Additional (12-year-old students)	E-LiPS (16-year-old students)	Additional (16-year-old students)	Total
Russian-German	17	4	22	1	44
Turkish-German	12	8	8	13	41
Vietnamese-German	21	5	19	3	48
German monolingual	16	4	17	3	40
Total	66	21	66	20	173

Table 14: Data set E-LiPS cohorts (adapted from Siemund 2019a)

Moreover, data of monolingual Russian, Turkish, and also English students were collected analogously to the E-LiPS data set to have another point of reference. These additional control groups make up a total of six monolingual English students, 20 Russian monolingual, and 20 Turkish monolingual students.

To conduct the current study, further participants were needed. First, the written data set was increased by more native English children, because the number of native English participants of the E-LiPS data set was quite low compared to the other groups and the quality of their performance in the written tasks was strikingly different. This can be explained as follows: the native English students did not have a time limit of 30 minutes in a school class setting but wrote the texts during two class sessions. Therefore, these six native speakers were not included in this analysis but were replaced by a new set of participants, as outlined below.

In order to have a more suitable native speaker control group (more speakers and the same testing conditions as for the other participants), we replicated the original study with 30 students in Hamburg in 2016. These native English speakers who are being schooled in an international school are now used as the native speaker control group. Strictly speaking, they are not monolingual speakers, since they come from international families and are mostly being raised bi- or multilingually, in addition to growing up in Germany and learning other foreign languages at school. However, they are all completing the International Baccalaureate, a schooling program for native speakers of English with English being the language of instruction. Hence, for all these students, English is at least one native language, in addition to possibly another native language and various foreign languages.

One issue that should be addressed here is the question whether we actually need a native speaker control group or whether it is unnecessary to compare native speaker English with learner English in the first place. A plausible discussion can be found in Rothman (2013). He argues that it might not be reasonable to compare the performance of a learner with that of a native speaker because it will not tell us anything about transfer itself (Rothman 2013: 225).³² Yet, we will argue here that it is nevertheless valuable to have a look at native speakers and their realization of the written task to have at least some point of reference what target-language-use could look like. This was argued in Montrul (2016: 128) as well. She regards the comparison of heritage speakers and monolinguals as a valuable resource and as a potentially informative method (Montrul 2016: 128-130). We take this as support for the validity of not only comparing the use of the heritage language, for example Russian, of bilingual Russian-German participants with the performance in Russian of Russian monolinguals, but we transfer this to the area of additional language acquisition. We then have multiple layers of comparisons: different learners of English as an additional language as one layer of comparison; as a second layer, this language use is compared to learners of English who are native speakers of that language. Summing up, the native speaker control group is meant to be a reference group which provides additional information about the foreign language learners' use of English. It will not tell us anything about transfer, since transfer is exclusively based on the background languages of the monolingual and bilingual learners of English as an additional language. Yet, we may use the native speakers of English as a baseline reference for English. Therefore, we decided to rely on

³² What Rothman (2013: 225) claims is that when determining the source of transfer (either from the L1 or the L2) in L3 acquisition, it is not particularly useful to compare initial learners of an L3 with native speakers of that language, as after very limited exposure to the target-language, it is unlikely that the L3 learner has already "acquired true L3 feature compositions.". What is suggested instead is to test the performance in all three languages, i.e. the L1, L2, and L3, and to make inferences about CLI from these comparisons.

novice native speakers, i.e. native speakers who are also still learners of their native language in a formal school setting and who are of the same age as the rest of the participants. Another potential native speaker control group could have been composed of expert native speakers, i.e. native speakers of English at University level or after formal school education. The native speaker control group we chose, however, seems more appropriate for the type of comparison we are aiming at in this study, because we are more interested in how school-aged native speakers of English deal with the written task than adults (see again Chapter 5.1.2).

Second, the original and extended data set of E-LiPS lacked another group, and this was the group of Vietnamese monolingual children. To complete the data set, written responses of Vietnamese monolingual children living in Hanoi as well as speech recordings were collected analogously to the original study.

Table 15 summarizes the now completed data set that is the basis for the following analysis. In total, there are 249 participants, divided into eight language groups and two age cohorts. The group of the younger participants, cohort A, includes 12-year-old students, and cohort B contains the older students who are 16 years old. The number of students is not equal, as can be seen in Table 15. The reason for this is that the monolingual control groups (except the German monolinguals) were only meant to consist of 20 as opposed to 40 participants. Furthermore, we have only 38 Russian-German bilingual students, because six written responses could not be used for the analysis. Also, we have more production data from the older Russian-German cohort (n=23) than from the younger cohort (n=15). In addition, we have slightly more Turkish-German (n=41) and Vietnamese-German (n=48) participants, and since these data sets exist, we decided to use the entire material.

Language group	12-year-old students	16-year-old students	Total
Russian-German	15	23	38
Turkish-German	20	21	41
Vietnamese-German	26	22	48
Russian monolingual	10	10	20
Turkish monolingual	7	5	12
Vietnamese monolingual ³³	10	10	20
German monolingual	20	20	40
English native	15	15	30
Total	123	126	249

Table 15: Complete data set

³³ In total, there are 157 Vietnamese monolingual participants. However, for the current study, we only selected a subsample of 20 students. We decided to only use a subsample, because the other monolingual language groups also consist of 20 participants (aside from the Turkish monolinguals). Therefore, we randomly selected 10 participants per age-cohort. Furthermore, the Vietnamese monolingual participants are not all 12 or 16 years old; many of them are 11 years old and some of them are only 15 years old because the study was conducted in the beginning of the new school year.

Lastly, the group of Turkish monolingual participants is particularly small. We had to exclude eight participant IDs, because these eight participants barely produced any words or sentences for the written task. Therefore, these texts were not included in the learner corpus to keep a balanced data set. As was further explained in Chapter 5.2, the children had to write short texts based on a picture sequence. A few students did not produce useable output in English. To exemplify the quality of the files that were rated as unusable, consider examples (1) to (3), which represent three of the eight Turkish-German files that were not included in the corpus.

- (1) one
fish fadir
cildirrn fadir
fadir cildirrn fish
fadir cildirrn.
- (2) ONE: you father and children. good intentios for every picture.
TWO: father and children house. Animal good intertions.
THERE: children, father, animal. Children every
FOUR: father, children, animal. Children every crazy.
FAY: father, children. father.
six: father children ballk. father. children wotch.
- (3) You fish
Father, breadr
You fish home
I don't home table fish.
sii,
Fish
You fish
Tell small fish eat

What we can see here is all that these three participants wrote as part of the exercise of transcribing the picture story. No other written text was produced that could have been included in the corpus. There could be various reasons for this. We identified the following, non-exhaustive list of potential explanations:

- a. the students did not feel motivated to complete the exercise
- b. they did not know the answers in English
- c. they did not understand the exercise

- d. they are not used to such tasks in their English classes and failed to apply their knowledge to an unknown situation, or
- e. the interviewer did not manage to encourage the participants to complete the task

All other remaining written responses make up the English learner corpus that is the main source for the analysis of the current study.

In addition, a second task was to orally describe another picture sequence. The transcripts of these oral recordings make up the second part of the learner corpus. Both text types will be compared and discussed in the analysis section (Chapter 6.4). Not every child participated in both tasks; hence, the numbers of texts per corpus section slightly differ. Plus, the English native speaker control group did not participate in the oral task. A complete count of available texts versus recordings can be found in Table 16.

Language group	No. of texts	No. of recordings
Russian-German	38	32
Turkish-German	41	32
Vietnamese-German	48	41
Russian monolingual	20	20
Turkish monolingual	12	10
Vietnamese monolingual	20	20
German monolingual	40	21
English native	30	-
Total	249	176

Table 16: Number of texts and recordings per language group

6.1.3 Background information

In the remainder of this chapter, we describe some of the background variables of the students that were retrieved from the questionnaires the participants had to fill in. They are all taken up later in the analysis of the learner corpus.

Language group	12-year-old students			16-year-old students			Total
	female	male	N.A.	female	male	N.A.	
German monolingual	9	10	1	7	11	2	40
Russian-German	9	6	-	17	6	-	38
Turkish-German	9	6	5	14	6	1	41
Vietnamese-German	13	13	-	9	13	-	48
Russian monolingual	4	6	-	2	8	-	20
Turkish monolingual	2	5	-	4	1	-	12
Vietnamese monolingual	2	8	-	6	4	-	20
English native	6	9	-	9	6	-	30
Total	54	63	6	68	55	3	249

Table 17: Gender of the participants

First, let us consider the gender of the participants. We have an almost equal number of females (49%) and males (47.39%), but the distribution per age cohort and per language group is not perfectly balanced (Table 17). We have slightly more females in the older cohort and slightly more males in the younger cohort. In addition, for nine participants (3.61%) we lack the information for gender (N.A.).

Second, the groups of the bilingual children differ in the age of onset of learning German. Some were born in the foreign country (i.e. Russia, Turkey, or Vietnam) and immigrated to Germany at an older age, while the rest was born in Germany. Table 18 shows the respective numbers of the children's age of onset of learning German, separated into language and age groups. More than two thirds of the participants were three years old or younger when they moved to Germany and when they were exposed to German for the first time. A considerable number of participants (n=13) did not indicate their age when they started to learn German; hence, we use the label N.A. for these (see Table 18).

The Vietnamese-German bilinguals were overall younger when they came to Germany in comparison to the other two groups. 42 out of the 48 participants indicated the age of three or younger as the age of onset for learning German. Earlier it was mentioned that the younger a person is when they start acquiring a language, the more likely it is that the performance in that language will reach a native-like status. It is therefore likely that a younger age of onset correlates with higher proficiency in German and in addition correlates with the school type that the student attends. This potentially influences also the proficiency in English. Therefore, we have to include the type of school in our analysis.

Age of onset German	Russian-German		Turkish-German		Vietnamese-German		Total
	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
Birth	5	4	7	5	6	3	30
age 3	7	6	8	8	18	15	62
age 4	2	2	-	1	-	1	6
age 5	-	-	-	-	1	-	1
age 6	-	3	1	2	-	1	7
older than age 6	-	4	-	2	-	2	8
N.A.	1	4	4	3	1	-	13
Total	15	23	20	21	26	22	127

Table 18: Age of onset of learning German

It is assumed that the type of German school that these children attend influences their proficiency in English. Children in Germany are required to attend a minimum of 9 or 10 years³⁴

³⁴ In Germany, the responsibility for the education system, including the minimum number of years a student has to attend school, lies with the federal states. Therefore, we find some variation concerning the minimum number

at an educational institution. After primary education, they can either attend the university-bound school track, ‘Gymnasium’, whose completion qualifies to study at a university, or they attend any of the other vocational school tracks. Such other school types are, for instance, ‘Gesamtschule’, ‘Stadtteilschule’, or ‘Realschule’. The choice is based on the school grades the children received during their primary education. It seems relevant to assess this, as the social background of these students influences the linguistic output in English in a direct manner. What is meant by this is that children who attend a type of school with a higher level of education receive more formal education which should result in a higher proficiency in (all) school subjects (at least at an average level). This may not necessarily be reflected in the school grades, as the standards in the university bound school track are normally higher than in the vocational school tracks. Yet, we still include them in the analysis as an additional point of reference. The aim of the current project is to identify the influence that the language background of these children has when it comes to their performance in English. For this, however, we need to identify as many social background variables as possible that also have an impact and that need to be controlled for. Hence, the type of school is one such variable.

In this study, we will only differentiate between two categories of schools, namely ‘Gymnasium’, the university-bound school track, and ‘other’, including all other vocational school tracks, following Lechner and Siemund (2014a) and also Maluch and Kempert (2017). Lechner and Siemund argue that there is an observable gap between students attending a university-bound school as opposed to students attending any of the other schools, with little variation within the latter group (2014a: 334). They continue by stressing “that the school forms children attend are a result of social stratification and thus a result of multiple underlying variables” (Lechner & Siemund 2014a: 334-335). Hence, the type of school comprises itself a variety of factors that can hardly be separated, at least not with the information gathered from the questionnaire the participants had to fill in. Later, in the analysis part, we control for type of school as an aggregate variable.

Type of school	German monolingual		Russian-German		Turkish-German		Vietnamese-German		Total
	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
Gymnasium	6	7	10	16	9	4	22	10	84
Other	5	6	4	3	8	11	3	7	47
N.A.	9	7	1	4	3	6	1	5	36
Total	20	20	15	23	20	21	26	22	167

Table 19: School type

of years and we also find some variation regarding types of school. Yet, the ‘Gymnasium’, the university-bound track, can be found everywhere and some sort of additional secondary-school type.

Table 19 gives an overview of the bilingual and the monolingual German participants and their respective school type.³⁵ For a considerable number of children it was again not possible to obtain the relevant data. Yet, the numbers of the complete subject profiles show that the different groups are not equally distributed across the school types. The Vietnamese-German bilinguals, especially the younger cohort, and the Russian-German bilinguals, especially the older cohort, attend a ‘Gymnasium’, the university-bound secondary-school track, noticeably more frequently as opposed to the other groups of students. The Turkish-German bilinguals show the highest number of students that attend vocational track secondary-schools, which are generally considered to have a lower status. We must keep these numbers in mind when we compare the text production of these students.

School grade	German monolingual		Russian-German		Turkish-German		Vietnamese-German		Total
German	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
1	2	-	-	-	1	-	2	1	6
2	9	11	3	7	2	2	10	3	47
3	3	5	9	10	5	3	6	11	52
4	-	-	2	3	1	2	3	2	13
N.A.	5	4	1	3	11	14	5	5	48
Total	20	20	15	23	20	21	26	22	167

Table 20: School grade German

School grade	German monolingual		Russian-German		Turkish-German		Vietnamese-German		Total
English	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
1	3	3	-	1	-	-	6	3	16
2	9	5	4	7	4	-	9	7	45
3	2	6	8	7	3	4	3	6	39
4	1	2	2	6	1	3	3	1	19
N.A.	5	4	1	2	12	14	5	5	48
Total	20	20	15	23	20	21	26	22	167

Table 21: School grades English

Another set of variables that stands in direct relation with both school type and the written performance in English are the school grades³⁶ obtained by the students. For this study, we will concentrate on the results of the school subjects English and German. Table 20 and Table 21 show the school grades for German and English, respectively, for the bilingual participants and the monolingual German participants and Table 22 includes the average school grades and the

³⁵ We have no specific information about the type of school of the monolingual Russian, Turkish, and Vietnamese participants. Furthermore, the school system in these countries differs substantially from the German school system. Therefore, we will not differentiate these groups any further.

³⁶ In Germany, the school grades range from 1 to 6, with 1 being the best possible grade and 6 the lowest grade. It is common to use further differentiations between these cardinal numbers, whether the grade leans more towards the higher or the lower grade, i.e. 2+ or 2-. Usually, a grade 1 is obtained for values ranging from 1.0 to 1.5; 1.5 until 2.5 equals grade 2; 2.5 until 3.5 is a grade 3; the same applies to all remaining school grades. However, for this study, we do not use the smaller scaling but only include the complete values 1, 2, 3, 4, 5, and 6. In fact, we only include values from 1 to 4, because none of the students received grade 5 or 6.

standard deviations.³⁷ Again, many children did not indicate their school grades, which leaves us with an incomplete picture. Nevertheless, we can calculate the mean value for those students that stated their respective school grade for English and German at the time of the testing, to get an idea of the internal group variation, and to compare the different language groups with each other. The unknown cases are not included in the mean value.

In Table 22, it becomes apparent that overall, the German monolinguals received the best scores in German, followed by the younger cohort of the Vietnamese-German bilinguals. All other groups have mean values above 2.5, which would translate into a grade three in the German school system.

Average value school grade	Age	German	sd	English	sd
German	12	2.13	0.62	2.01	0.77
	16	2.31	0.46	2.44	0.93
Russian-German	12	2.92	0.59	2.86	0.64
	16	2.80	0.68	2.89	0.89
Turkish-German	12	(2.67)	(0.82)	(2.63)	(0.70)
	16	(3.00)	(0.76)	(3.43)	(0.50)
Vietnamese-German	12	2.48	0.85	2.14	0.99
	16	2.82	0.71	2.30	0.82

Table 22: Average school grades in German and English and standard deviation (sd)

For English, we can observe some interesting variation between and within the groups. Once more, the German monolingual students have the best school grades, followed by the Vietnamese-German bilinguals. Here, the difference seems to be only minor, because both groups achieved grade two. The Russian-German bilinguals have noticeably lower English grades, and the results of the Turkish-German bilinguals are even lower, especially in the older cohort. In fact, the older cohort of the Turkish-German bilinguals is the weakest of all; they are at the lower end of still receiving grade three. However, we need to keep in mind that for the Turkish-German bilinguals, we do not have information about the school performance for more than 55% of the participants; hence, this value may not be representative at all, and therefore, we marked the mean values with parenthesis.

Furthermore, in English, we find substantial differences that are expected to influence the writing competences of the students. Yet, it remains unclear whether a school grade suffices to deduce the proficiency in that particular subject. We need to keep in mind that the competence in German and English is here entirely based on the school grades and not on any proficiency test, such as a C-test or a Cloze test.

³⁷ Again, no information about the school grades of the monolingual Russian, Turkish, or Vietnamese participants is available.

When comparing these last results with the previously introduced background variables, we notice that the results in German and English do not entirely correspond to the school type the students attend. We hypothesized higher proficiencies for students attending ‘Gymnasium’, yet, this is not reflected in their school grades. The majority of Vietnamese-German bilinguals was shown to attend a ‘Gymnasium’ as opposed to, for instance, the Turkish-German bilinguals, who were shown to attend other school types more frequently (see Table 19). The Vietnamese-German bilinguals, however, do not have the best school grades, when compared to the other groups. When we look back at what was mentioned above, we can explain this finding. Namely, attending a university-bound school type includes higher standards, which means that students are expected to know more and to demonstrate higher proficiency to receive the school grades 1 or 2, when compared to a grade 1 or 2 that students receive in vocational secondary-school tracks. Hence, the school grade alone may not be a direct, independent measure of proficiency, but seems to depend on the type of school. We come back to this again when we combine both variables.

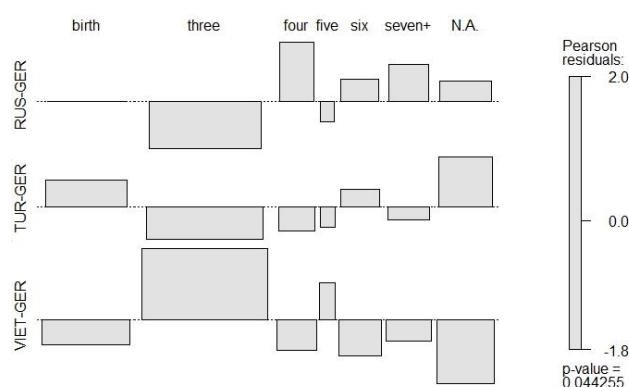


Figure 16: Association of age of onset of learning German and bilingual language group

Furthermore, it was mentioned that an early age of onset of learning German could affect the proficiency in that language; the Vietnamese-German bilinguals were presented as those immigrants who had access to German earlier than the other bilingual groups. A slight advantage for the Vietnamese-German bilinguals over their bilingual peers may be visible. Yet, this is only based on these overview tables and is not perfectly conclusive. Therefore, we performed statistical tests to get a clearer answer. We decided to visualize the associations in form of association plots (Figure 16 to Figure 20).³⁸

³⁸ All following association plots were created with the statistics program R (R Development Core Team 2016). This function allows us to look at two variables independently and to test their power of attraction. The outcome is given in a plot with bars. The size of the bars (height and width), the orientation (either above or below zero)

First, we have a look at the associations of age of onset of learning German and the respective bilingual language groups (Figure 16). As can be observed from the plot, the difference between the associations is statistically significant, yet, the attraction is not particularly high, because the residuals do not reach values below or above (-)2.0.

Furthermore, Figure 17 confirms that there is an association between higher school grades in German and the monolingual German group. Moreover, the Turkish-German bilinguals have relatively lower school grades in German compared to the other language groups. A different trend can be observed for the school grades in English (Figure 18). Clearly, the German monolingual and the Vietnamese-German bilingual participants obtained higher grades than the Russian-German and Turkish-German bilinguals. In a direct comparison of school grades in both German and English and the type of school, we notice that a grade two is more frequently associated with the university-bound secondary-school track ('Gymnasium') as opposed to the other vocational school tracks (Figure 19 and Figure 20). The reverse can be observed for the school grade three.

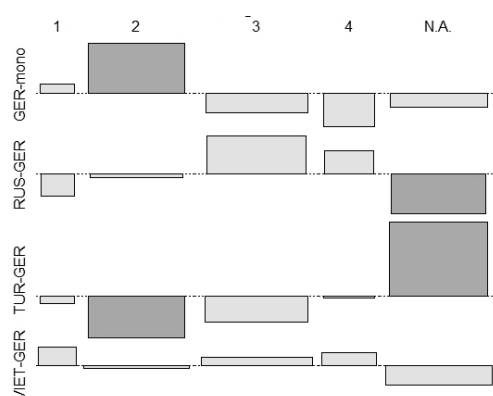


Figure 17: Association of school grade in German and language group

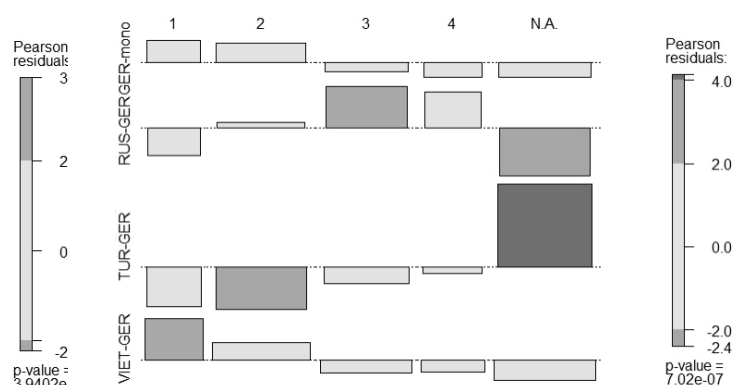


Figure 18: Association of school grade in English and language group

and the color of the bars (the darker the color, the higher the associations) show the power of attraction. The results can be interpreted like a chi-squared test: the p-value and the residuals are given. The p-value shows whether the plot is significant or not, and the residuals show how high the attraction of this variable is; above the line indicates that the variable appears more often than expected, the opposite is the case for bars that go downwards. Hence, by looking at the squares, one can see if this variable is (significantly) over- or underrepresented for each form separately. For further information see Levshina (2015) or the help function in R.

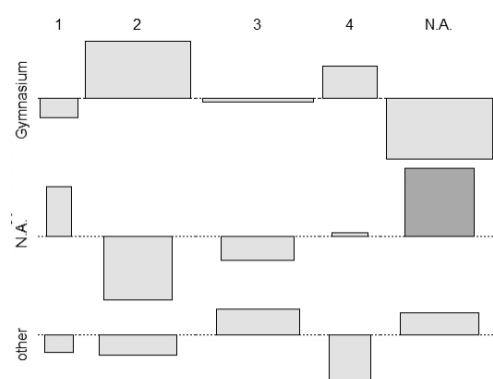


Figure 19: Association of school grade in German and school type

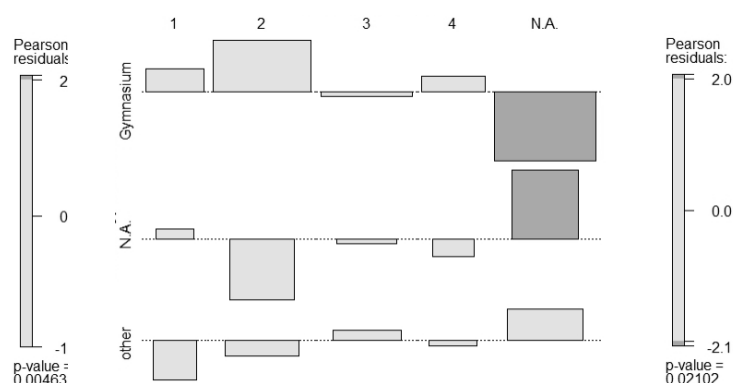


Figure 20: Association of school grade in English and school type

In these four association plots, we notice that the residuals in some cases reach values above 2.0 or even 4.0 and below -2.0; hence, these blue- and red-shadowed bars demonstrate that the observed frequencies differ considerably from the expected frequencies. Clearly, for the Turkish-German bilinguals, we find the largest attraction for ‘N.A.’, because we only have few data points from this group. Nevertheless, they have the lowest school grades in both German and English (compare Figure 17 and Figure 18). Here, we have not differentiated between age 12 and age 16; these more comprehensive association plots (Figure 99 and Figure 100) can be found in the Appendix II. The general trends remain; what is added is a slightly more differentiated picture

	Age	SES	sd	No. of students
German	12	61.92	14.99	12
	16	54.00	17.92	14
Russian-German	12	44.69	16.88	13
	16	48.94	16.93	18
Turkish-German	12	(33.67)	(11.71)	(6)
	16	(47.43)	(22.92)	(7)
Vietnamese-German	12	36.90	11.45	21
	16	42.21	12.29	19

Table 23: Mean socio-economic status (SES) and standard deviation (sd)

Another important variable, which was clearly demonstrated in Chapters 3.6 and 3.7, is the socio-economic status of the participants. The socio-economic status (SES) in this study is based on the HISEI index and ranges from low (16) to high values (90), with higher values suggesting a higher social status.³⁹ Again, we only have SES values of the monolingual German and the bilingual participants; they are reported as mean values and we provide the standard

³⁹ HISEI represents the highest ISEI (International Socio-Economic Index of Occupational Status) in the family of the participants and is based on occupation and income of the family members (see Ehmke & Siegle 2005).

deviation. In addition, not every participant indicated all relevant information to calculate the SES value; therefore, we added the number of participants who are included in the SES score in Table 23. As can be observed, the three bilingual groups show lower socio-economic status values than their German monolingual peers. But again, we need to be careful with the values of the Turkish-German bilinguals, because we only have the necessary information of an extremely limited number of participants. Therefore, the values are again presented in parenthesis. Moreover, the range between the values, or put differently the group internal variation, is relatively large, which can be observed even better in Figure 21.⁴⁰ We clearly notice in these boxplots that the German monolinguals have, on average, the highest socio-economic values, slightly higher than the Russian-German bilinguals as well as the Vietnamese-German and Turkish-German bilinguals. Yet, the boxes are overlapping which suggests that the difference is not statistically significant. A chi-squared test confirms this ($\chi^2(7)=12.52$, $p=.0847$).

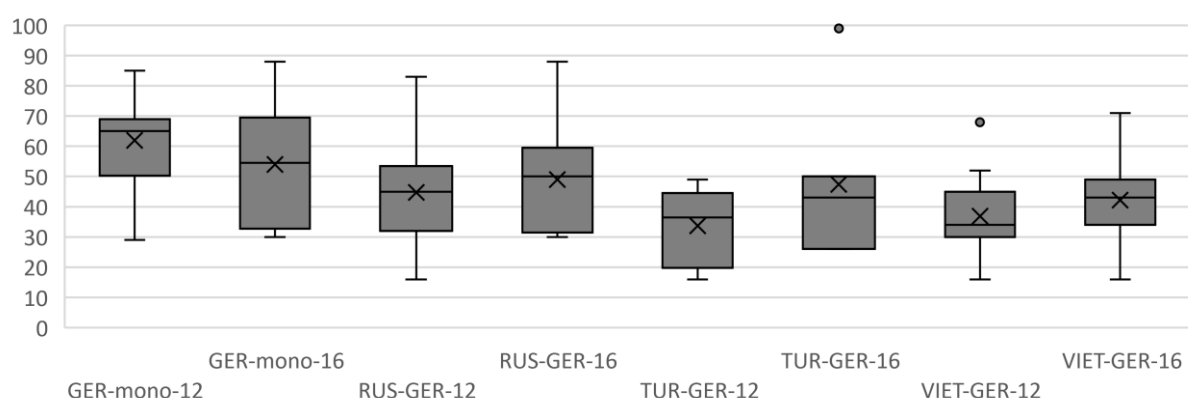


Figure 21: Boxplot: Socio-economic status (HISEI) per language group

No. of books per house- hold	German monolingual		Russian-German		Turkish-German		Vietnamese- German		TOTAL
	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
0-10	0	0	1	1	1	0	5	3	11
11-25	0	0	2	0	3	1	4	2	12
26-100	3	2	1	4	2	0	6	2	20
101-200	2	4	5	3	1	1	6	6	28
201-500	2	2	1	6	0	1	0	6	18
500+	4	6	4	5	0	0	0	0	19
N.A.	9	6	1	4	13	18	5	3	59
TOTAL	20	20	15	23	20	21	26	22	167

Table 24: No. of books per household and language group

⁴⁰ The thick line inside of the box represents the median, the x corresponds to the mean, and the dots are outliers, i.e. observations that are beyond the range covered by the box and the whiskers. 50% of the data are within the box, the corresponding upper and lower 25% of the data fall between the upper and lower end of the box and the end of the whiskers (see Levshina 2015: 58).

Therefore, we include another variable, which could be understood as being related to socio-economic status, and this is the number of books available in the household of the participants. The picture that we get here (Table 24) turns out to be similar to what we have seen for socio-economic status. The German monolinguals and the Russian-German bilinguals have, on average, a higher number of books per household, while the Vietnamese-German bilinguals indicated to possess fewer books. As before, we can barely obtain any clear result for the bilingual Turkish-German participants. This is reinforced by the association plot (Figure 22). The highest residuals appear in the squares presenting the association of the Turkish-German participants and unknown values (N.A.). Here, as we did for the former association plots, we only differentiated language groups but not age groups; the differentiation per age cohort and language group can be found in the Appendix II (Figure 101).

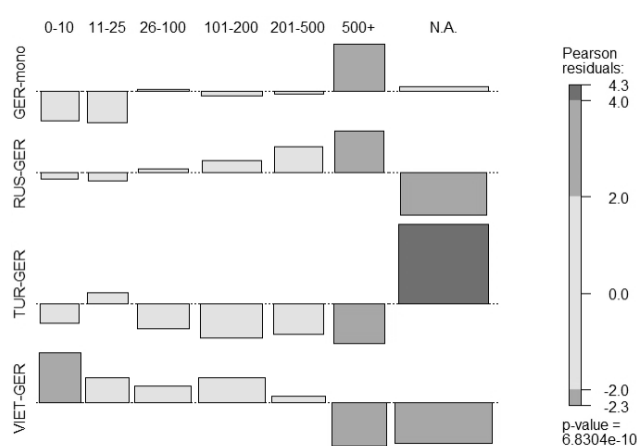


Figure 22: Association of no. of books and language group

Another potentially interesting variable is the participants' language use at home. We have previously seen, especially in Maluch et al. (2016) (see Chapter 3.7), that there may be some explanatory power with regard to use of German or use of the heritage language at home. Table 25 and Table 26 show the language of communication between the parents themselves, and between the participants and the mother, the father, and the sibling(s). As before, we find a large number of unknown cases (N.A.), which is partly due to the fact that the respective participant did not provide an answer or because this particular situation did not apply: not every participant lived with both parents and not every participant of this study has (a) sibling(s). Nevertheless, we can observe an interesting trend among all bilinguals (when ignoring the unknown cases). The parents only rarely communicate with each other in German

at home; in total, only four out of all 127 parents claimed to speak in German with their husband or wife at home (Table 25).

Language used for communication	Russian-German		Turkish-German		Vietnamese-German		Total
	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
German	1	1	-	-	-	2	4
Mostly German	-	-	-	-	-	-	0
Heritage Language	12	17	7	6	20	16	78
Mostly HL	1	1	1	1	1	1	6
N.A.	1	4	12	14	5	3	39
Total	15	23	20	21	26	22	127

Table 25: Language of parents with each other

Furthermore, we find only a small number of participants who speak German or mostly German with their parents, namely 10 and 8 out of 127 (Table 26). This shows that the majority uses the heritage language when talking to their parents at home. The opposite scenario is visible when we look at the language of communication between the participants and their sibling(s). Here, we largely find German or mostly German and only few participants indicated that they used the heritage language with their brother(s) or sister(s) (Table 26). This is an interesting observation and demonstrates that German is not exclusively used outside of the homes but that it plays a major role within the families among the younger generations, as well.

Communication partner	Language used for communication	Russian-German		Turkish-German		Vietnamese-German		Total
		Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
With mother	German	1	2	1	-	1	-	5
	Mostly German	2	2	-	-	1	-	5
	Heritage Language	4	9	4	7	12	13	49
	Mostly HL	7	5	3	-	6	6	27
	N.A.	1	5	12	14	6	3	41
	Total	15	23	20	21	26	22	127
With father	German	-	2	-	-	-	2	4
	Mostly German	1	-	-	1	1	1	4
	Heritage Language	13	12	4	3	11	9	52
	Mostly HL	-	4	4	2	8	7	25
	N.A.	1	5	12	15	6	3	42
	Total	15	23	20	21	26	22	127
With sibling(s)	German	9	6	2	2	12	11	42
	Mostly German	1	3	4	3	8	3	22
	Heritage Language	-	5	-	-	-	1	6
	Mostly HL	-	1	2	2	-	2	7
	N.A.	5	8	12	14	6	5	50
	Total	15	23	20	21	26	22	127

Table 26: Language participants with mother, father, and sibling(s)

It is also striking that this trend is visible across all three language groups. Once more, though, we need to point towards the Turkish-German bilinguals, because here, the response rate is again very low and may not give a representative account of the real distribution within this group. Therefore, when testing whether this difference between the groups was statistically

significant or not, we excluded the Turkish-German participants and only considered the Russian-German and Vietnamese-German participants. The chi-squared tests returned that the difference between the two groups is not statistically significant (language with mother: $\chi^2(12)=11.866$, $p=.4565$; language with father: $\chi^2(12)=16.662$, $p=.1628$). Hence, we claim that the language use with both mother and father is comparable between these two groups. For the language use between the participants and their sibling(s), the chi-squared test returned a significant result ($\chi^2(12)=21.496$, $p=.04358$), which could probably be explained with the fact that here, we have an even higher number of unknown cases than before. Especially for the Russian-German bilinguals, we have a high number of N.A.'s compared to the overall number of participants.

Two further variables are included in this section and these belong to 'attitude towards English'. The participants were asked whether they found English (i) difficult and whether they found English (ii) useful. For these two questions, we only have five unknown cases; most participants gave an answer to these questions (Table 27). In contrast to the former variables, we can include information about the monolingual Turkish and Vietnamese participants and the English native speakers (Table 28).

What we can observe is that the majority, across all participants, regards English as a useful language. We may conclude that studying English is important for them. This is, of course, not a perfect equation; yet, we are convinced that this could be seen as an approximation. The only exceptions are both monolingual Turkish groups. We only have a small number of participants, yet, most of them (66%) regard English as not useful. A significance test returned that the difference we observed was statistically significant ($\chi^2=35.393$, $df=13$, $p<.001$). When looking at the residuals, we notice that especially both Turkish cohorts and the younger cohort of the German monolinguals and both cohorts of the Turkish-German bilinguals answered comparably more often that English is not useful.

Attitude towards English		German		Russian-German		Turkish-German		Vietnamese-German		Total
		Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
Difficult	Yes	4	2	4	3	8	8	4	7	40
	No	16	18	11	19	11	12	21	14	122
	N.A.	-	-	-	1	1	1	1	1	5
	Total	20	20	15	23	20	21	26	22	167
Useful	Yes	17	20	14	23	16	17	25	22	154
	No	3	-	1	-	4	4	1	-	13
	N.A.	-	-	-	-	-	-	-	-	0
	Total	20	20	15	23	20	21	26	22	167

Table 27: Attitudes towards English I

As far as the other variable is concerned, a higher number of the participants shares the view that English is difficult; but 75.98% think that English is not difficult to learn. We see a fairly similar trend across all language groups, with the Turkish-German bilinguals and the younger Vietnamese monolinguals answering slightly more often that English is difficult than the others. This difference, however, did not turn out to be statistically significant ($\chi^2=28.422$, $df=26$, $p=.338$).

Attitude towards English		Turkish monolingual		Vietnamese monolingual		English native speakers		Total
		Age 12	Age 16	Age 12	Age 16	Age 12	Age 16	
Difficult	Yes	-	1	5	1	1	2	10
	No	7	4	5	9	14	13	52
	N.A.	-	-	-	-	-	-	-
	Total	7	5	10	10	15	15	62
Useful	Yes	2	2	10	9	14	13	50
	No	5	3	-	1	1	2	12
	N.A.	-	-	-	-	-	-	-
	Total	7	5	10	10	15	15	62

Table 28: Attitudes towards English II

We have now given an overview of the participants whose oral and written production of English is part of the learner corpus that will be analyzed in the following sections. These individual background variables are included in the analysis to evaluate the texts these students wrote and to account for personal differences other than membership of a language group. This is necessary because we have seen that language background, i.e. the fact of being bilingual or monolingual, and typological similarity or distance, may only account for some variation when acquiring an additional foreign language. Further variables such as social background, language use, or motivation may exert an equally large influence on the production of a second or third language and on cross-linguistic influence. In addition to this accumulated overview, there are 12 tables that can be found in Appendix I, which include the respective background variables for each participant individually (see Table 65 to Table 76).

6.2 Case study I – overall uses of tenses

The first case study is subdivided into four parts. Chapter 6.1.1 investigates the overall frequency measures, i.e. length of the texts, number of verb phrase types and verb phrase tokens, as well as general tense use, and compares the individual language groups with each other while also considering group internal differences. Chapter 6.1.2 deals with subject-verb-agreement. Here, we compare the use of the third person singular {-s} of lexical verbs, i.e. affixal subject-verb-agreement, with suppletive subject-verb-agreement of the verb *be*, which shows a more

complex verbal paradigm. In Chapter 6.1.3, the use of the copula verb *be* is presented. Especially noteworthy is the overall frequency of *be* and the absence rate of the copula verb. Chapter 6.1.4 distinguishes between formal correctness of verb phrases and target-like meaning of verb phrases. We investigate, for instance, if these two concepts are correlated and if the eight language groups differ in the ratio of formal correctness and target-like meaning.

Each subsequent section presents the summarized results per language group. The individual coding per text can be found in Appendix I (Table 82, page 405).

6.2.1 Frequency measures: length, number of VP types/tokens and tenses

Frequency measures

For a general overview of the entire data set, the first step is to calculate for each individual text of the learner corpus the number of words, sentences, as well as verb phrases (VP). We also differentiate between VP tokens and types, to account for variability of different verbs. In a second step, the VP type-token-ratios (TTR) are calculated for each student. This measure turned out to be quite controversial; many linguists argue that the type-token-ratio is not a reliable measure for lexical richness or the quality of a text (Jarvis 2002; Larsen-Freeman 2006; Vermeer 2000). One reason is that with differing text length, the TTR cannot simply be compared. This is a problem for the current study, because all the texts vary distinctively in length. Therefore, the verb phrase TTR was not included in the general analysis, but the mean type-token-ratios for each language group can be found in Table 29.

Language Group		No. of sentences	Ø No. of sent.	No. of words	VP tokens	VP types	VP type-token-ratio	Unclear VPs	VP tokens (normalized)	VP types (normalized)
ENG	Age 12	233	15.53	2321	435	267	0.61	0	279.82	174.01
	Age 16	210	14.00	2609	439	314	0.72	0	251.05	182.57
GER	Age 12	227	11.35	1825	280	166	0.59	0	314.05	189.50
	Age 16	241	12.05	2739	433	277	0.64	0	321.82	206.12
RUS	Age 12	124	12.40	789	153	102	0.67	1	193.08	131.69
	Age 16	121	12.10	1031	180	125	0.69	2	174.64	124.35
RUS-GER	Age 12	157	10.47	1611	272	168	0.62	5	261.29	162.29
	Age 16	265	11.52	3214	533	363	0.68	2	383.12	260.25
TUR	Age 12	77	11.00	440	73	41	0.56	10	115.25	63.07
	Age 16	59	11.80	292	51	26	0.51	9	83.12	42.29
TUR-GER	Age 12	195	9.75	1615	257	168	0.65	6	322.09	217.33
	Age 16	186	8.86	1863	306	205	0.67	4	363.44	251.65
VIET	Age 12	82	8.20	840	156	102	0.65	9	180.81	123.75
	Age 16	152	15.20	1821	283	201	0.71	1	161.96	113.31
VIET-GER	Age 12	297	11.42	2480	432	264	0.61	4	455.67	286.48
	Age 16	245	11.14	2937	463	307	0.66	1	350.12	229.96
Total		2871	11.53	28427	4746	3096	0.65	54	4211.33	2758.61

Table 29: Frequency overview (absolute values) of no. of sentences, words, VP tokens and types, VP type-token-ratio, unclear VPs per text; normalized VP tokens and types (base: 100 words)

Length alone, however, can be seen as a first point of reference. As discussed in Chapter 5.1.3, the number of words increases with increasing proficiency (Vermeer 2000: 78). Therefore, the number of words used for describing the picture story should correlate with the overall performance: the longer the texts the better the student performance, and the shorter the texts the least advanced the students are. This measure can be used (i) to compare the groups with each other and (ii) to compare the students within each group, namely the 12-year-old with the 16-year-old students. It is expected that the native English students write the longest texts compared to the other groups and that, in general, the older cohorts produce overall longer texts. They are assumed to be more advanced than the younger cohorts, since the former had four more years of English language instruction. We can use this length-measure to inspect the overall constituency of the learner corpus and to analyze whether it is a reliable data set.

Table 29 provides the absolute values of the number of sentences, words, verb phrase tokens, verb phrase types, and unclear verb phrases, as well as the average number of sentences per text and the verb phrase type-token-ratio. Clearly, the number of sentences and words differs across the eight language groups and also between the two age cohorts. Part of this can of course be explained with the differing number of students per cohort. We will take this into account below. Furthermore, remember that the task was to write at least two sentences per text (part of the task assignment), which should result in 12 sentences per text. The numbers in Table 29 demonstrate that the students largely met this requirement, except for both cohorts of the Turkish-German bilinguals, and the 12-year-old Vietnamese monolinguals (these three groups wrote fewer than 10 sentences per text, on average). Moreover, the normalized VP tokens and VP types are calculated to the basis of 100 word tokens, to introduce another measure of comparison (and to account for frequency differences in group composition and text length). In addition, some verb phrases, as described in Chapter 5.3, were left unclassified (i.e. no tense/aspect label was used), because the form could not unambiguously be assigned to one of the given categories. Even though the number of Turkish monolingual participants is the lowest ($n=12$), most unclear VPs were found in this group, i.e. 13.97% of VP tokens were marked as formally unclear. In general, the overall performance of the Turkish monolingual group is intriguing. Not only is the length difference striking, but also when analyzing the texts composed by the Turkish students, we recognize a distinctness compared to all other texts.⁴¹

⁴¹ Remember that some texts had to be removed from the study, because the quality was too low to be considered here. The remaining texts also seem to be different in quality. The following analyses need to assess in how far this group is representative or if the students may simply have a lower proficiency as the rest of the participants and may strictly speaking not qualify as a monolingual control group.

The Turkish monolingual participants rarely produced long sentences or complete stories, and they often used Turkish words in their English texts.

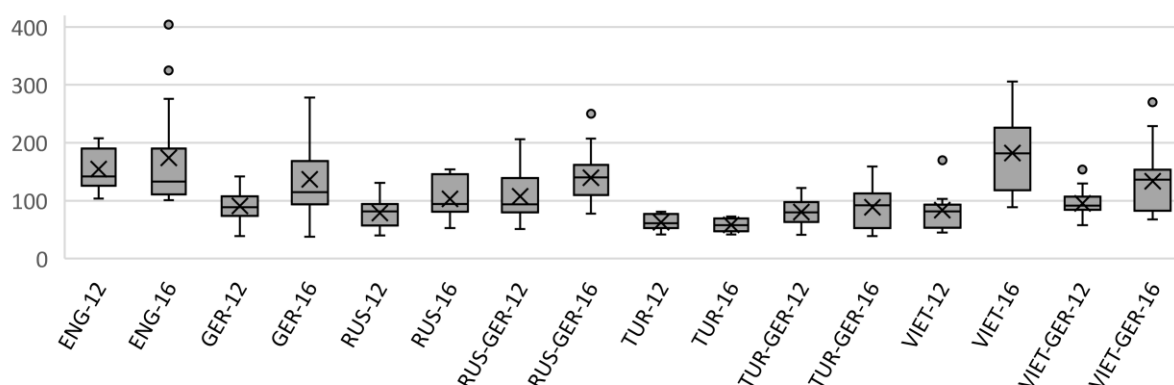


Figure 23: Number of words per text

Next, the results are visualized in form of boxplots⁴² to compare the means of each group for the different variables (Figure 23 to Figure 27). With these graphs, the internal variation can be depicted for each group and they can, in addition, demonstrate the constituency of the learner corpus in more detail than with the cumulated absolute frequencies from above. The means, standard deviations, and t-test results can be found in Table 30. Figure 23 shows the number of words per language group and age. As for the mean values of the number of words per text, we observe that except for the Turkish monolinguals, the older cohorts produced on average more words per story than the younger cohorts. This corresponds to increasing length with increasing number of years of studying and higher proficiency in English. Not surprisingly, and as we anticipated, the native speakers of English wrote the highest number of words, when both the younger and older cohorts are considered.

⁴² The explanation for reading this and the following boxplots is repeated: the thick line inside of the box represents the median, the x corresponds to the mean, and the dots are outliers, i.e. observations that are beyond the range covered by the box and the whiskers. 50% of the data are within the box, the corresponding upper and lower 25% of the data fall between the upper and lower end of the box and the end of the whiskers (see Levshina 2015: 58).

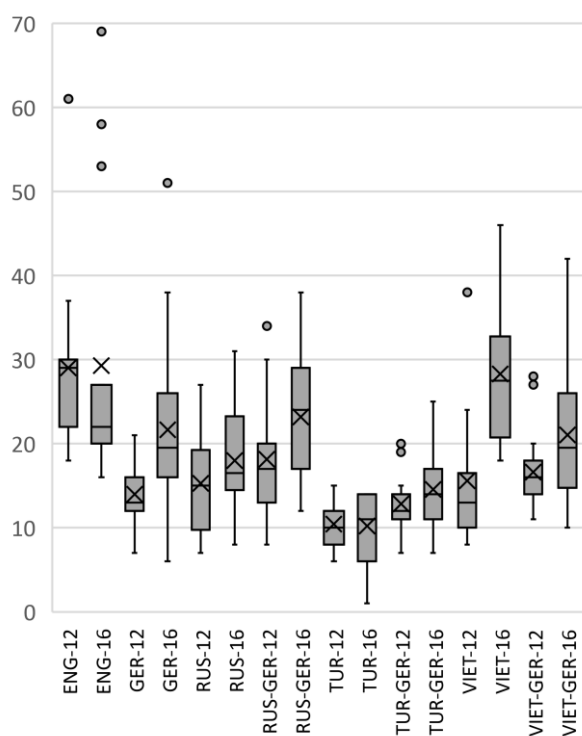


Figure 24: Verb phrase tokens per text
(absolute values)

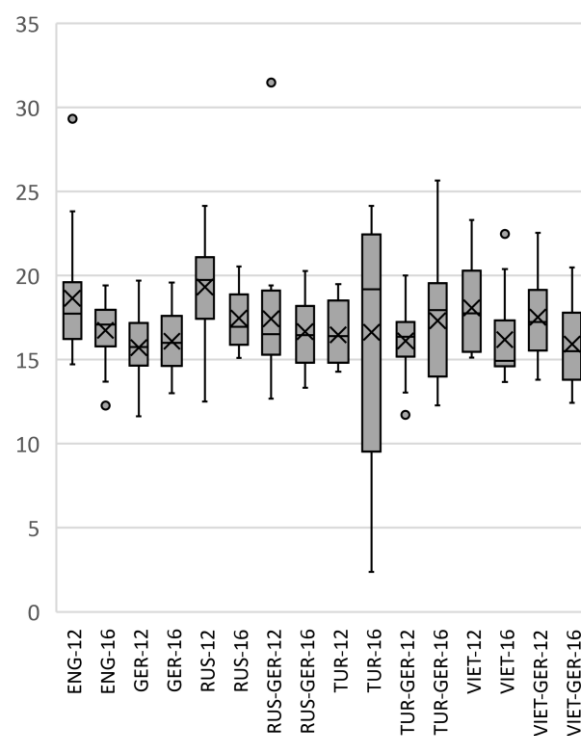


Figure 25: Verb phrase tokens per text
(normalized values)

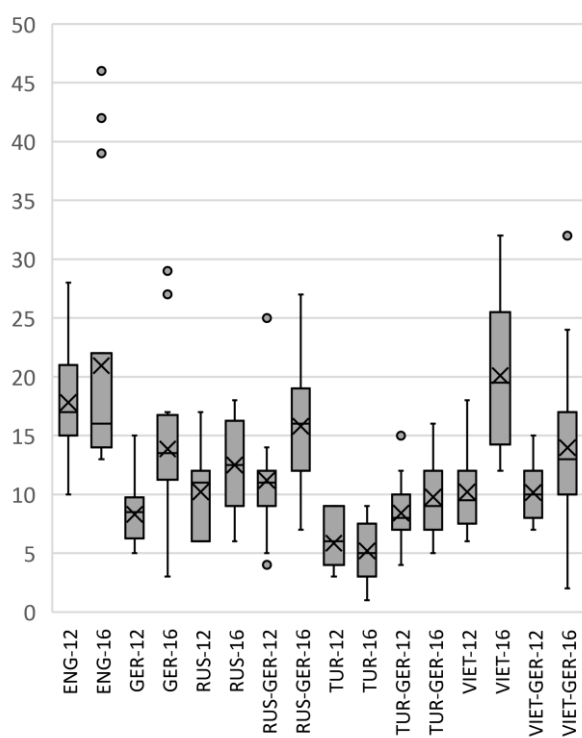


Figure 26: Verb phrase types per text (absolute
values)

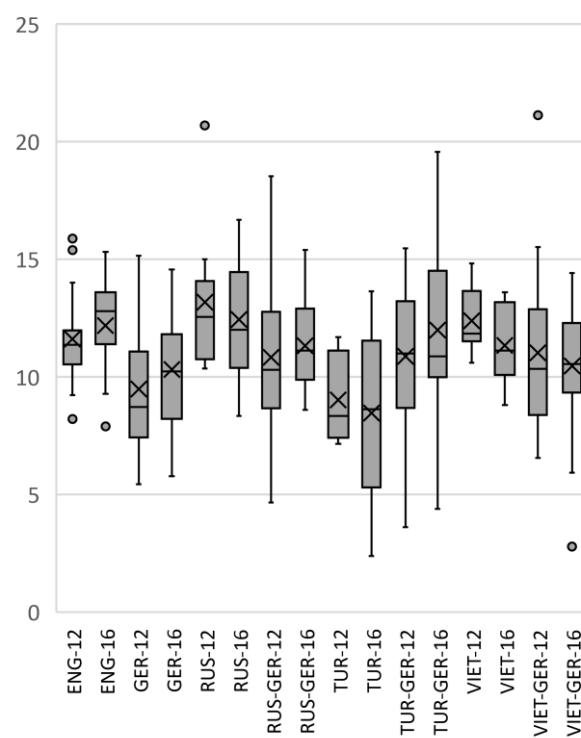


Figure 27: Verb phrase types per text
(normalized values)

This difference between the younger and older native speakers of English, however, is not statistically significant, which is visible in the t-test results (Table 30) or could be observed because both boxes overlap with their medians (Figure 23). The Turkish monolinguals, the 12-year-old monolingual speakers of Russian, the Turkish-German bilinguals, as well as the 12-year-old Vietnamese monolinguals wrote the shortest English texts on average (below 90 words). The performance of the German, Russian-German, Vietnamese-German, and the 16-year-old Russian monolingual students is somewhere in the middle: the means are between 90 and 140 words per text. All the more, the 16-year-old Vietnamese monolinguals wrote on average 182 words, which is the highest number of all groups (even higher than the average number of words of the English native speakers). This surprising finding is addressed further down.

Subsequently, eight one-tailed t-test calculations return that the differences between the younger and the older cohorts are only statistically significant for the German, Russian, and Vietnamese monolinguals, as well as the Russian-German and Vietnamese-German bilinguals, but not for the English native speakers, Turkish monolinguals, or Turkish-German bilinguals (Table 30). For the English native speakers, this was expected, because already at the age of 12, they should be fairly proficient and the compositional difference for writing a short picture description task should not be too large. The result confirms this. However, we would expect a difference for all other groups. We already stated that the Turkish monolinguals are crucially different; but apparently, the 16-year-old Turkish-German bilinguals do not differ in terms of number of words from their younger peers. In principle, an increase in the number of words is visible. For the Turkish-German bilinguals, however, this is only a tendency and cannot be statistically confirmed.

Let us now turn to VP tokens and VP types. Arguably, the six pictures of the story trigger specific vocabulary items, including verbs such as *fish*, *go*, *walk*, or *catch*. Yet, we anticipate a greater variety of different verbs with increasing proficiency of the students. Hence, we consider the number of verb types as another measure of proficiency. Similar to Vermeer's (2000) argument that the number of words grows with increasing competence, we examine if this applies to the number of verbs as well. There are numerous studies analyzing and measuring lexical diversity (see for example Crossley & McNamara 2012; Jarvis 2002; Yu 2009); greater lexical diversity and fewer overlap repetitions seems to correlate with higher proficiency. Here, we want to extend this to verb-token and verb-type frequency.

Again, one notices an increase from the younger to the older cohorts within each language group for VP tokens, except for the Turkish monolinguals (Figure 24 and Table 30).

Yet, based on one-tailed t-tests, this difference is only statistically significant for four groups, namely for the German and Vietnamese monolinguals, the Russian-German as well as Vietnamese-German monolinguals. The picture remains the same for VP types (Figure 26 and Table 30). We observe an increase, again except for the Turkish monolinguals, but it is only statistically significant for the same four groups. For the other three groups (English native speakers, Russian monolinguals, Turkish-German bilinguals), the observed frequency differences are only tendencies.

		Age 12	Age 16	t-tests	d _{Cohen}
No. of words	ENG native	154.73 (34.48)	173.93 (87.39)	t(18.254)=-0.7647, p=.2271	0.2792
	GER mono	91.25 (26.77)	136.95 (64.31)	t(25.397)=-2.8593, p<.05	0.9042
	RUS mono	78.90 (25.28)	103.10 (33.60)	t(16.718)=-1.7265, p=.05	0.7721
	RUS-GER	107.40 (41.68)	139.74 (40.95)	t(29.419)=-2.285, p<.05	0.7633
	TUR mono	62.86 (13.24)	58.40 (10.67)	t(9.6486)=0.5869, p=.7146	0.3326
	TUR-GER	80.75 (21.06)	88.71 (34.49)	t(33.371)=-0.8752, p=.1939	0.2704
	VIET mono	84.00 (33.72)	182.10 (63.62)	t(13.686)=-4.0873, p<.05	1.8279
	VIET-GER	95.38 (20.83)	133.50 (50.62)	t(26.939)=-3.2287, p<.05	0.9939
No. of VP tokens	ENG native	29.00 (10.03)	29.27 (15.92)	t(23.604)=-0.0530, p=.4791	0.0194
	GER mono	14.00 (3.42)	21.65 (9.98)	t(23.406)=-3.1618, p<.05	0.9998
	RUS mono	15.30 (5.62)	18.00 (6.15)	t(17.858)=-0.9722, p=.172	0.4348
	RUS-GER	18.13 (6.77)	23.17 (6.77)	t(29.815)=-2.1771, p<.05	0.7244
	TUR mono	10.43 (2.72)	10.20 (4.79)	t(5.7245)=0.08657, p=.533	0.3326
	TUR-GER	12.85(3.28)	14.57 (4.50)	t(36.56)=-1.3709, p=.0894	0.4250
	VIET mono	15.60 (8.51)	28.30 (7.84)	t(17.879)=-3.2932, p<.05	1.4728
	VIET-GER	16.62 (3.95)	21.05 (8.05)	t(29.359)=-2.3002, p<.05	0.7021
No. of VP types	ENG native	17.80 (4.42)	20.93 (11.00)	t(18.397)=-0.9891, p=.1677	0.3612
	GER mono	8.30 (2.41)	13.85 (6.12)	t(24.76)=-3.6791, p<.05	1.1634
	RUS mono	10.20 (3.28)	12.50 (3.67)	t(17.78)=-1.4023, p=.089	0.6271
	RUS-GER	11.20 (4.61)	15.78 (4.93)	t(31.287)=-2.8297, p<.05	0.9278
	TUR mono	5.86 (2.23)	5.20 (2.56)	t(7.7497)=0.4181, p=.6564	0.2526
	TUR-GER	8.40 (2.31)	9.76 (3.13)	t(36.784)=-1.551, p=.0647	0.4810
	VIET mono	10.20 (3.57)	20.10 (6.30)	t(14.245)=-4.1009, p<.05	1.8340
	VIET-GER	10.15 (2.26)	13.95 (6.24)	t(25.64)=-2.648, p<.05	0.8191
Normalized VP tokens	ENG native	18.65 (3.36)	16.74 (1.91)	t(21.225)=1.748, p=.0950	0.6383
	GER mono	15.57 (1.91)	16.09 (1.80)	t(37.866)=-0.6452, p=.2613	0.2040
	RUS mono	19.31 (3.03)	17.46 (1.79)	t(14.639)=1.573, p=.1371	0.7035
	RUS-GER	17.42 (4.21)	16.66 (1.89)	t(17.636)=0.6381, p=.5316	0.2453
	TUR mono	16.46 (1.80)	16.62 (7.52)	t(4.3076)=-0.0417, p=.4843	0.0289
	TUR-GER	16.10 (2.02)	17.31 (3.39)	t(32.944)=-1.3561, p=.0922	0.4187
	VIET mono	18.08 (2.78)	16.20 (2.73)	t(17.994)=1.4527, p=.1635	0.6496
	VIET-GER	17.53 (2.29)	15.91 (2.24)	t(45.02)=2.4064, p<.05	0.6957
Normalized VP types	ENG native	11.60 (2.05)	12.17 (2.17)	t(27.892)=-0.7164, p=.2398	0.2616
	GER mono	9.47 (2.47)	10.31 (2.44)	t(37.994)=-1.0421, p=.3039	0.3295
	RUS mono	13.17 (2.87)	12.44 (2.39)	t(17.437)=0.58812, p=.564	0.2630
	RUS-GER	10.82 (3.19)	11.32 (1.81)	t(19.773)=-0.5275, p=.3019	0.1962
	TUR mono	9.01 (1.73)	8.46 (3.60)	t(5.2421)=0.2855, p=.7862	0.1885
	TUR-GER	10.87 (2.89)	11.98 (3.73)	t(37.482)=-1.0504, p=.1501	0.3261
	VIET mono	12.37 (1.33)	11.33 (1.66)	t(17.163)=1.4627, p=.1604	0.6561
	VIET-GER	11.02 (3.15)	10.45 (2.66)	t(45.999)=0.6625, p=.511	0.1892

Table 30: Mean number of words and VPs, standard deviation (in parenthesis), t-tests, effect sizes (Cohen's d)

Furthermore, we also compare the normalized verb phrase tokens and types across the language groups. Figure 25 and Figure 27, respectively, show that the means are now much closer

together than for the absolute values. Hence, the large differences present in the other figures are mainly caused by the overall length differences (the corresponding values including standard deviations are available in Table 30). In addition, we perceive that for most of the groups, the older cohorts display lower numbers for the normalized VP tokens. This can be explained, because the more proficient a student is, the more complex the sentences are, and additional words such as adverbials or connectors are more frequently used. This potentially decreases the number of verb phrases per 100 words. However, the difference within each language group is not statistically significant, based on t-tests, except for the Vietnamese-German bilinguals. Similar results were obtained for the normalized VP types. The difference between the frequencies of the normalized VP types did not return a statistically significant difference either. Hence, what we observe in the boxplots gets reinforced with the t-tests in that the increase of VP types per 100 words did not increase significantly from the younger to the older cohorts.

Lastly, we measure if the observed differences across the two age cohorts reach statistical significance. For that, one-way ANOVAs are calculated. The respective table can be found in the Appendix I (Table 86). All ANOVAs return p-values below the threshold of 0.05, which suggests that we can reject the null hypothesis. Hence, there is a statistically significant difference across the language groups. The only comparison that does not return a statistically significant result is that for the normalized VP tokens of the older cohort. When looking at the mean values, we clearly see that they are nearly the same, which explains this insignificant p-value.

In principle, the 16-year-old participants produced a comparable number of VP tokens per 100 words on average. But we notice that the number of VP types is different across the corpus. Hence, the lexical variation across the individual groups is different; yet, we did not observe a significant difference within each language group. Therefore, we need to go one step further and combine this analysis with additional background variables.

Multiple linear regression analysis

After having discussed all three frequency measures individually, several multiple linear regression analyses are run by considering other background variables besides language background. With multiple regressions, it is possible “to estimate the effect of each individual independent variable [...] while controlling for the other independent variables” (Levshina

2015: 141). Hence, we can add further variables and calculate their individual effects when the other variables are controlled for.

Model Ia explains the relationship between the response variable ‘VP tokens’ and the explanatory variables ‘language background’, ‘gender’, ‘socio-economic status’ (HISEI), ‘school grades of German and English’, ‘type of school’, ‘number of books per household’, and whether English is considered ‘difficult’ and/or ‘useful’. Model Ib is the same as Model Ia, only that instead of language groups and year combined in one variable, we differentiate between ‘language group’ (one independent variable) and ‘age’ (a separate independent variable). With this distinction, we introduce two different reference levels, namely GER-12 for Model Ia, and GER for Model Ib.⁴³

Table 31 summarizes Model Ia. Seven independent variables have a statistically significant effect on the frequency of VP tokens (marked in bold). As was stated above, the reference level for language group is GER-12, which means that all other language groups are compared to the younger cohort of the monolingual German participants. Both English native speaker groups, the older cohort of the German monolinguals, Russian-German bilinguals, Vietnamese monolinguals, as well as the Vietnamese-German bilinguals produced significantly more VP tokens than the reference level GER-12. What this suggests is that not the background language (i.e. monolingual vs. bilingual) but rather age seems to influence the number of VP tokens (see Model Ib below). The only other variable that also has a significant effect is the type of school. ‘Gymnasium’ was chosen as the reference level. ‘Other’ compared to ‘Gymnasium’ has a negative effect on VP tokens, which means that students from vocational-track secondary-schools wrote fewer VP tokens than students attending a university-bound secondary-school track. What we can also discern from this model is that neither the socio-economic status, the school grades in German or English, the number of books, gender, nor the attitude towards English (difficult or useful) have a significant effect on the number of VP tokens found in the texts.

⁴³ Throughout the remaining case studies, we always use either GER-12 or GER as the reference level. The reasons behind this choice are that (i) the main aim of this study is to assess whether there are differences between the German monolingual participants and the bilingual participants, and (ii) we want to ensure comparability across all linear regression models. By choosing GER-12, or GER, we compare the German monolinguals to the English native speakers, on the one hand, but also to all other learners of English, on the other hand. If the English native speakers were selected as the reference level, we would have no visible comparison between the learners of English, which would substantially lower the informative value of each model.

Linear Model Ia: Verb phrase tokens versus background variables (language background (reference level: GER-12), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	14.68628	3.67796	8.93e-05 ***
ENG-12	14.17709	2.88589	1.77e-06 ***
ENG-16	11.62748	3.05053	0.000180 ***
GER-16	7.34239	2.47119	0.003301 **
RUS-12	-0.01873	4.91367	0.996962
RUS-16	3.00972	4.91474	0.540924
RUS-GER-12	3.79160	2.83003	0.181721
RUS-GER-16	7.88097	2.52164	0.002019 **
TUR-12	-3.82425	3.80002	0.315356
TUR-16	-4.81476	4.14338	0.246496
TUR-GER-12	1.23769	2.81037	0.660086
TUR-GER-16	2.69555	2.71445	0.321797
VIET-12	0.03159	3.25286	0.992261
VIET-16	11.89079	3.27221	0.000349 ***
VIET-GER-12	3.26388	2.67273	0.223345
VIET-GER-16	7.55797	2.64761	0.004726 **
Gender-male	-1.64222	1.06211	0.123516
Gender-N.A.	-2.90097	3.10643	0.351413
HISEI	0.09786	0.07576	0.197811
School grade-GER	0.93259	1.03141	0.366898
School grade-ENG	-0.48604	0.96467	0.614887
School type-N.A.	1.19135	1.92265	0.536145
School type-other	-4.07821	1.57856	0.010437 *
ENG difficult-N.A.	-0.69276	3.84811	0.857300
ENG difficult-no	0.13856	1.38340	0.920311
ENG useful-no	-2.39336	1.90116	0.209420
No of books-0-10	-2.64821	3.45902	0.444750
No of books-101-200	-2.03142	2.51652	0.420416
No of books-11-25	-2.93359	3.21731	0.362878
No of books-201-500	-2.08975	2.68746	0.437656
No of books-26-100	-3.72338	2.81576	0.187449
No of books-N.A.	-4.93007	2.69786	0.069013 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.422,			
F-statistic: 5.111 on 31 and 217 DF, p-value: 1.735e-13			

Table 31: Linear model Ia: Verb phrase tokens

Based on the apparent age effect on the frequencies of VP tokens, we run a similar model, Model Ib (Table 32), that differentiates between ‘language group’ and ‘age’. As expected, age clearly affects the frequency VP tokens. This value means that with increasing age (i.e. for the 16-year-old students), the number of VP tokens per text increases. The group of the English native speakers produced significantly more VP tokens and the Turkish monolinguals significantly fewer VP tokens than the German monolinguals. All other language groups do not contribute significantly to this model, when compared to the reference level. School type shows again to contribute significantly; vocational-track secondary-school types decrease the number of VP tokens per text. One additional variable, namely the number of books per household, returns a low p-value. However, here, all N.A. cases negatively affect the number of VP tokens. This effect is not particularly meaningful, as we have no information about the number of books that these students have in their homes. We only know that the students who belong to this group wrote fewer VP tokens per text than students who own 500 or more books per household.

Linear Model Ib: Verb phrase tokens versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	5.88329	5.02139	0.242584
ENG	10.07550	2.38424	3.47e-05 ***
RUS	-2.06638	4.52083	0.648057
RUS-GER	1.98518	1.93727	0.306597
TUR	-6.66542	3.16070	0.036069 *
TUR-GER	-1.67813	2.15324	0.436595
VIET	2.61495	2.55760	0.307684
VIET-GER	1.54931	2.04076	0.448542
Gender-male	-1.75091	1.06728	0.102298
Gender-N.A.	-1.71119	3.01780	0.571261
Age	0.92617	0.25898	0.000427 ***
HISEI	0.09658	0.07637	0.207339
School grade-GER	0.93566	1.04686	0.372403
School grade-ENG)	-0.39430	0.97857	0.687379
School type-N.A.	1.08477	1.90706	0.570048
School type-other	-4.12175	1.57173	0.009329 **
ENG difficult-N.A.	-0.75461	3.89796	0.846671
ENG difficult-no	-0.21140	1.37002	0.877511
ENG useful-no	-3.26101	1.91057	0.089241 .
No of books-0-10	-2.71969	3.48828	0.436410
No of books-101-200	-2.05068	2.55367	0.422809
No of books-11-25	-2.99851	3.24578	0.356575
No of books-201-500	-2.25980	2.69459	0.402565
No of books-26-100	-3.93715	2.82149	0.164272
No of books-N.A.	-5.71112	2.69895	0.035444 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.3827			
F-statistic: 5.786 on 24 and 224 DF, p-value: 1.614e-13			

Table 32: Linear model Ib: Verb phrase tokens

Both linear regressions are repeated with the dependent variable ‘verb phrase types’. As before, the first model, Model IIa (Table 33), includes language group and age as one variable, with the reference level ‘GER-12’. The second model, Model IIb (Table 34), distinguishes between ‘language group’ and ‘age’ as two independent variables. With this, we can assess the influence of age per language group (for the former model) and the general influence of age, independent of the language group (the latter model).

The inspection of Model IIa and IIb demonstrates that it replicates what was shown for the models that include the dependent variable VP tokens. Increasing age as well as attending the university-bound secondary-school track increase the frequencies of VP types used in the students’ texts. In Model IIa, we see this because all 16-year-old language groups, when compared to the 12-year-old German monolinguals, increase the frequency of VP types. In Model IIb, age on its own has a significantly increasing effect, yet there are fewer language groups that show a statistically significant influence. Only belonging to the group of Turkish monolinguals, which lowers the frequencies of VP types, or belonging to the English native speakers, which shows the opposite effect, adds significantly to this regression model. By now, this should not come as a surprise, given what was revealed about the Turkish monolinguals

before. We further support that they may actually not be a representative group in this learner corpus. That the English native speakers show significantly more formally correct VPs is also little surprising but represents an expected outcome of a comparison of native speakers with young foreign language learners.

Linear Model IIa: Verb phrase types versus background variables (language background (reference level: GER-12), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value	
(Intercept)	9.39510	2.41196	0.000131	***
ENG-12	9.14417	1.89253	2.56e-06	***
ENG-16	10.06440	2.00049	1.02e-06	***
GER-16	5.28922	1.62057	0.001277	**
RUS-12	1.10733	3.22232	0.731447	
RUS-16	3.60303	3.22302	0.264844	
RUS-GER-12	2.30654	1.85590	0.215277	
RUS-GER-16	6.74269	1.65366	6.39e-05	***
TUR-12	-2.80615	2.49200	0.261384	
TUR-16	-3.95851	2.71717	0.146603	
TUR-GER-12	0.85148	1.84300	0.644539	
TUR-GER-16	2.39414	1.78010	0.180046	
VIET-12	0.66981	2.13318	0.753824	
VIET-16	10.00077	2.14587	5.50e-06	***
VIET-GER-12	1.58963	1.75274	0.365445	
VIET-GER-16	5.93840	1.73627	0.000747	***
Gender-male	-0.97849	0.69652	0.161500	
Gender-N.A.	-0.77886	2.03715	0.702591	
HISEI	0.04447	0.04968	0.371691	
School grade-GER	0.83762	0.67638	0.216915	
School grade-ENG	-0.47781	0.63262	0.450895	
School type-N.A.	0.02661	1.26085	0.983180	
School type-other	-3.20869	1.03520	0.002194	**
ENG difficult-N.A.	-0.84065	2.52354	0.739362	
ENG difficult-no	-0.05959	0.90721	0.947688	
ENG useful-no	-1.53806	1.24675	0.218667	
No of books-0-10	-1.64159	2.26838	0.470039	
No of books-101-200	-0.92338	1.65030	0.576381	
No of books-11-25	-1.44662	2.10987	0.493668	
No of books-201-500	-2.78652	1.76240	0.115313	
No of books-26-100	-2.51595	1.84654	0.174446	
No of books-N.A.	-2.43472	1.76922	0.170192	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
Multiple R-squared: 0.4693				
F-statistic: 6.19 on 31 and 217 DF, p-value: < 2.2e-16				

Table 33: Linear model IIa: Verb phrase types

Linear Model IIb: Verb phrase types versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-0.42058	3.29213	0.89846
ENG	7.43247	1.56316	3.56e-06 ***
RUS	-0.23487	2.96395	0.93691
RUS-GER	1.84382	1.27012	0.14798
TUR	-5.06806	2.07222	0.01523 *
TUR-GER	-1.00504	1.41171	0.47725
VIET	2.91153	1.67682	0.08388 .
VIET-GER	0.99262	1.33796	0.45893
Gender-male	-1.03448	0.69973	0.14070
Gender-N.A.	0.09610	1.97853	0.96130
Age	0.90471	0.16979	2.41e-07 ***
HISEI	0.04833	0.05007	0.33542
School grade-GER	0.84789	0.68634	0.21799
School grade-ENG	-0.44273	0.64157	0.49086
School type-N.A.	-0.02649	1.25031	0.98312
School type-other	-3.27493	1.03046	0.00169 **
ENG difficult-N.A.	-0.88335	2.55559	0.72993
ENG difficult-no	-0.33348	0.89821	0.71079
ENG useful-no	-1.99540	1.25261	0.11257
No of books-0-10	-1.54593	2.28699	0.49976
No of books-101-200	-0.89850	1.67424	0.59203
No of books-11-25	-1.40670	2.12800	0.50926
No of books-201-500	-2.71832	1.76663	0.12529
No of books-26-100	-2.50881	1.84982	0.17639
No of books-N.A.	-2.93735	1.76949	0.09831 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4335			
F-statistic: 7.141 on 24 and 224 DF, p-value: < 2.2e-16			

Table 34: Linear model IIb: Verb phrase types

So far, we have only considered the individual explanatory variables. Now, we also need to briefly discuss the overall goodness of fit of these four models. For this we use R-squared, reported below the independent variables. R^2 shows how much variation in the response variable (i.e. VP tokens or VP types) can be explained with the independent variables (see Levshina 2015: 148). Here, we are able to explain between 38.3% and 46.9% of the variation, which is clearly not ideal. Nevertheless, the four regression models are highly significant (all p-values below the threshold of 0.05). The reason for why the models explain less than 50% of the variation is probably at least two-fold. First, we recognize that within each language group there is fundamental individual variation (visible in the appearance of the boxplots and the high standard deviations). Second, we lack a considerable amount of answers for many of the background variables (see the discussion in Chapter 6.3 and Table 65 to Table 76). Therefore, we needed to introduce the category N.A. for unknown cases. In a first step, we decided to not leave them out of these four models, because excluding all N.A. cases would have substantially reduced the number of individual data points. Therefore, they were kept as a separate though meaningless category, as we have no information for these data points as such. Hence, the

overall power of the four models, given these two reasons, is relatively strong (see also Levshina 2015: 148).

Linear Model Ic: Verb phrase tokens versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.58366	7.94960	0.9417
RUS-GER	-1.67570	2.77931	0.5487
TUR-GER	-2.82578	4.27359	0.5108
VIET-GER	-0.14752	3.18518	0.9632
Gender-male	-3.12175	1.57687	0.0520 .
Age	1.02160	0.40491	0.0141 *
Onset GER-five	4.56403	7.48675	0.5442
Onset GER-four	7.37940	4.13694	0.0791 .
Onset GER-seven+	-2.01923	4.97269	0.6860
Onset GER-six	7.54089	4.67593	0.1117
Onset GER-three	1.64382	2.39066	0.4942
HISEI	0.07385	0.05242	0.1637
School grade-GER	1.10203	1.39833	0.4335
School grade-ENG)	-0.08977	1.04345	0.9317
School type-other	-4.19060	1.88387	0.0296 *
ENG difficult-no	3.56120	2.27143	0.1218
ENG useful-no	-1.35121	3.60202	0.7088
No of books-0-10	-3.80357	3.53441	0.2858
No of books-101-200	-3.49601	2.45690	0.1595
No of books-11-25	-3.14567	3.66825	0.3943
No of books-201-500	-2.80341	2.83548	0.3265
No of books-26-100	-4.81052	2.98032	0.1114

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4748, Adjusted R-squared: 0.3051			
F-statistic: 2.798 on 21 and 65 DF, p-value: 0.0008069			

Table 35: Linear Model Ic: Verb phrase tokens

As a next step, however, we use the labels NA instead of N.A., which automatically forces R to exclude all NA values in the following linear regression models. With this, only those data points remain that have a true value for each independent variable. If one value has the format NA, the entire data point, i.e. this particular student, is removed from the model. We created linear model Ic (Table 35) and linear model IIc (Table 36). The former predicts, like models Ia and Ib, verb phrase tokens. The dependent variable of the latter model, also parallel to models IIa and IIb, predicts verb phrase types. The explanatory variables from above remain, with one additional explanatory variable, namely age of onset of acquiring German. For this variable, 'birth' was chosen as the reference level, which is compared to all other ages of onset. For these two models, R automatically excludes 162 observations each; thus, 87 participants remain in the final models. These belong to now only four language groups, namely the German monolingual, Russian-German, Turkish-German, and Vietnamese-German bilingual participants.

We can observe in Model Ic (Table 35) that the overall predictive power increases slightly ($R^2=0.4748$). Age as well as school type remain statistically significant and repeat what was proposed above, namely that increasing age increases the number of VP tokens per text and that attending school type ‘other’, i.e. the vocational-track secondary-school types, decreases the frequency of VP tokens. There is no statistically significant difference between the German monolinguals and the three bilingual groups. The values indicated in the regression model are negative, yet, they do not reach statistical significance, which is clearly visible in the high p-values. Furthermore, none of the other variables adds significantly to predicting the frequency of VP tokens.

Linear Model IIc: Verb phrase types versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-1.60515	4.92159	0.745362
RUS-GER	-0.24735	1.72067	0.886140
TUR-GER	-0.70464	2.64578	0.790830
VIET-GER	-0.43560	1.97194	0.825865
Gender-male	-0.84098	0.97624	0.392159
Age	0.87645	0.25068	0.000855 ***
Onset GER-five	3.58612	4.63504	0.441914
Onset GER-four	2.80826	2.56117	0.276918
Onset GER-seven+	-3.94618	3.07859	0.204461
Onset GER-six	7.54874	2.89486	0.011297 *
Onset GER-three	0.41549	1.48006	0.779814
HISEI	0.02816	0.03245	0.388757
School grade-GER)	1.06663	0.86571	0.222351
School grade-ENG)	-0.34679	0.64600	0.593218
School type-other	-4.01341	1.16630	0.001017 **
ENG difficult-no	1.51247	1.40624	0.286108
ENG useful-no	-0.31493	2.23001	0.888130
No of books-0-10	-2.11432	2.18815	0.337495
No of books-101-200	-1.58843	1.52107	0.300220
No of books-11-25	-2.18463	2.27101	0.339632
No of books-201-500	-2.26593	1.75545	0.201345
No of books-26-100	-3.13623	1.84511	0.093959 .

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1			
Multiple R-squared: 0.5448			
F-statistic: 3.705 on 21 and 65 DF, p-value: 2.592e-05			

Table 36: Linear Model IIc: Verb phrase types

There are a number of similarities between Model Ic and IIc (Table 36). In the latter, the overall predictive power is also higher than before ($R^2=0.5448$), which means that this model explains more than 50% of the variation. Age and school type significantly contribute, the same as above, and also age of onset of acquiring German shows a positive effect. Participants who started to acquire German at the age of six have significantly more VP types in their texts than participants

who acquired German from birth. At this stage, this information is surprising, and we need to investigate whether we see the same effect in further analyses.

In conclusion, all six linear regression models present nearly identical results. There are significant effects with regard to the age of the participants, which is assumed to correlate with proficiency in English, and the type of school the children attend. Gymnasium, i.e. the university-bound secondary-school track, increases both VP tokens as well as VP types per text. None of the other variables, for instance a difference between L2 vs L3 acquisition, socio-economic status, or attitudes towards English, contributes significantly to the linear models. One of the possible hypotheses (see Chapter 5.4) predicted a difference between the L2 and L3 learners. However, this clear finding, i.e. a comparable performance of the German monolinguals as well as the bilingual participants is intriguing. As for now, this argues for no statistically significant difference between L2 and L3 learners of English. Clearly, especially in the last two models, only few participants remained. This could distort the picture and might be responsible for the high number of insignificant variables. Also, the predictive power reaches 0.5 only for one model a value above. Preferably, the predictive power would be higher so that the models explained more of the variation. Yet, these are not the main variables of this study, but they were only meant to provide a general overview. Therefore, we refrained from trying to improve these regression models at this stage of the analysis.

Overview of use of tenses/aspect/to-infinitives

As a last section within this chapter, we go beyond the frequencies of types and tokens by investigating the specific tenses that were used by each language group. The absolute frequencies as well as relative frequencies are presented in Table 87 (Appendix I) and a visualization (proportions) can be found in Figure 28. For this representation the unclear verb phrases, passives, and also imperatives, were excluded, as they appeared even less frequently than the other verb forms.

The most surprising aspect of the data (Figure 28) is that there is mainly variation between simple present and simple past. For most groups (except the older cohorts of the Russian and Vietnamese monolinguals) more than 70% of the story is either written in simple past or simple present tense. In addition, we find some *to*-infinitive forms, progressives, and modal/conditional forms, whilst, present perfect or past perfect, *will*-future or *going-to*-future appear only rarely. Therefore, we focus on a comparison between present and past tense use in

Chapter 6.4, by especially regarding simple past tense uses. Furthermore, the use of progressives will be discussed in section 6.3.

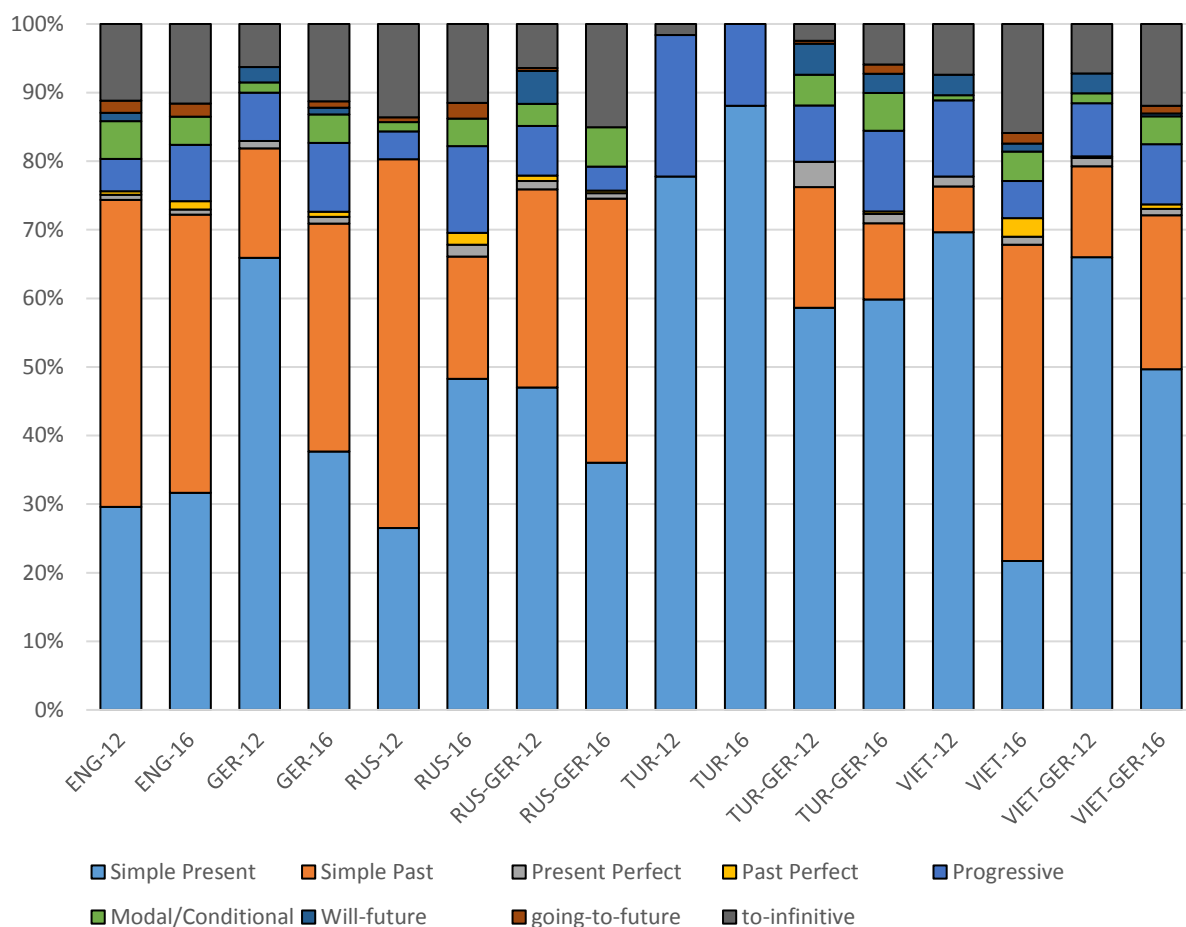


Figure 28: Overall tense classification of VPs (written production)

Once again, the Turkish monolinguals appear strikingly different. They almost exclusively used the simple present tense. Or, to be more precise, mainly bare verb forms appeared, which were classified as simple present tense forms that lack the third person singular {-s}. A small proportion of progressive forms are also present (again, mainly as bare forms, this time without the auxiliary form) and one *to*-infinitive. The claim that their proficiency is comparably lower than of all other groups seems to strengthen even further. In accordance with the aspect hypothesis and the acquisition of tense and aspect in general (see Chapters 4.7 and 4.8.2), in the initial stages of foreign language acquisition, we find present tense forms, and only later past tense forms are used. This reinforces the observation that the overall proficiency of the Turkish monolinguals is arguably below that of the other participants. We come back to this argument when we discuss subject-verb-agreement (Chapter 6.2.2), the use of the progressive aspect (Chapter 6.3), and when we compare present versus past tense use (Chapter 6.4).

6.2.2 Subject-verb-agreement

Overall, as has just been reported, the students did not use a wide spectrum of different tenses or aspectual distinctions. Therefore, we now concentrate on smaller issues and zoom first into subject-verb-agreement (SVA) in the present tense of lexical verbs, and subject-verb-agreement in present and past tense of the suppletive verb *be*. We cannot exclusively look at subject-verb-agreement of lexical verbs, because if a text is entirely written in the past tense, no inflectional endings would be required in English. According to Figure 28, substantial parts of the learner corpus are written in simple past tense. This key issue was discussed in Siemund and Lechner (2015), as well as in Lechner (2016), and explains their limited findings and conclusion regarding subject-verb-agreement. Therefore, we follow a slightly different procedure and differentiate between lexical verb agreement in present tense, as well as subject-verb-agreement of *be* in present and past tense contexts. The latter also includes passive forms as well as progressive forms.

		Present 3 rd sg {-s}	Absent 3 rd sg {-s}	Overuse of 3 rd sg {-s}	% absent	Correct SVA <i>be</i>	Incorrect SVA <i>be</i>	% in- correct
ENG native	Age 12	24	0	1	0.00	111	2	1.77
	Age 16	51	0	0	0.00	110	0	0.00
GER mono	Age 12	27	42	4	60.87	76	3	3.80
	Age 16	52	19	1	26.76	112	0	0.00
RUS mono	Age 12	0	16	0	100.00	24	1	4.00
	Age 16	5	21	2	80.77	44	5	10.20
RUS-GER	Age 12	10	41	1	80.39	56	12	17.65
	Age 16	34	48	2	58.54	103	8	7.21
TUR mono	Age 12	0	11	2	100.00	39	3	7.14
	Age 16	0	13	0	100.00	34	2	5.56
TUR-GER	Age 12	35	39	3	52.70	66	11	14.29
	Age 16	41	26	3	38.81	75	12	13.79
VIET mono	Age 12	0	36	0	100.00	38	8	17.39
	Age 16	7	8	0	53.33	65	0	0.00
VIET-GER	Age 12	30	104	5	77.61	114	12	9.52
	Age 16	68	45	2	39.82	116	6	4.92
Total		384	469	26	54.98	1183	85	6.70

Table 37: Subject-verb-agreement (SVA) with lexical verbs and with the suppletive verb *be*: absolute frequencies and percentages of required and absent 3rd sg {-s} and (in)correct SVA with *be*

English is a moderately inflecting language, and has, in comparison to German, Russian, or Turkish, which are languages with highly complex verbal paradigms, only few inflectional endings. Vietnamese, however, does not have any inflectional endings at all. We could therefore expect to find differences among the students, such that all students with knowledge of highly inflectional languages perform at ceiling, because they are familiar with complex verbal paradigms in their native languages. English is much simpler in this regard. Conversely, the

Vietnamese monolinguals may show more instances of absent inflectional endings due to cross-linguistic influence from their mother tongue.

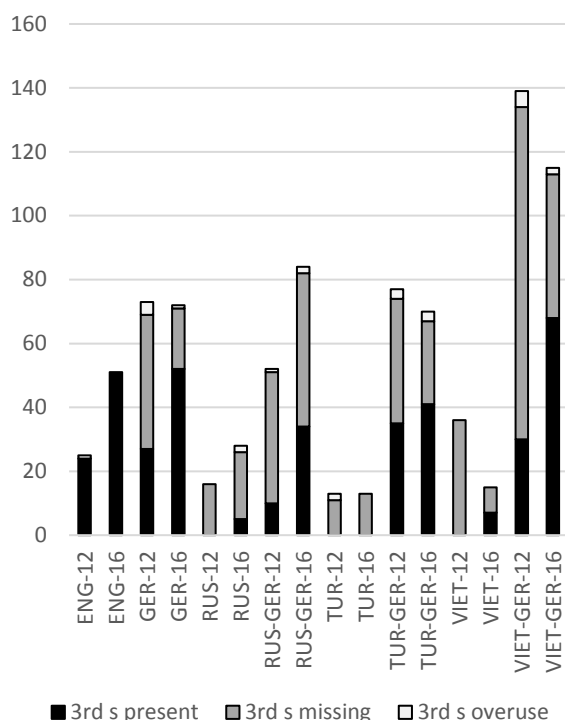


Figure 29: Presence/absence/overuse of 3rd person singular {-s}

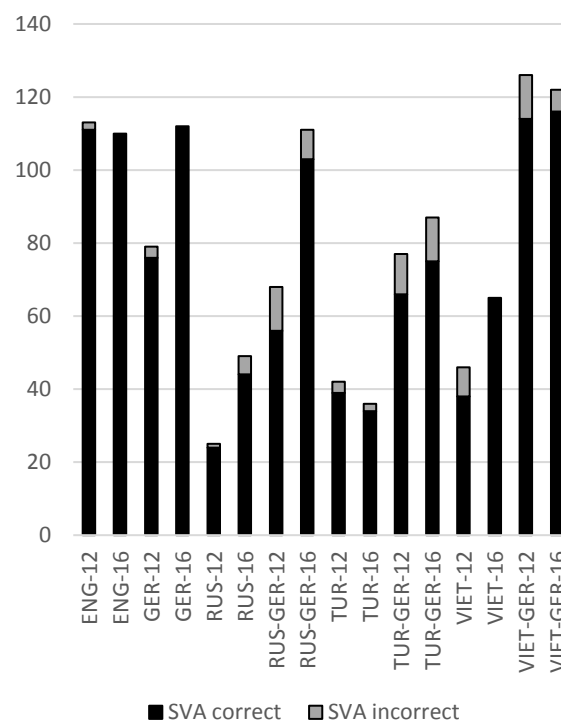


Figure 30: Subject-verb-agreement of the verb *be*

The data were coded for third person singular {-s} required, present, absent, and overuse (see Table 37). Third person singular {-s} present equals target-like usage, and absent refers to non-target-like uses. The latter category turned out to only appear a few times, hence, there are in total only 26 {-s} suffixes that appeared on verbs where no inflectional endings were required. This occurred for example in combination with another modal or auxiliary verb (4), with a plural subject (5), or with a past tense form of the verb. In these cases, no third person singular {-s} forms are required in English. The other categories, however, are more interesting, because we observe that quite a high number of {-s} morphemes are missing, especially compared to the number of {-s} morphemes that are present.

(4) The Father will this Fish **cuts**. (TUR-GER 12)

(5) Son and Father **goes** at home and son looks in the bucket with the Fish. (TUR-GER 16)

The opposite is visible for the distribution within the second SVA category. The data were also coded for required SVA with *be*, as well as correct/incorrect SVA of *be* (see Table 37). Here,

we do not only find the reverse pattern than before, i.e. few incorrect and many correct forms, but there are also more instances of subject-verb-agreement of *be* than required subject-verb-agreement of lexical verbs. Again, this is largely due to many past tense as well as progressive uses, plus the overall high frequency of copula verbs, both in present and past tense (more about the latter is discussed in the following Chapter 6.2.3).

Visualizations of these results are presented in Figure 29 and Figure 30. We follow Siemund and Lechner (2015) in the graphical presentation and use absolute frequencies instead of proportions in the bar plots, to highlight the overall frequency differences between present/missing third person singular {-s} and correct/incorrect SVA of the verb *be*. Clearly, there is a visible improvement from the younger to the older cohorts for both of the two SVA classifications. Only two groups, i.e. the Turkish monolinguals for 3rd person singular {-s} and the Russian monolinguals for SVA with *be*, do not show an increase in target-like verb forms from year 12 to year 16 (see also Table 37).

Overall, these results are not surprising, because they correspond to findings from other studies focusing on L2 learners (see for example Ionin & Wexler 2002). Ionin and Wexler (2002) also argue that L2 learners make fewer mistakes with suppletive agreement than with affixal agreement, which is due to 3rd person singular {-s} being, among other explanations, less frequent and less salient in comparison to the highly frequent forms of *be*. Similarly, García-Mayo and Villarreal Olaizola (2011) present the same findings for bilingual Basque-Spanish learners of English. They even found no differences between L3 learners who follow “a Content and Language Integrated Learning (CLIL) program and a mainstream English as a foreign language (non-CLIL) program” (García-Mayo & Villarreal Olaizola 2011: 129). Hence, the current study confirms these finding, which were reported for L2 and L3 learners, for different types of L2 and L3 learners of English. The proportions of absent third person singular {-s} are overall higher than for incorrect SVA with *be*. In a sense, the use of the third person singular {-s} seems to be a general problem for learners of English irrespective of previous knowledge of languages with complex verbal paradigms. Outstanding are of course the English native speakers, who made almost no mistakes, in neither of the two categories. Apparently, they have already overcome this developmental step and have fully acquired suppletive as well as affixal subject-verb-agreement.

The next step is to investigate whether there are differences between the learners of English. For this analysis, we exclude the native speakers of English but focus exclusively on the non-native learners of English. Initially, we hypothesized that the Vietnamese monolinguals may perform lowest, because of CLI from Vietnamese. This claim does not seem to hold, based

on the numbers in Table 37. What we do notice, however, is that the 12-year-old monolingual Vietnamese participants are indeed at the lower end of all students, but not exclusively. Instead, the younger cohorts of the Russian and Turkish monolinguals did also not produce any third person singular {-s} morphemes. To assess the significance of this observation, several Pearson's chi-squared tests are performed by considering different groups (see Table 38). First, we look at all learners divided into the two age groups, and then, only the German monolingual participants and the bilingual participants are included, again divided into the two age cohorts.

		Age 12	Age 16			Age 12	Age 16
Present/absent {-s}	GER mono			GER mono RUS-GER TUR-GER VIET-GER		$\chi^2(3)=19.027$, $p<.05$	$\chi^2(3)=16.494$, $p<.05$
	RUS mono						
	RUS-GER						
	TUR mono	$\chi^2(6)=47.65$,	$\chi^2(6)=47.026$,				
	TUR-GER	$p<.05$	$p<.05$				
	VIET mono						
Correct/incorrect SVA <i>be</i>	GER mono			GER mono RUS-GER TUR-GER VIET-GER		$\chi^2(3)=8.474$, $p<.05$	$\chi^2(3)=17.008$, $p<.05$
	RUS mono						
	RUS-GER						
	TUR mono	$\chi^2(6)=12.373$,	$\chi^2(6)=23.876$,				
	TUR-GER	$p=.054$	$p<.05$				
	VIET mono						
	VIET-GER						

Table 38: Pearson's chi-squared tests for subject-verb-agreement of lexical verbs and *be*

All chi-squared tests are significant (marked in bold), apart from subject-verb-agreement of *be* of the younger cohorts of all non-native learners of English, which indicates that there is no statistically significant difference for correct/incorrect subject-verb-agreement found across the texts of the 12-year-old participants. For all other comparisons, the difference reaches statistical significance. Yet, this is not entirely meaningful, as there are not just one or two groups that always produce fewer non-target-like verb phrases than expected, but we find different groups to perform better or worse, based on the residuals from the chi-squared tests.

Therefore, two linear models are also run, as we have reason to believe that language background alone may not explain the differences returned from the chi-squared tests. For this analysis, all language groups, i.e. also the English native speakers, are included. Linear model IIIa predicts the ratio of missing 3rd person singular {-s} morphemes, and model IVa predicts the ratio of incorrect SVA with the verb *be*. The independent variables that are included are the same as for models IIa and IIb above. Furthermore, for model IIIa, 49 participants were automatically excluded, because these students did not produce any contexts where a third person singular {-s} would have been required. Similarly, for model IIIb, 17 cases were excluded, due

to the lack of required forms of SVA of the verb *be*. For these students, we have no information as to whether they can or cannot form grammatically correct third person singular present forms of lexical verbs or target-like forms of *be*.

The decision to use ratios instead of absolute frequencies of missing 3rd person singular {-s} or incorrect SVA of *be*, can be motivated, because these combined measures, which include the numbers of present and absent {-s} morphemes or correct and incorrect forms of *be*, are more meaningful. Imagine two students who have two non-target-like 3rd person singular verb forms in each of their texts. One of them, however, produces 10 target-like forms, whilst the other writes no target-like verb forms. If we included the frequencies of the non-target-like VPs, both students would be treated alike, which means that we would not account for student A to only have two incorrect VPs out of a total of 12 VPs.

Linear Model IIIa: ratio of missing 3rd person singular {-s} versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	1.311745	0.258407	9.78e-07 ***
ENG	-0.368857	0.122501	0.002989 **
RUS	0.544805	0.220159	0.014291 *
RUS-GER	0.222585	0.099576	0.026660 *
TUR	0.620479	0.161748	0.000174 ***
TUR-GER	-0.103388	0.109408	0.345972
VIET	0.407619	0.132765	0.002480 **
VIET-GER	0.039253	0.101983	0.700783
Gender-male	0.002937	0.056036	0.958262
Gender-N.A.	0.165195	0.151323	0.276478
Age	-0.058758	0.013650	2.78e-05 ***
HISEI	-0.002011	0.003639	0.581242
School grade-GER	-0.013439	0.049411	0.785957
School grade-ENG	0.023430	0.047100	0.619496
School type-N.A.	-0.107847	0.101436	0.289153
School type-other	0.177354	0.075984	0.020726 *
ENG difficult-N.A.	-0.099145	0.182177	0.586979
ENG difficult-no	-0.051829	0.067605	0.444326
ENG useful-no	0.039962	0.095543	0.676266
No of books-0-10	0.266592	0.170266	0.119217
No of books-101-200	0.034430	0.130029	0.791485
No of books-11-25	0.059478	0.158672	0.708227
No of books-201-500	-0.014758	0.139655	0.915962
No of books-26-100	0.035653	0.140815	0.800417
No of books-N.A.	0.079975	0.141435	0.572488

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared: 0.4349
F-statistic: 5.611 on 24 and 175 DF, p-value: 3.049e-12

Table 39: Linear Model IIIa: Ratio of missing 3rd person singular {-s}

Ideally, the ratio of missing 3rd person singular {-s} should be low: the closer to 0, the fewer incorrect VPs are present in each text. Model IIIa (Table 39) demonstrates that the variable 'language group' has a significant influence for some of the levels. The reference level is, in

accordance to the previous analyses, the group of German monolinguals. Not surprisingly, because we already saw this in Table 37, the ratio is significantly lower for the English native speakers, compared to the German monolinguals. The reverse is visible for the Russian, Turkish, and Vietnamese monolinguals, as well as the Russian-German bilinguals. Part of this was also evident, because none of the 12-year-old Russian, Turkish, or Vietnamese monolinguals produced any target-like third person singular verb forms. Second, age also has a significant influence: with increasing age, the ratio decreases, i.e. the number of target-like VPs increases. Hence, the observation from above also reaches statistical significance. As before (i.e. in the former linear models), school type significantly affects the results. The attendance of a vocational-track secondary-school increases the ratio, meaning that the number of non-target-like VPs increases. Students who attend the university-bound secondary-school track use more target-like lexical VPs. None of the other background variables is statistically significant. This is in line with the previously discussed Linear Models (Chapter 6.2.1).

Linear Model IVa: ratio of incorrect SVA of *be* versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-0.003723	0.132008	0.9775
ENG	-0.049689	0.060880	0.4153
RUS	-0.107746	0.115934	0.3538
RUS-GER	0.107300	0.051436	0.0382 *
TUR	0.126482	0.083076	0.1294
TUR-GER	0.118768	0.058695	0.0443 *
VIET	0.002266	0.066686	0.9729
VIET-GER	0.052883	0.053666	0.3256
Gender-male	0.017707	0.027867	0.5259
Gender-N.A.	0.096654	0.080721	0.2325
Age	-0.012620	0.006828	0.0660 .
HISEI	0.001928	0.002082	0.3556
School grade-GER	0.020275	0.027532	0.4623
School grade-ENG	0.014352	0.025460	0.5736
School type-N.A.	0.021472	0.050356	0.6703
School type-other	0.059944	0.042132	0.1563
ENG difficult-N.A.	0.144460	0.099854	0.1495
ENG difficult-no	-0.002235	0.035756	0.9502
ENG useful-no	-0.039358	0.055462	0.4787
No of books-0-10	0.098340	0.091545	0.2840
No of books-101-200	0.022844	0.066193	0.7304
No of books-11-25	0.058008	0.085329	0.4974
No of books-201-500	0.099722	0.069300	0.1517
No of books-26-100	0.002948	0.074294	0.9684
No of books-N.A.	-0.033297	0.074880	0.6570

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.171			
F-statistic: 1.779 on 24 and 207 DF, p-value: 0.01741			

Table 40: Linear Model IVa: Ratio of incorrect SVA of *be*

The same analysis is repeated for the ratio of correct/incorrect forms of *be* (Table 40). Most strikingly is of course the low R^2 value of model IVa. This reinforces what we have seen in the

chi-squared test results, namely that for the younger cohort, there is no statistically significant difference across the students for SVA of *be*. This may explain the poor explanatory power and the only few significant variables that we can identify for this model. There are only two significant predictor variables, namely the Russian-German bilinguals as well as the Turkish-German bilinguals significantly increase the ratio of incorrect forms of *be*. As before, the lower the ratio, the more target-like verb forms are in one text. This means that these two groups have comparably more non-target-like forms of *be* per text. Yet, the explanatory power of the entire model is very low ($R^2=0.171$) and no other variable significantly adds to predicting the ratio of SVA with *be*. This shows that the individual variation across the students may be too high, or that the small differences that we could observe in Table 37 or Figure 30 cannot be explained with the background variables included in this model.

Linear Model IIIb: ratio of missing 3rd person singular {-s} versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	1.390106	0.475735	0.00501 **
RUS-GER	0.161683	0.170780	0.34784
TUR-GER	-0.166173	0.237928	0.48781
VIET-GER	0.020682	0.188361	0.91296
Gender-male	0.067482	0.092911	0.47068
Age	-0.067672	0.023831	0.00628 **
Onset GER-five	0.208279	0.407533	0.61131
Onset GER-four	0.268274	0.254529	0.29641
Onset GER-seven+	-0.374669	0.309636	0.23135
Onset GER-six	-0.059110	0.294659	0.84173
Onset GER-three	0.027365	0.139186	0.84485
HISEI	-0.003899	0.003121	0.21685
School grade-GER	-0.026265	0.080954	0.74681
School grade-ENG	0.123440	0.061227	0.04859 *
School type-other	0.181963	0.105344	0.08962 .
ENG difficult-no	-0.127817	0.127202	0.31930
ENG useful-no	-0.059861	0.196945	0.76229
No of books-0-10	0.260383	0.200363	0.19908
No of books-101-200	0.060340	0.148167	0.68538
No of books-11-25	0.035833	0.208982	0.86448
No of books-201-500	0.118644	0.165347	0.47602
No of books-26-100	0.098711	0.176251	0.57767

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4385			
F-statistic: 2.082 on 21 and 56 DF, p-value: 0.01524			

Table 41: Linear Model IIIb: Ratio of missing 3rd person singular {-s}

As was done for frequency of VP types and VP tokens, two further linear regression models are run that only include participants who have complete answers for all explanatory variables. For the following models, 171 (IIIb) and 166 (IVb) cases were excluded from the regression model, by virtue of missing information. This number is higher than before, because in addition to the NA cases stemming from missing information of the background variables, there are further

NA cases because there was no context available in some of the students' texts that required a third person singular {-s} or a form of *be*.

Model IIIb (Table 41) is quite revealing in several ways, because there is a substantial difference between model IIIa and IIIb. For the reduced data set, age is still significant, but interestingly, there is also a statistically significant effect for the school grade of English. A higher school grade, i.e. lower proficiency, increases the ratio of missing third person singular {-s} morphemes. This result confirms the general idea, namely that lower proficiency in English, here demonstrated with a higher school grade, predicts more instances of 3rd person singular {-s} omissions. Unexpectedly, the type of school is not a significant predictor variable, which is a remarkable result. This outcome is likely to be related to the small number of participants that are presented in this model.

Linear Model IVb: ratio of incorrect SVA of *be* versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.1706070	0.1636463	0.3013
RUS-GER	0.0865767	0.0544311	0.1169
TUR-GER	0.0475997	0.0881955	0.5914
VIET-GER	0.0161742	0.0634735	0.7997
Gender-male	0.0583947	0.0310237	0.0646 .
Age	-0.0205574	0.0082706	0.0157 *
Onset GER-five	-0.1698401	0.1438348	0.2423
Onset GER-four	0.0996610	0.0790683	0.2123
Onset GER-seven+	-0.1475330	0.0953046	0.1268
Onset GER-six	0.0282585	0.0896964	0.7538
Onset GER-three	-0.0085397	0.0456713	0.8523
HISEI	0.0001398	0.0010210	0.8915
School grade-GER	0.0029568	0.0283058	0.9171
School grade-ENG	0.0239446	0.0211080	0.2611
School type-other	0.0055312	0.0369268	0.8814
ENG difficult-no	-0.0101526	0.0448811	0.8218
ENG useful-no	-0.0260402	0.0849843	0.7603
No of books-0-10	0.1248974	0.0691264	0.0757 .
No of books-101-200	0.0419344	0.0470189	0.3760
No of books-11-25	0.1144615	0.0723275	0.1187
No of books-201-500	0.1373925	0.0542638	0.0139 *
No of books-26-100	-0.0048940	0.0593011	0.9345

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4012			
F-statistic: 1.946 on 21 and 61 DF, p-value: 0.02292			

Table 42: Linear Model IVb: Ratio of incorrect SVA of *be*

Formerly, Model IVa, which predicts the ratio of incorrect subject-verb-agreement of *be*, was demonstrated as having only marginal predictive power with almost no significant predictor variables. However, the findings of Model IVb (Table 42) do not support the previous results. The predictive power is clearly better ($R^2=0.4012$) and we find two significant predictive

variables. Age has a significant negative effect, reflecting what was shown for the ratio of missing 3rd person singular {-s}, and this time also the number of books per household demonstrates a significant influence. For this category, the highest possible number of books, i.e. 500 or more, was chosen as the reference level. Having fewer books, i.e. between 200 and 500 books, significantly increases the ratio of incorrect forms of *be*. It seems possible that a higher number of books correlates with a higher educational status or educational value of the family, which would then explain this influence. The observed decrease in the number of incorrect forms of *be* could be attributed to possessing more books.

In conclusion, all groups produced drastically fewer non-target-like forms for SVA with *be* compared to the analysis of third person singular {-s}. The relatively low numbers of incorrect forms of *be* demonstrate that all students are overall capable of using irregular verbal morphology. Yet, the learners vary in their proficiency of using subject-verb-agreement of lexical verbs. The monolingual Russian, Turkish, and Vietnamese students, as well as the Russian-German bilingual students, for instance, used significantly fewer target-like forms. What we cannot observe, though, are statistically significant differences between the L2 learners (German monolinguals) and the L3 learners (Russian-German, Turkish-German, and Vietnamese-German bilinguals). Instead, our findings seem to be in line with the general order of acquisition of morphemes (see Chapter 4.8.2). The {-s} morpheme was argued to be acquired relatively late, even after the suppletive forms of *be*. Our results support this claim and demonstrate that the 12-year-old students are already capable of using correct forms of *be*, yet, they show problems with using the third person singular {-s}, some groups more than others (see above). The 16-year-old students have generally improved in comparison to their younger peers, and they use the third person singular {-s} more frequently. Nonetheless, they still do not reach the same proportions of correct forms as for SVA of *be*.

The results in this section indicate that the verb *be* seems to play a special role, because it appears relatively frequently across the corpus. The next section, therefore, focuses more specifically on *be*, yet not as an auxiliary verb, but as a copula verb.

6.2.3 Copula verb *be*

Earlier, we stated that there are a number of uses of the copula *be* verb that are not expressed in Russian, Turkish, or Vietnamese (see Chapter 4.8.1). Based on these findings, we examine the use of the copula verb *be* in the written picture stories. We assume to find a higher number of missing copulas in the Russian, Turkish, as well as Vietnamese monolingual groups, due to

negative cross-linguistic influence from the respective native languages. German, on the contrary, is similar to English with respect to the presence of copula forms. We therefore predict no, or only few, difficulties with the use of copula verbs within the German monolingual speakers. It is crucial to examine whether we find this anticipated higher omission of forms of *be* not only in the monolingual Russian, Turkish, or Vietnamese texts but also in the Russian-German, Turkish-German, or Vietnamese-German bilingual texts, or if the latter perform similarly to the German monolinguals.

The following two example sentences are cases where the use of the copula *be* is required in English, but in Russian, this sentence is target-like without a copula verb (see Chapter 4.4). Sentence (6) is taken from a text written by a 12-year-old Russian monolingual and (7) was written by a 16-year-old Russian monolingual student.

(6) They Ø very happy.

(7) Fish Ø in net.

The corresponding overview of the uses (required and absent forms) of the copula verb *be* can be found in Table 43. The most noticeable aspect of the data is that the majority of absent forms of *be* appears in the texts of the Russian, Turkish, and Vietnamese monolinguals. Hence, our expectations are confirmed. The observed differences could be attributed negative cross-linguistic influence from these three languages on the performance in English. In addition, we do not only find the highest number of missing copula verbs within these groups, but at the same time we need to stress again that these three groups have the lowest numbers of overall participants (last column of Table 43).

		Required <i>be</i>	Absent <i>be</i>	% of absent	No. of students who omitted at least 1 <i>be</i>	% of students who omitted at least 1 <i>be</i>	Total no. of students in group
ENG mono	Age 12	60	0	0.00	0	0.00	15
	Age 16	47	0	0.00	0	0.00	15
GER mono	Age 12	63	1	1.59	1	5.00	20
	Age 16	68	1	1.47	1	5.00	20
RUS mono	Age 12	32	10	31.25	3	30.00	10
	Age 16	35	8	22.86	4	40.00	10
RUS-GER	Age 12	47	0	0.00	0	0.00	15
	Age 16	85	1	1.18	1	4.35	23
TUR mono	Age 12	32	8	25.00	2	28.57	7
	Age 16	24	3	12.50	2	40.00	5
TUR-GER	Age 12	52	0	0.00	0	0.00	20
	Age 16	60	1	1.67	1	4.76	21
VIET mono	Age 12	22	8	36.36	4	40.00	10
	Age 16	38	1	2.63	1	10.00	10
VIET-GER	Age 12	84	1	1.19	1	3.85	26
	Age 16	72	0	0.00	0	0.00	22
Total		821	43	5.24	21	8.43	249

Table 43: Absolute frequencies and percentages of required and missing copula verbs, number of student

Next, two chi-squared tests are considered, one for the 12-year-old cohort, and one for the 16-year-old cohort, to evaluate if the observed differences between missing and present copula verb forms are statistically significant. As before, for this statistical test, the English native speakers are not included. Both chi-squared tests return p-values below 0.05, demonstrating that the difference is indeed statistically significant (12-year-old cohorts: $\chi^2(6)=73.816$, $p<.05$; 16-year-old cohorts: $\chi^2(6)=44.639$, $p<.05$). The residuals confirm that for the younger cohorts, the Russian, Turkish, and Vietnamese monolingual students show more absent copula verbs than expected. Slightly different are the results for the older participants. Here, only the Russian and Turkish monolinguals have a higher number of absent forms of *be*; the Vietnamese monolinguals now behave like the other groups and show more present copula verbs than expected, i.e. fewer absent forms of *be*.

We need to go one step further and investigate how many students actually missed copula verbs. Therefore, two additional columns are added in Table 43, i.e. the number of students who omitted at least one copula verb, as well as the percentage of students who omitted a minimum of one copula verb. The latter is crucial, to account for the differing numbers of participants per language group. From this data, we can see that less than half of the monolingual Russian, Turkish, or Vietnamese students omitted one or more copula verbs. Hence, it may not be a general problem, but rather an individual issue for some participants. However, there are still higher numbers for the monolingual Russian, Turkish, and Vietnamese learners, compared to the other groups. Therefore, two further chi-squared tests are performed, to see if this smaller difference is still statistically significant. Once again, we obtain p-values lower than 0.05, suggesting that we can reject the null hypothesis (12-year-old cohorts: $\chi^2(6)=16.062$, $p<.05$; 16-year-old cohorts: $\chi^2(6)=14.687$, $p<.05$). The residuals of both chi-squared tests confirm that the number of students that omitted (a) copula verb(s) is higher than expected for the monolingual Russian, Turkish, and Vietnamese groups.

Overall, these results indicate that our previous expectations are largely met. The high number of missing copula verbs for the Russian, Turkish, as well as the younger Vietnamese monolingual participants can most likely be explained with cross-linguistic influence from the respective native languages. The older monolingual Vietnamese participants have already overcome this stage and do not show negative cross-linguistic influence anymore.⁴⁴ What is

⁴⁴ Noticeably, the 16-year-old Vietnamese monolinguals are also outstanding (to the opposite degree than the Turkish monolingual students), as they seem to be comparably more proficient in English than the other 16-year-old learners of English. As this is not a longitudinal study but a cross-sectional study, we may simply have participants that are unusually more proficient, i.e. show a higher developmental process, than the other participants.

striking, however, is the observation that the Russian-German, Turkish-German, or Vietnamese-German bilinguals do not show instances of cross-linguistic influence but rather perform like the German monolingual students. Here, we could argue for positive cross-linguistic influence from German, and no negative cross-linguistic influence from Russian, most likely due to the similarity between German and English, concerning the use of copula verbs. We could even say that the bilinguals benefit from their German input, i.e. this may be associated with having an advantage. Though, not over the German monolinguals but over the monolingual peers of their heritage language.

6.2.4 Formal correctness and target-like meaning of verb phrases

The following step is the analysis of the overall formal correctness and target-like meaning of verb phrases. As was explained in Chapter 5.3, we differentiate two measures, formal correctness on the one hand (which disregards whether this particular tense or aspect form fits into the concrete context, but only judges the form of the verb phrase), and target-like meaning on the other hand (which regards whether the verb phrase represents a target-like English usage, i.e. suitable tense and aspect). Table 44 presents the aggregate numbers for formally (in)correct verb phrases and (non-)target-like meaning of VPs. In addition, percentage rates of formally correct and target-like uses are also inserted because of the differing numbers of VPs per text and participants per language group.

		Correct Form VP	Incorrect Form VP	% correct form VP	Target-like meaning VP	Non-target-like meaning VP	% target-like meaning VP	VP tokens
ENG native	Age 12	408	27	93.79	424	11	97.47	435
	Age 16	432	7	98.41	428	11	97.49	439
GER mono	Age 12	195	85	69.64	236	44	84.29	280
	Age 16	360	73	83.14	375	58	86.61	433
RUS mono	Age 12	104	49	67.97	120	33	78.43	153
	Age 16	123	57	68.33	155	25	86.11	180
RUS-GER	Age 12	166	106	61.03	192	80	70.59	272
	Age 16	435	98	81.61	468	65	87.80	533
TUR mono	Age 12	42	31	57.53	61	12	83.56	73
	Age 16	27	24	52.94	41	10	80.39	51
TUR-GER	Age 12	150	107	58.37	204	53	79.38	257
	Age 16	192	114	62.75	260	46	84.97	306
VIET mono	Age 12	72	84	46.15	126	30	80.77	156
	Age 16	263	20	92.93	260	23	91.87	283
VIET-GER	Age 12	264	168	61.11	366	66	84.72	432
	Age 16	357	106	77.11	400	63	86.39	463
Total		3590	1156	75.64	4116	630	86.73	4746

Table 44: Absolute frequencies and percentages of formally (in)correct VPs and (non-) target-like meaning per learner group

A first inspection of the data set (Table 44) reveals that there are remarkably more formally incorrect VPs than VPs with non-target-like meaning. Also, the variation across the groups is larger for formal correctness than for target-like meaning, suggesting that the ratios of target-like meaning are similar across the different language groups, but not so the variable formal correctness. In addition, we see an increase in the percentages of both formal correctness and target-like meaning from the younger to the older participants. As before, this trend is not visible in the Turkish monolingual group. This supports, as previously indicated, their status of being less proficient than the other learners of English. The second exception are the 16-year-old monolingual Vietnamese participants. Confirming our previous observations, we notice that the level of proficiency appears much higher than that of the other 16-year-old participants, which is especially visible in the values for formal correctness. They are clearly more advanced than the other learners of English, yet still below the native speakers of English.

After having discussed the overall trends, we now proceed with analyzing the inner constituency for each group. The respective results can be obtained from visualizations in form of boxplots (Figure 31 to Figure 36). Three different representations are available. First, we compare the absolute frequencies of formally correct VPs/target-like meaning of VPs (Figure 31/Figure 34); second, normalized frequencies of both measures are generated (to the base of 100 word tokens) (Figure 32/Figure 35); and third, the proportions of formally correct VPs/target-like meaning of VPs are presented (Figure 33/Figure 36).

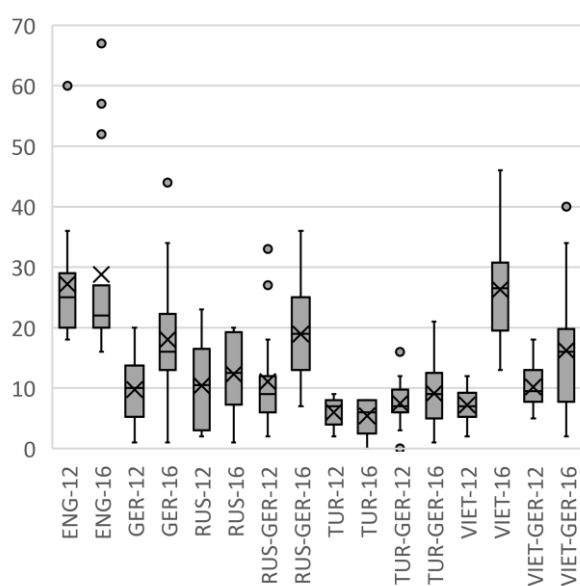


Figure 31: Correct form of verb phrases
(absolute values)

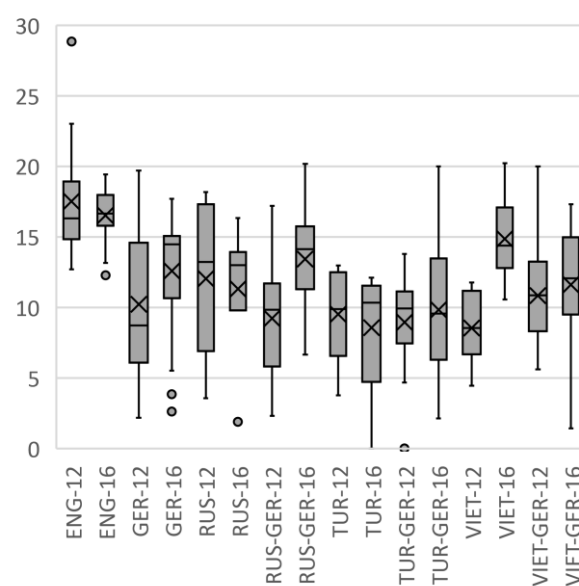


Figure 32: Correct form of verb phrases
(normalized values)

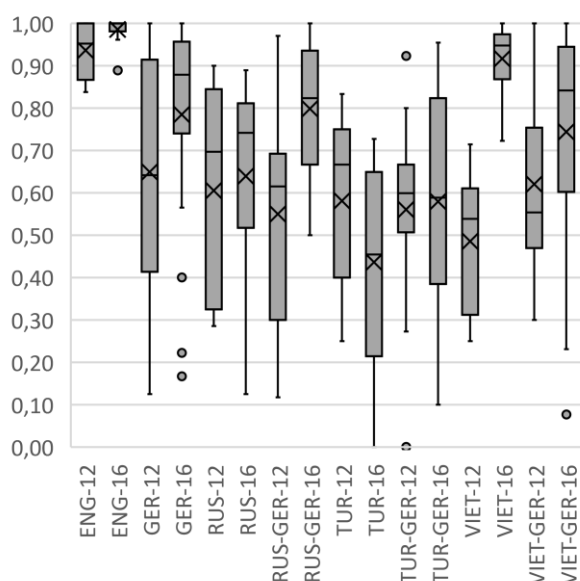


Figure 33: Proportions of formally correct verb phrases

Let us first consider formal correctness. The same trends that were observed from the aggregated numbers above remain (Table 44). We mainly see an increase from the younger to the older cohorts, apart from the Turkish monolinguals and the English native speakers (Figure 31). When only focusing on the foreign language learners, the German monolinguals and the bilingual participants appear to have on average more formally correct VPs than their monolingual peers, with the exception of the older cohort of the Vietnamese monolinguals, who have comparably many formally correct VPs. Moreover, the Turkish-German bilinguals are also interesting, because their performance is clearly below that of the other bilinguals. Yet, we need to assess, if this is based on overall frequency differences. Therefore, normalized frequencies are included (Figure 32). The general differences appear less pronounced, which is visible in the means, because they are now evidently closer together. Only the means of the English native speakers' and the 16-year-old Vietnamese monolinguals are visibly above the other participants. This reinforces that part of the group differences are due to the number of words and VPs per text.

The last plot presenting formally correct VPs is based on proportions of formally correct VPs, i.e. the percentage rate of how many of the total number of VPs are formally correct (Figure 33). This plot is ideal to compare the performance of the groups, because we now do not only present the absolute or relative frequencies of correct forms, but we additionally show the relation between formally correct and incorrect uses. What is striking is again the observably higher performance of both English native speaker groups and the older cohorts of the Vietnamese monolinguals. Also, our initial observation, namely that the German monolinguals,

the Russian-German bilinguals, as well as the Vietnamese-German bilinguals are relatively better than the other foreign language learners, is reinforced.

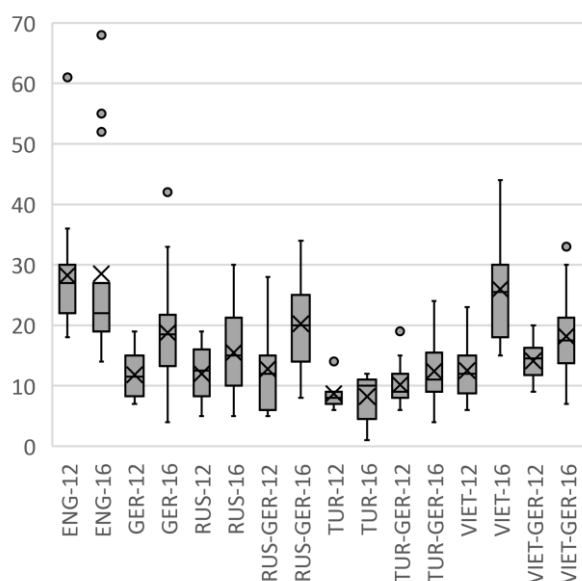


Figure 34: Target-like meaning of verb phrases (absolute values)

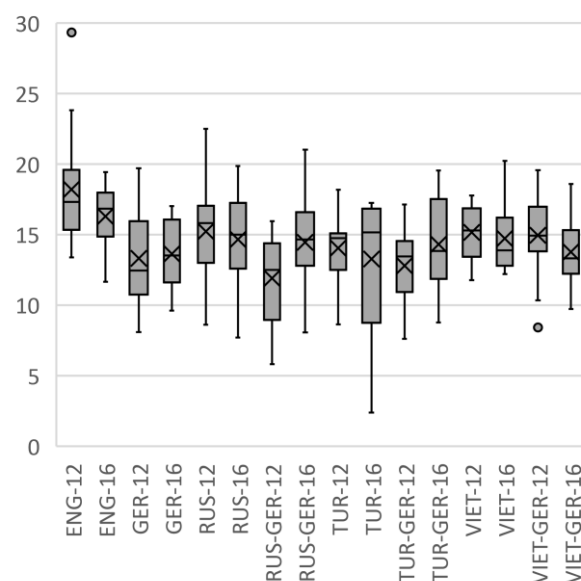


Figure 35: Target-like meaning of verb phrases (normalized values)

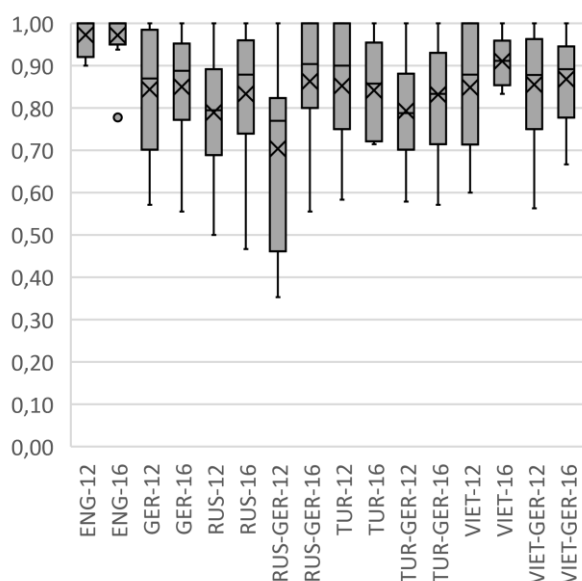


Figure 36: Proportions of target-like meaning of verb phrases

Second, we move on to target-like meaning of verb phrases. There is an increase in the frequencies from the younger to the older cohorts visible in all groups, whereas this trend cannot be observed for the English native speakers (Figure 34). Interestingly, the comparison of the absolute frequencies with the normalized frequencies (Figure 35), clearly demonstrates that the

observed group differences from the former graph are largely based on word count differences. We argue this, because the latter graph depicts that all groups are relatively similar, when VPs per 100 words are compared. Furthermore, we cannot perceive that the bilinguals and the German monolinguals are better than the other monolingual learners. This last observation is a difference to what we saw for formal correctness. In addition, the proportions of VPs with target-like meaning (Figure 36) are comparably higher and less spread out than what we noticed for the proportions of formally correct VPs. The only relatively weaker performance is that of the Russian-German bilinguals. Lastly, the sizes of the bars and whiskers of all boxplots indicate that there is considerable individual variation among the students' texts.

The next procedure is the statistical evaluation of the differences we observed based on the absolute frequencies and the boxplot graphs. For this analysis, we only continue with the proportions of formally correct VPs as well as target-like meaning of VPs, and we calculate t-tests within each language group and ANOVAs across the language groups per age cohort (Table 45). By using this measure, we control for length differences of the texts and the unequal numbers of participants per language group. This time, two different ANOVAs are run, one where the English native speakers are included, and one without them.

		Age 12	Age 16	t-tests	d _{Cohen}
Proportions of correct form of VPs	ENG native	0.94 (0.06)	0.99 (0.03)	t(20.726)=-2.9251, p<.05	1.0680
	GER mono	0.65 (0.27)	0.78 (0.25)	t(37.742)=-1.623, p=.0565	0.5133
	RUS mono	0.60 (0.23)	0.64 (0.26)	t(17.679)=-0.291, p=.3871	0.1303
	RUS-GER	0.55 (0.24)	0.80 (0.15)	t(20.841)=-3.4486, p<.05	1.2644
	TUR mono	0.58 (0.22)	0.44 (0.24)	t(7.294)=1.0012, p=.3488	0.6135
	TUR-GER	0.56 (0.19)	0.58 (0.25)	t(37.778)=-0.2550, p=.4	0.0792
	VIET mono	0.49 (0.15)	0.92 (0.08)	t(13.7)=-7.5199, p<.05	3.3630
	VIET-GER	0.62 (0.19)	0.74 (0.25)	t(38.583)=-1.8241, p<.05	0.5409
ANOVA (all groups)		F(7)=5.945, p<.05	F(7)=7.466, p<.05		
η^2		0.2657	0.3069		
ANOVA (without ENG)		F(6)=0.828, p=.551	F(6)=4.798, p<.05		
η^2		0.0469	0.2168		
Proportions of target-like meaning of VPs	ENG native	0.97 (0.04)	0.97 (0.06)	t(25.768)=-0.0361, p=.4857	0.0132
	GER mono	0.84 (0.13)	0.85 (0.13)	t(37.978)=-0.1539, p=.4392	0.0487
	RUS mono	0.79 (0.14)	0.83 (0.15)	t(17.682)=-0.6512, p=.2616	0.2912
	RUS-GER	0.70 (0.19)	0.87 (0.15)	t(23.943)=-2.6814, p<.05	0.9472
	TUR mono	0.85 (0.14)	0.84 (0.11)	t(9.7742)=0.1187, p=.9079	0.0668
	TUR-GER	0.79 (0.12)	0.83 (0.12)	t(38.729)=-0.9681, p=.1695	0.3027
	VIET mono	0.86 (0.15)	0.91 (0.05)	t(11.302)=-1.0034, p=.1683	0.4488
	VIET-GER	0.86 (0.13)	0.87 (0.10)	t(45.937)=-0.4081, p=.3425	0.1162
ANOVA (all groups)		F(7)=4.517, p<.05	F(7)=2.224, p<.05		
η^2		0.2156	0.1165		
ANOVA (without ENG)		F(6)=2.17, p=.052	F(6)=0.544, p=.774		
η^2		0.1141	0.0304		

Table 45: Proportions of formally correct VPs and VPs with target-like meaning, standard deviations (in parenthesis), t-tests, effect sizes (Cohen's d); ANOVAs per age group, effect sizes (eta-squared)

Interestingly, we observe a difference between the two age groups, i.e. an increase in formal correctness and target-like meaning from age 12 to age 16. Yet, this difference is surprisingly often not statistically significant. For the former comparisons, we obtain a statistically significant result for the English native speakers, the Russian-German and Vietnamese-German bilinguals, as well as the Vietnamese monolinguals. For the latter comparisons, there is only a statistical significance between the two age cohorts of the Russian-German bilinguals. For the other seven groups, the proportions of VPs with target-like meaning do not differ significantly between the younger and the older participants.

According to the F-statistics of the ANOVAs, the observed differences across all eight groups per age cohort are statistically significant, both for age 12 and age 16, as well as formally correctness and target-like meaning. If the English native speakers are excluded, however, the differences are not statistically significant anymore, except for the proportions of formally correct VPs of the older cohorts. When we have a closer look at the values of this latter comparison, we notice that the monolingual Turkish students have particularly low proportions, i.e. only few formally correct VPs, and that the Vietnamese monolinguals have considerably high proportions. This result is likely to be related to the particularity of these two groups.

What do these figures imply for the t-test results and the outcomes of the ANOVA calculations? We have to recognize that both measures, i.e. formal correctness and target-like meaning are interlaced variables that may not simply increase in a straightforward, linear way. They are especially prone to vary according to the composition complexity of a text. By this it is meant that if a student only used simple forms with no tense or aspectual distinctions, and also no complex contexts which require tense or aspect differentiation, the proportions for target-like forms are potentially very high. On the contrary, if a generally more proficient student used a variety of tenses and aspectual distinctions, or complex sentences with different layers of storytelling, chances are much higher that in some cases, he or she makes a mistake, which in turn, would diminish the proportion of target-like meaning. Formal correctness is less likely to be affected to the same extent; however, lexical variation and the choice of different, potentially complicated or complex verbs may also give rise to a higher likelihood of formally incorrect VPs. Especially if compared to a text which includes only a limited number of simple verbs that are used repeatedly. In addition, formal correctness is partly related to (in)correct subject-verb-agreement, thereby causing those participants who have high proportions of missing third person {-s} morphemes to automatically receive a lower value for formal correctness.

As a next step of the analysis, we directly compare formal correctness with target-like meaning. The benefit of this approach is that we can gain a detailed understanding of the relationship between these two variables. We follow a similar procedure as before and calculate t-tests for each language group per age cohort (Table 46). Evidently, for the younger cohorts, there are statistically significant differences between the proportions of formally correct VPs and target-like meaning of VPs. For the groups of the 16-year-old participants, we obtain significant values for the Russian and Turkish monolinguals as well as the Turkish-German bilinguals. This is a striking result and shows that for the majority of participants, there is still a difference between correct form and target-like meaning at age 12, whilst this difference has mainly disappeared for the 16-year-old participants, except for two monolingual groups (Russian, Turkish) and one bilingual group (Turkish-German). The ANOVAs, both with and without the English native speakers, are the same as above. Nevertheless, they are repeated here as a matter of consistency.

		Proportions of correct form of VPs	Proportions of target- like meaning of VPs	t-tests	d _{Cohen}
Age 12	ENG native	0.94 (0.06)	0.97 (0.04)	t(25.594)=-1.9335, p<.05	0.7060
	GER mono	0.65 (0.27)	0.84 (0.13)	t(27.742)=-.8353, p<.05	0.8966
	RUS mono	0.60 (0.23)	0.79 (0.14)	t(14.819)=-2.062, p<.05	0.9222
	RUS-GER	0.55 (0.24)	0.70 (0.19)	t(26.824)=-1.8529, p<.05	0.6766
	TUR mono	0.58 (0.22)	0.85 (0.14)	t(10.918)=-2.7442, p<.05	1.4669
	TUR-GER	0.56 (0.19)	0.79 (0.12)	t(31.812)=-4.4398, p<.05	1.4040
	VIET mono	0.49 (0.15)	0.86 (0.15)	t(18)=-5.1682, p<.05	2.3113
	VIET-GER	0.62 (0.19)	0.86 (0.13)	t(43.748)=-5.0722, p<.05	1.4068
ANOVA (all groups)		F(7)=5.945, p<.05	F(7)=4.517, p<.05		
η^2		0.2657	0.2156		
ANOVA (without ENG)		F(6)=0.828, p=.551	F(6)=2.17, p=.052		
η^2		0.0469	0.1141		
Age 16	ENG native	0.99 (0.03)	0.97 (0.06)	t(20.887)=-0.7591, p=.4563	0.2772
	GER mono	0.78 (0.25)	0.85 (0.13)	t(28.692)=-1.0222, p=.1576	0.3232
	RUS mono	0.64 (0.26)	0.83 (0.15)	t(14.813)=-1.9175, p<.05	0.8575
	RUS-GER	0.80 (0.15)	0.87 (0.15)	t(43.991)=-1.543, p=.065	0.4550
	TUR mono	0.44 (0.24)	0.84 (0.11)	t(5.561)=-3.0491, p<.05	1.9284
	TUR-GER	0.58 (0.25)	0.83 (0.12)	t(28.658)=-4.1438, p<.05	1.2788
	VIET mono	0.92 (0.08)	0.91 (0.05)	t(15.848)=0.2154, p=.8322	0.0963
	VIET-GER	0.74 (0.25)	0.87 (0.10)	t(27.92)=-2.1032, p<.05	0.6341
ANOVA (all groups)		F(7)=7.466, p<.05	F(7)=2.224, p<.05		
η^2		0.3069	0.1165		
ANOVA (without ENG)		F(6)=4.798, p<.05	F(6)=0.544, p=.774		
η^2		0.2168	0.0304		

Table 46: Comparison between correct form and target-like meaning of VPs (proportions), standard deviations (in parenthesis), t-tests, ANOVAs, effect sizes (Cohen's d and eta-squared)

In accordance with the former analyses, several linear regressions are also performed for these two variables. Model Va (Table 47) includes the ratio of correct forms of VPs, and Model Vb

(Table 48) includes the ratio of target-like meaning of VPs. We here only present the results of the models in which all NAs had already been excluded. A total of 162 data points is disregarded in these two models. The independent variables that were used are the same as before, i.e. language group, age, gender, age of onset of acquiring German, HISEI, the school grades in German and English, school type, attitudes towards English (useful/difficult), and the number of books per household.

Linear Model Va: ratio of correct form of VPs versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.434833	0.242174	0.0772 .
RUS-GER	0.031232	0.084668	0.7134
TUR-GER	0.003681	0.130189	0.9775
VIET-GER	0.080929	0.097032	0.4073
Gender-male	-0.049047	0.048037	0.3110
Age	0.028973	0.012335	0.0219 *
Onset GER-five	0.199774	0.228074	0.3843
Onset GER-four	0.081607	0.126026	0.5196
Onset GER-seven+	0.001751	0.151487	0.9908
Onset GER-six	0.007039	0.142446	0.9607
Onset GER-three	-0.008200	0.072828	0.9107
HISEI	0.001770	0.001597	0.2717
School grade-GER	-0.042783	0.042598	0.3189
School grade-ENG	-0.021884	0.031787	0.4936
School type-other	-0.162379	0.057390	0.0062 **
ENG difficult-no	0.056293	0.069196	0.4189
ENG useful-no	0.002580	0.109731	0.9813
No of books-0-10	-0.201039	0.107671	0.0664 .
No of books-101-200	-0.154697	0.074846	0.0427 *
No of books-11-25	-0.166145	0.111748	0.1419
No of books-201-500	-0.014364	0.086379	0.8684
No of books-26-100	-0.179311	0.090792	0.0525 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared: 0.4731
F-statistic: 2.779 on 21 and 65 DF, p-value: 0.0008685

Table 47: Linear Model Va: Ratio of correct form of VPs

The ratios of formally correct VPs and VPs with target-like meaning indicate the percentage of correctness, i.e. the higher the value, the more target-like are the texts. We already pointed out that to a certain degree, formal correctness depends on subject-verb-agreement. Hence, the results presented in Table 47 reinforce what had been explained before. Age and school type are the main explanatory variables. With increasing age, the formal correctness increases, and attending a vocational-track secondary-school type lowers the ratio of formal correctness. Here as well, language background, i.e. the comparison between the L3 learners and the German monolinguals, does not exert a statistically significant influence. One additional significant explanatory variable appears in the model. Possessing between 101 and 200 books, in

comparison with owning 500 books or more, has a decreasing effect on the ratio of formal correctness. It is difficult to explain this result, since this difference has not been found elsewhere. So far, we have only once noticed the number of books per household to affect a dependent variable. In Table 42, the ratio of incorrect SVA of *be* was higher for students possessing between 200 and 500 books in their households, when compared to students with 500 and more books. This suggests a potentially interesting influence, because both times, students with fewer books are shown to perform less target-like than students with a higher number of books per household.

Linear Model VIa: ratio of target-like meaning of VPs versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.4221615	0.1740984	0.01810 *
RUS-GER	-0.0150030	0.0608677	0.80608
TUR-GER	0.0647414	0.0935928	0.49157
VIET-GER	0.0333111	0.0697564	0.63458
Gender-male	0.0209425	0.0345338	0.54634
Age	0.0247605	0.0088675	0.00687 **
Onset GER-five	0.1066934	0.1639620	0.51752
Onset GER-four	-0.0006772	0.0906001	0.99406
Onset GER-seven+	-0.0504319	0.1089034	0.64485
Onset GER-six	-0.1791201	0.1024042	0.08499 .
Onset GER-three	0.0658450	0.0523562	0.21302
HISEI	0.0026190	0.0011480	0.02582 *
School grade-GER	-0.0401815	0.0306239	0.19410
School grade-ENG	-0.0270252	0.0228518	0.24126
School type-other	-0.0727057	0.0412573	0.08273 .
ENG difficult-no	0.0212470	0.0497450	0.67070
ENG useful-no	0.1731105	0.0788853	0.03178 *
No of books-0-10	0.0507715	0.0774047	0.51419
No of books-101-200	0.0148108	0.0538068	0.78399
No of books-11-25	0.0667744	0.0803357	0.40891
No of books-201-500	0.1374258	0.0620979	0.03041 *
No of books-26-100	0.0439719	0.0652699	0.50290

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4087			
F-statistic: 2.14 on 21 and 65 DF, p-value: 0.01036			

Table 48: Linear Model VIa: Ratio of target-like meaning of VPs

Table 48 reports the results for the linear regression based on the ratio of target-like meaning of VPs. As admitted above, this measure might be problematic to a certain degree, as a higher ratio of VPs with target-like meaning does not necessarily correlate with higher proficiency in English. This may explain the most striking results that emerge from the data. Again, increasing age significantly increases the ratio of VPs with target-like meaning. For the first time, the socio-economic status, represented as the variable HISEI, shows the same trend, namely that with increasing socio-economic status, the ratio of target-like meaning increases. This is in

accordance with earlier discussions. We presented, for instance, findings by Spellerberg (2016) who found that a lower socio-economic status correlates with lower metalinguistic awareness (see Chapter 3.6), and we reported Lechner & Siemund's (2014a) findings, where lower socio-economic status resulted in a poorer performance in English (see Chapter 3.7). Thus, for the dependent variable 'ratio of target-like meaning of VPs', we find the same significant effect. The reverse trend, however, is reported for the number of books per household and one specific attitude towards English. Here, the results do not confirm our expectations but are counterintuitive. First, having the opinion that English is not useful is shown to increase the ratio of VPs with target-like meaning. This is clearly the opposite result one could anticipate: perceiving English as a useful language may cause students to have a higher motivation in knowing English well. This correlation, however, might not exist, especially against the background of the results presented in Model Va. Second, this time, a lower number of books per household is shown as raising the ratio of VPs with target-like meaning. This result is even more intriguing than what was presented for the attitude towards English, because for this variable, we have formerly presented the exact opposite (see Table 42 and Table 47).

Linear Model Vb: ratio of correct form of VPs versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+), ratio of target-like meaning of VPs:

	Estimate	Std. Error	P-value
(Intercept)	0.3081791	0.2488602	0.2201
RUS-GER	0.0357328	0.0833577	0.6696
TUR-GER	-0.0157418	0.1285853	0.9029
VIET-GER	0.0709349	0.0956534	0.4611
Gender male	-0.0553304	0.0474052	0.2475
Age	0.0215442	0.0128457	0.0984 .
Onset GER-five	0.1677641	0.2251693	0.4590
Onset GER-four	0.0818099	0.1240180	0.5118
Onset GER-seven+	0.0168815	0.1493182	0.9103
Onset GER-six	0.0607778	0.1434371	0.6732
Onset GER-three	-0.0279540	0.0725345	0.7012
HISEI	0.0009845	0.0016332	0.5487
School grade-GER	-0.0307283	0.0424710	0.4720
School grade-ENG	-0.0137766	0.0316155	0.6645
School type-other	-0.1405663	0.0578084	0.0178 *
ENG difficult-no	0.0499185	0.0681889	0.4668
ENG useful-no	-0.0493551	0.1119107	0.6607
No of books-0-10	-0.2162710	0.1063055	0.0461 *
No of books-101-200	-0.1591402	0.0736964	0.0346 *
No of books-11-25	-0.1861780	0.1105504	0.0970 .
No of books-201-500	-0.0555934	0.0881470	0.5305
No of books-26-100	-0.1925032	0.0896561	0.0356 *
Ratio target meaning	0.3000138	0.1697850	0.0820 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4976			
F-statistic: 2.881 on 22 and 64 DF, p-value: 0.0005246			

Table 49: Linear Model Vb: Ratio of correct form of VPs

In the following analysis step, one further independent variable is included. We want to investigate whether the ratio of formally correct VPs influences the ratio of target-like meaning of VPs or vice versa. Hence, the respective variable is added as one of the explanatory variables to each model (VIa, VIb). Again, 162 data points were excluded from the regression models due to NAs in the independent variables.

The overall predictive value for Model Vb (Table 49) increases slightly when compared to Model Va (Table 47) ($R^2=0.4976$). Furthermore, the significance of the individual independent variables is different than in the former model. Age does not have a significant effect anymore, whilst the type of school remains as a highly significant effect. As before, attending a school type other than ‘Gymnasium’ lowers the ratio of formally correct VPs. Noteworthy are the observations for the number of books per household. Three out of five comparisons with the highest possible number of books, i.e. 500 or more, return significant p-values. We can report again that having fewer than 500 books per household, decreases the ratio of formally correct VPs, at least for the values 0 to 10, 26 to 100, and 101 to 200 books. Yet again, neither language group, gender, socio-economic status, nor age of onset of acquiring German adds significantly to explaining the variation found in the ratios of formally correct VPs. Moreover, the ratio of target-like meaning of VPs does not return a statistically significant effect. This demonstrates that formal correctness does not depend on the target-like meaning of the verb phrase. Differently put, a low ratio of formally correct VPs does not imply an equally low ratio for target-like meaning. Instead, these two measures seem to be independent.

For the second model, Model VIb (Table 50), which predicts the ratio of target-like meaning of VPs, we barely observe different results from those discussed for Model VIa. The same surprising trends remain; especially striking are the directions of the estimates reported for perceiving English as not useful and the number of books. Both variables increase the ratio, when compared to the reference levels perceiving English as useful and the highest possible number of books per household, respectively. What was pointed out above, namely that the ratio of formally correct VPs is independent from the ratio of target-like meaning, is visible in Model VIb as well. The ratio of formally correct VPs does not predict the ratio of target-like meaning of verb phrases. Age and socio-economic status, however, confirm our initial expectations and are again in line with former analyses. No other explanatory variable adds significantly to this model.

Linear Model VIb: ratio of target-like meaning of VPs versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+), ratio of correct form of VPs:

	Estimate	Std. Error	P-value
(Intercept)	0.354740	0.175521	0.0475 *
RUS-GER	-0.019846	0.059960	0.7417
TUR-GER	0.064171	0.092102	0.4885
VIET-GER	0.020763	0.069011	0.7645
Gender-male	0.028547	0.034255	0.4077
Age	0.020268	0.009089	0.0293 *
Onset GER-five	0.075718	0.162298	0.6424
Onset GER-four	-0.013330	0.089443	0.8820
Onset GER-seven+	-0.050703	0.107168	0.6377
Onset GER-six	-0.180212	0.100774	0.0785 .
Onset GER-three	0.067116	0.051527	0.1974
HISEI	0.002344	0.001140	0.0439 *
School grade-GER	-0.033548	0.030369	0.2734
School grade-ENG	-0.023632	0.022569	0.2990
School type-other	-0.047529	0.043027	0.2735
ENG difficult-no	0.012519	0.049201	0.8000
ENG useful-no	0.172710	0.077628	0.0296 *
No of books-0-10	0.081943	0.078187	0.2986
No of books-101-200	0.038797	0.054662	0.4804
No of books-11-25	0.092535	0.080388	0.2540
No of books-201-500	0.139653	0.061121	0.0256 *
No of books-26-100	0.071774	0.066129	0.2818
Ratio correct form	0.155051	0.087747	0.0820 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4362			
F-statistic: 2.251 on 22 and 64 DF, p-value: 0.00628			

Table 50: Linear Model VIb: Ratio of target-like meaning of VPs

Taken together, these results suggest that there is an association between formal correctness and target-like meaning of verb phrases, on the one hand, and age and to a certain extent also school type, on the other hand. This association has now repeatedly been demonstrated to have an effect on the performance in the English writing task, not only for formal correctness and target-like meaning of VPs but also for other linguistic measures.

Intriguingly, we did not come across differences between L2 and L3 learners. This result has also been a recurring finding throughout the past four sections, but it remains surprising. In addition, the socio-economic status of the students has also turned out to be largely independent from both ratios. Only for the ratio of target-like VPs we noticed a positive estimate, i.e. with increasing HISEI value, the ratio of VPs with target-like meaning rises. This is especially striking, because up until now, the socio-economic status has not been demonstrated to have any significant effect. The following analyses will assess whether we find more instances of socio-economic status having a statistically significant effect on the dependent variable.

Moreover, we argued that both variables are most likely not the clearest measures to correlate with proficiency. Especially the variable target-like meaning of VPs heavily depends on the complexity and variability of the students' texts. Nonetheless, we confirmed that with

increasing age, both ratios increase, and that attending the university-bound school also increases both ratios. The remaining three case studies will try to demonstrate if we can replicate these results, which would ultimately strengthen this argument.

6.3 Case study II – use of the progressive aspect

For the second case study, we focus on the use of the progressive aspect. For this analysis, we did not manually go through every text, but the concordance program AntConc (Anthony 2016) was used to obtain the relevant progressive tokens. First, all word forms with the suffix *-ing* were extracted, and in a second step, the data set was cleaned by excluding all non-progressives such as gerunds or nouns. All remaining *-ing*-forms were counted and classified according to formal correctness and target-like use of the verb. It is necessary to separate the cover term ‘correct usage’ into these two categories. If all instances of the progressive were only coded ‘incorrect’ versus ‘correct’, this would not allow for a differentiated analysis. The previous section, where we considered formal correctness and target-like meaning of all verb phrases, already demonstrated that these two measures are not necessarily related, but that instead, they should be viewed as separate categories. This method is exemplified and discussed in Bardovi-Harlig (1992; 2000) and was adopted for the current analysis.

We briefly explain the coding procedure again (see also Chapter 5.3). (i) On the one hand, progressives could be formally correct: the form of *be* adheres to subject-verb-agreement and the suffix *-ing* is added to the main verb. Vice versa, formally incorrect progressives may show either an incorrect or no form of *be*, or the main verb may be misspelled. (ii) On the other hand, progressives can also be used target-like or non-target-like: target-like refers, for instance, to the use of a verb that describes a currently ongoing process. A non-target-like use would be, as an example, the use of a verb in the progressive form that is typically not used with progressive marking in English, because it expresses a state rather than a process. In Chapters 4.2 and 4.82, we illustrated the use of the English progressive; therefore, we will not go into too much detail at this point.

The inherent meaning of the verb together with its arguments, i.e. *aktionsart* or lexical aspect, was used for coding the category ‘target-like use’. An example for a correct form but incorrect meaning, or – to put it cautiously – the verb in the progressive is rather uncommon in target language use, would be sentence (8). Number (9) presents the opposite scenario: the meaning of the progressive is target-like, because it refers to an activity. Though, formally, the progressive is incorrect, because the auxiliary verb is missing:

(8) They **were feeling** very good [...].

(9) The man and child **walking**.⁴⁵

Let us have a closer look at these two coding decisions. The verb *feel* in (8) is not commonly used in the progressive aspect; this sentence is understood as describing a state, as a fact, and should therefore be rendered in simple aspect. When discussing the use of the progressive in Chapters 4.2 and 4.8.2, we recognized that the use of the progressive aspect in English is currently extending, especially to stative verbs. We admit that this impedes our coding decisions. Yet, as we have also affirmed, teaching materials in schools largely rely on resources that provide lists with typical verbs that are not used in the progressive aspect. This, in combination with the fact that the overall proficiency of the participants of the current study is intermediate rather than advanced, make us believe that these marginal uses of progressives are most likely due to incorrect uses and not because of a general extension of the progressive aspect. Therefore, this and similar examples were coded as having a ‘correct form’ but expressing an ‘incorrect meaning’.

Example (9) could also be understood as a headline or subtitle, if it appeared in isolation. It could then be considered formally correct and target-like, because headlines or subtitles are known to make use of omitting certain parts and can consist of incomplete sentences. However, this sentence appeared in the middle of the story. This is the reason why all sentences of this format are included in the category progressive; even though, strictly speaking, they are not progressives, because the auxiliary verb is missing. But as was explained earlier, leaving out the auxiliary when acquiring the usage of the progressive is quite common and marks a typical developmental process (see again Chapter 4.8.2). Hence, it was decided to count these as formally incorrect instances of the progressive aspect.

An additional variable to formal correctness is the absence or presence of the auxiliary verb. This is, in a sense, a subcategory of formal correctness and not a variable in its own right, because all formally correct examples are automatically coded ‘auxiliary verb present’. Progressives that are coded as being formally incorrect, however, do not necessarily imply that the auxiliary is absent, because the main verb could be misspelled or the form of *be* could be incorrect, as pointed out above.

⁴⁵ Both examples were taken from the E-LiPS data set. Sentence (8) was produced by a German-Russian bilingual child, and number (9) was written by a Turkish monolingual child.

Language Group		Form correct		Meaning target-like		Auxiliary missing		Abs. freq. progressives	Abs. freq. of progressive tokens
		abs. freq.	%	abs. freq.	%	abs. freq.	%		
ENG	Age 12	19	95.00	19	95.00	-	0.00	20	17
	Age 16	34	91.89	37	100.00	2	5.41	37	23
GER	Age 12	8	42.11	17	89.47	11	57.89	19	10
	Age 16	25	62.50	33	82.50	8	20.00	40	16
RUS	Age 12	2	33.33	6	100.00	4	66.67	6	3
	Age 16	11	50.00	21	95.45	8	36.36	22	13
RUS-GER	Age 12	8	44.44	14	77.78	8	44.44	18	7
	Age 16	10	52.63	18	94.74	8	42.11	19	10
TUR	Age 12	6	46.15	13	100.00	7	53.85	13	7
	Age 16	5	100.00	5	100.00	-	0.00	5	5
TUR-GER	Age 12	8	40.00	15	75.00	12	60.00	20	12
	Age 16	13	40.63	27	84.38	16	50.00	32	13
VIET	Age 12	7	43.75	14	87.50	6	37.50	16	10
	Age 16	7	53.85	12	92.31	1	7.69	13	13
VIET-GER	Age 12	18	52.94	30	88.24	14	41.18	34	12
	Age 16	31	73.81	37	88.10	7	16.67	42	20
Total		212		318		112		356	

Table 51: Overview of formal correctness, target-like usage, and absence of auxiliary

In Table 51, it is shown that overall, none of the groups used the progressive aspect particularly frequently. In total, there are only 356 uses of the progressive aspect, which is strikingly low considering that the corpus consists of a total 259 different texts. Clearly, the native speakers of English achieved the best results, visible in their high percentages for formal correctness and target-like meaning, as well as the low percentages for missing auxiliaries, whilst the picture is more differentiated for the learners of English. Concerning target-like meaning, the monolingual Turkish and Russian speakers produced (almost) no errors. Nevertheless, these proportions are based on particularly few examples, especially for the two monolingual Turkish groups (i.e. 13 and 5 uses of the progressive aspect, respectively). Even more surprising are the comparably low ratios for formally correct progressives for the same two language groups. Particularly the Russian monolinguals are at the lower end of all participants, when considering formal correctness. This could correlate with the grammatical systems of Turkish and Russian – both languages differentiate aspect, which means that also ongoing situations are specially marked (see Chapters 4.4 and 4.5). The form in these two languages, however, is crucially different from English. In addition, the Turkish-German and Vietnamese monolingual students show surprisingly low proportions for formal correctness as well.

Furthermore, we can observe from the relative frequencies that formal correctness and target-like meaning increase from the younger to the older cohorts. Exceptions are the native speakers of English for formal correctness (here we find more incorrect forms among the texts of the older students), and the Turkish-German bilinguals, also for formal correctness visible between the two age groups. There is basically no difference concerning the relative frequencies

of formally correct progressives, but the absolute frequency of progressive uses has increased. For target-like meaning, we generally recognize higher proportions across all participants, compared to the proportions for formal correctness. This confirms what was presented in case study I, namely that it is the form that poses problems for the learners of English, and not so much the use, here demonstrated with use of the progressive. Admittedly, formal correctness is again related to subject-verb-agreement. However, we saw in Chapter 6.2.2, that the students are generally capable of using the correct form of *be*. Hence, the low ratios for formal correctness are better explained with the high rate of missing auxiliaries.

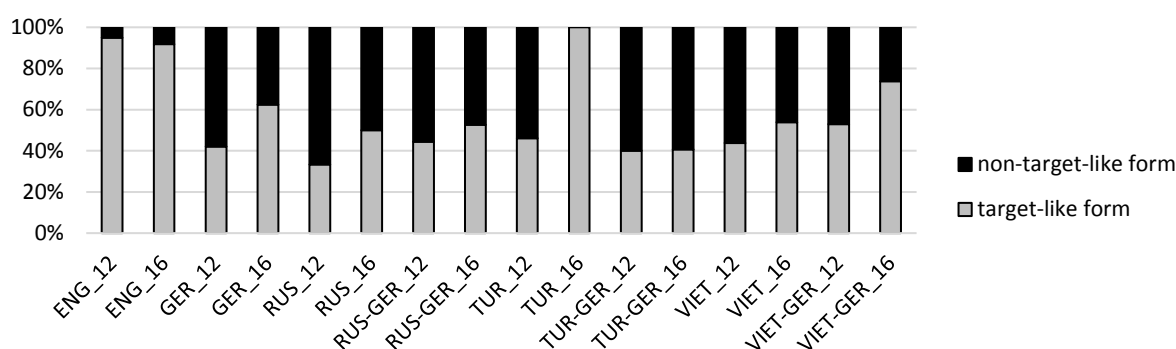


Figure 37: Target-like form versus non-target-like form of progressives (proportions)

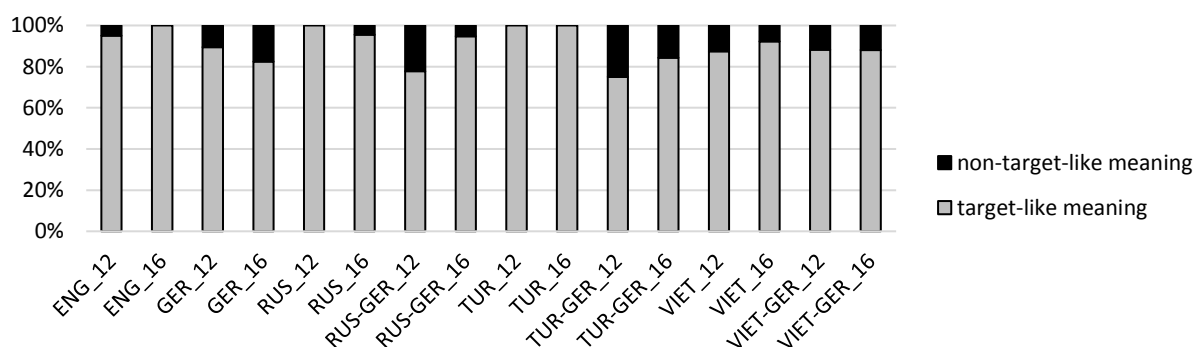


Figure 38: Target-like meaning versus non-target-like meaning of progressives (proportions)

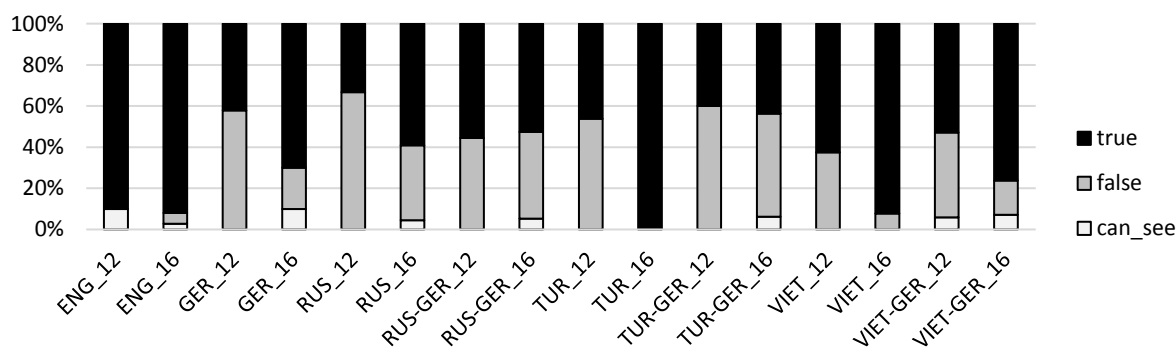


Figure 39: Auxiliary present (true), absent (false), form of *see* (*can see*) with the progressive forms (proportions)

Figure 37 and Figure 38 visualize the distribution of formal correctness and target-like use, and Figure 39 presents the proportions of missing or absent auxiliary verbs (the respective tables including the absolute values of these and the following bar plots can be found in Appendix I, Table 77 to Table 81). These graphical representations emphasize what was argued before, namely that we can clearly observe a discrepancy between these two measures, and that by and large, progressives were used target-like across the corpus. In addition, in Figure 39, the label ‘*can see*’ was added. As explained in Chapter 4.2, progressive forms can also be used with verbs of perceptions. In these contexts, the auxiliary verb is usually omitted. Throughout the corpus, we find a substantial number of sentences that include the phrase *I (can) see*. Most likely, this was caused by the specific task, namely to describe what can be seen in the pictures. Very often, we notice that these forms co-appear with *in the first/second/last picture*. See (10) as one example, written by a 16-year-old German monolingual student.

(10) On the second picture I sea the man walking home with the fisch and his sun.
Disregarding spelling, we identified a progressive context, i.e. the man is walking home. The sentence could be expressed differently, for instance *I see that the man is walking home* or *I see that the man walks home*. We understood the *-ing* suffix as progressive marker and coded this and similar examples as progressives without an auxiliary verb but where a form of *(can) see* was used instead.

What cannot be shown at this stage, however, is the number of instances where a progressive could potentially be used or is even necessary, due to adverbial triggers, such as *while* or *now*, but where a simple aspect form is used instead. The latter, i.e. those contexts where a progressive form is required but not used are subsumed under the category ‘non-target-like meaning of verb phrases’ (see the discussion in Chapter 6.2.4). Yet, potential contexts or even preferable contexts for progressive uses are not represented in the analysis. We explained in Chapter 4.2, and also to a certain extent in Chapter 4.1.3, that the choice of (the progressive) aspect depends on the viewpoint of the speaker or writer, and therefore, we are unable to judge or evaluate the (non-)choice of the progressive aspect in many contexts. Recall that it is acceptable to utter either *They go to the lake* or to use *They are going to the lake*. Both sentences may be used to refer to the same situation. Yet, the latter focuses, in addition to stating the specific action, on the actual activity of *walking*. One might argue that a picture story such as was used for this study, potentially triggers progressive uses, because the images clearly depict activities (see Chapter 5.2.1). This claim, though, seems not to find support in the current data set, as the native speakers of English also use the progressive aspect only infrequently. In the

following paragraphs, we therefore concentrate on additional aspects of the use of the progressive.

It was assumed that the variety of verbs that is used in the progressive aspect correlates with higher proficiency. We discussed that lexical variety increases with increasing competence. It is therefore likely that during earlier acquisitional stages, only a limited number of verbs is used with the *-ing* suffix, but that with increasing knowledge of English, the types of verbs used in the progressive rise. The counts of the different verbs occurring in the progressive aspect might be an indication of the level of English of the individual groups. We report the frequencies of progressive tokens in Table 51. We report an increase from the younger to the older cohorts, apart from the Turkish monolingual participants. Furthermore, when both age cohorts are combined, the English students, as expected, use a greater variety of different verbs ($n=33$), followed by the Vietnamese-German students ($n=23$), the German, Turkish-German, and Vietnamese monolingual students (for all three, $n=19$), and the Russian students ($n=15$). The fewest verbs were used by the Russian-German students ($n=14$) and the Turkish students ($n=9$). Overall, the most frequent verbs of all groups taken together were *go*, *fish*, *cry*, and *look*. This high frequency can be easily explained: these verbs were triggered by the plot of the story and, in addition, these are typical activity verbs, hence, verbs that occur particularly frequently in the progressive in English. Together, they make up roughly 50% of all verbs that were used (Figure 40).

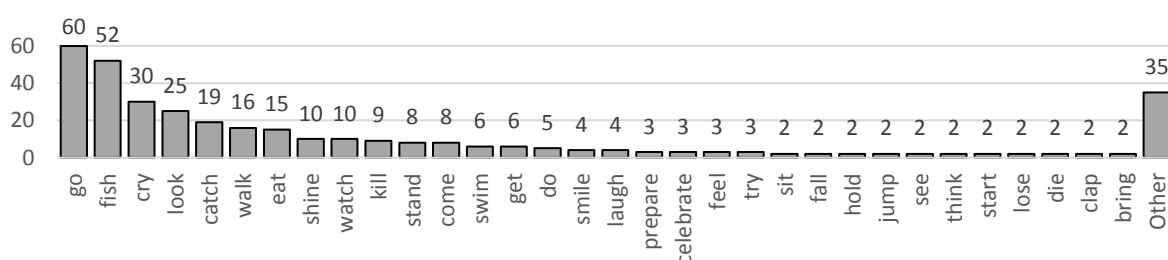


Figure 40: Absolute frequencies of verbs used in the progressive aspect

In a next step, we visually report the distribution of different tenses (Figure 41) and the partition into the four lexical aspect categories ‘achievement’, ‘accomplishment’, ‘activity’, and ‘state’ (Figure 42) for each language group. It is apparent from Figure 41 that there are many present progressives and bare progressives (i.e. progressives that lack an auxiliary verb) but strikingly fewer simple past forms. Interestingly, the largest proportions of past progressives are visible in the English native speaker groups, the 16-year-old Vietnamese monolingual group, and all groups that have access to Russian. Especially this last finding is remarkable and might be

related to the property of Russian to distinguish between non-past and past tense. However, as argued in Chapter 4.4, the Russian imperfective aspect, which is used to express ongoing situations, co-occurs frequently with the present tense. This high proportion of past tense is therefore slightly counterintuitive.

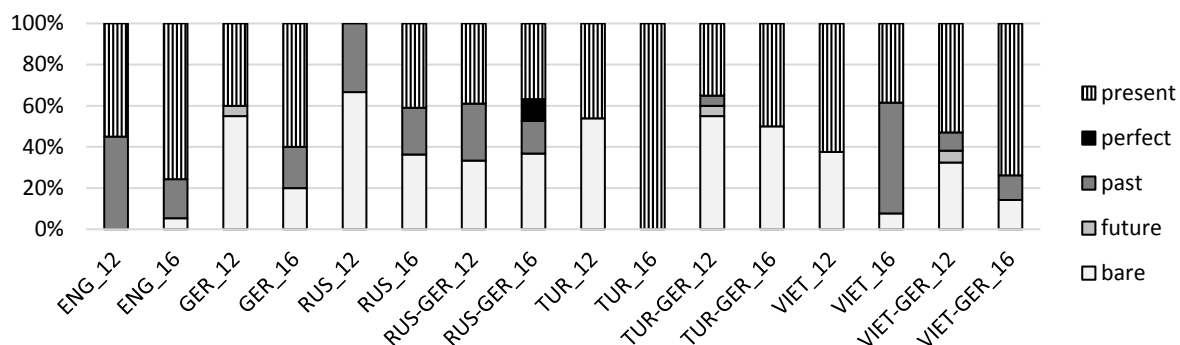


Figure 41: Tense of progressive forms (proportions)

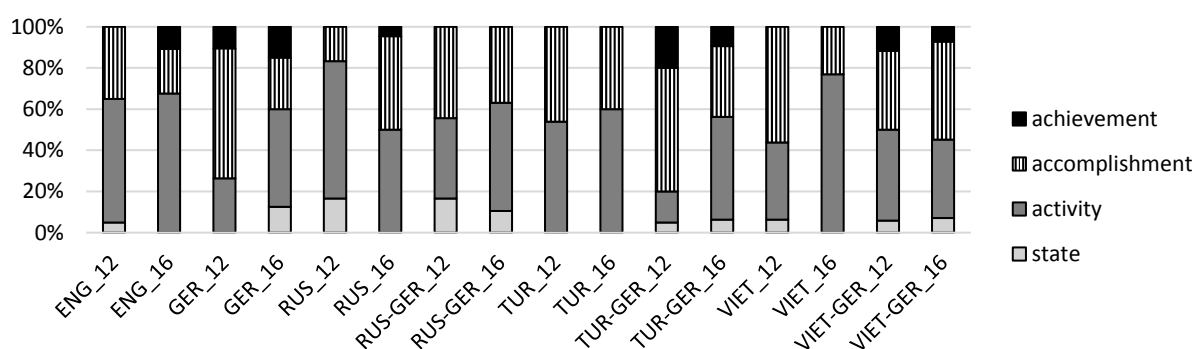


Figure 42: Lexical aspect (*aktionsart*) of progressives

Language Group		Lexical aspect			
		state	achievement	activity	accomplishment
ENG	Age 12	1	-	12	7
	Age 16	-	4	25	8
GER	Age 12	-	2	5	12
	Age 16	5	6	19	10
RUS	Age 12	1	-	4	1
	Age 16	-	1	11	10
RUS-GER	Age 12	3	-	7	8
	Age 16	2	-	10	7
TUR	Age 12	-	-	7	6
	Age 16	-	-	3	2
TUR-GER	Age 12	1	4	3	12
	Age 16	2	3	16	11
VIET	Age 12	1	-	6	9
	Age 16	-	-	10	3
VIET-GER	Age 12	2	4	15	13
	Age 16	3	3	16	20
Total		21	27	169	139

Table 52: Distribution of lexical aspect of progressives (absolute frequencies)

In the last bar plot, in Figure 42, we present the distribution of lexical aspect. Activities and accomplishment, due to their durative character, should appear most frequently in the progressive, and achievements and states should be the least frequent lexical aspect categories. Generally, this trend is visible across all groups. The proportions of achievements and states are low, compared to the high frequencies of activities as well as accomplishments. We notice some percentage differences for individual groups, in that the 16-year-old German monolinguals, the 12-year-old Russian monolinguals, as well as both cohorts of the Russian-German bilinguals show comparably higher frequencies for stative progressives. However, we have to keep in mind that the absolute values are generally very low for states and achievements and that activity verbs are certainly the majority (compare also Table 52). This is in accordance with the Aspect Hypothesis (see Chapter 4.7), namely that progressives are not incorrectly overextended states, and with the findings reported in Fuchs and Werner (2018b), in that foreign language learners do not overextend the progressive aspect to stative contexts but that the frequencies of stative progressives in learner language are in fact very low (Fuchs & Werner: 2018b: 212).

All these findings have exclusively been based on the language background; none of the additional information such as the socio-economic status, or type of school of the students is included. Also, we have so far only presented the descriptive statistics and we have not reported if the observed differences reach statistical significance. Besides, the variables were all looked at in isolation for a first, general overview. In the next step, more variables are correlated and ultimately combined in one model to see whether there is a significant correlation between certain variables and specific language groups.

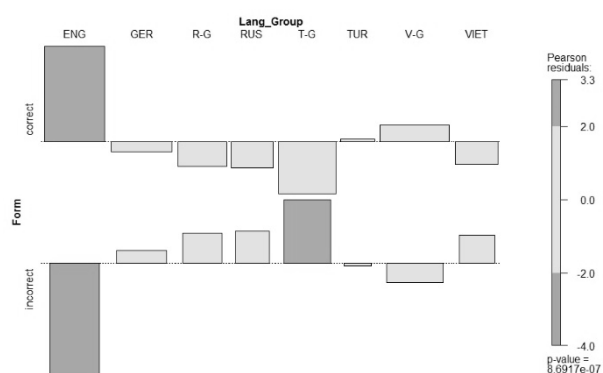


Figure 43: Association plot: correct form of progressives versus language group

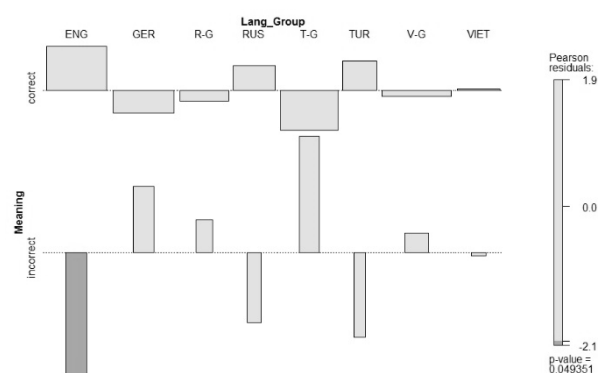


Figure 44: Association plot: target-like meaning of progressives (incorrect/correct) versus language group

First, with association plots, it will be shown whether one or more language groups is more or less strongly associated with a certain value of one variable. More precisely, we measure if the distributions of formal correctness, target-like meaning, the use of tenses, or the absence/presence of the auxiliary verb show to differ statistically significantly across the eight language groups. All following association plots are based on absolute frequencies.

Figure 43 attests what was claimed before, namely that all learners of English show surprisingly many formally incorrect progressives; the English native speakers used significantly more formally correct progressives than the foreign language learners. In addition, the Turkish-German bilinguals show the highest attraction of formally incorrect progressive forms. In Appendix II (Figure 102), we find the same two variables but also the differentiation between 12- and 16-year-old students. The only distinctness is that now, we notice that the 16-year-old Vietnamese monolinguals and the Turkish monolinguals are also associated with more formally correct progressives than expected, though to a lesser degree than the English native speakers. The former result supports once more the comparably high proficiency of the Vietnamese monolinguals. The result of the Turkish monolinguals may seem at first surprising, but we acknowledge that this is based on five progressives, hence this is clearly not a representative result.

Furthermore, the following association plot, Figure 44, demonstrates clearly, that the English native speakers, the Russian as well as the Turkish monolinguals show comparably fewer non-target-like uses of the progressives, compared to the other groups. This means that these three groups show significantly higher results for using the verb in the progressive in a typical progressive situation. Even though the frequencies are generally very low, the difference is statistically significant. The observed difference of the Turkish and Russian monolinguals could be attributed to the grammatical systems of Turkish and Russian in contrast to the grammatical systems of German and Vietnamese. Earlier, we presented that while German does not have a progressive form of the verb, there is a progressive marker in Vietnamese, similar to an adverb, that could appear to emphasize ongoing situations, yet it is not obligatory. On the contrary, Russian and Turkish are both languages with highly specified and complex tense and aspect systems, where we find distinctions between ongoing and completed situations, for instance (Göksel & Kerslake 2005; Wade 1992; see again Chapter 4.8.2). Intriguingly, this weak trend is not visible in the bilingual groups. This shows that there is either no cross-linguistic influence from the heritage language, or, and we confirm or exclude this, it may suggest that the heritage speakers are not able to transfer the grammatical knowledge from their heritage language, because they have not fully acquired the aspectual system in Russian or

Turkish. We come back to this argument in the discussion section (Chapter 7.2). See also Figure 103 in Appendix II for the corresponding association plot that includes a differentiation for age groups and language groups. This, however, did not return a statistically significant result. Once more, we are assured that this category may be either not straightforward, that it might simply lack statistical power because the variation is not relevant due to the low frequency differences, or because language background is not a useful category to explain the small differences visible across the corpus.

Figure 45 presents the results for the use of different tenses, and Figure 46 visualizes the absence/presence of auxiliary verbs (Figure 104 and Figure 105, respectively, show the extended association plots). We can now relate the strong association of the Turkish-German bilinguals with formally incorrect progressives, reported above, to the eminent association with bare progressives. Apparently, the high numbers of incorrect progressives are due to the larger number of missing auxiliaries. The same trend can be observed in Figure 46. Furthermore, past tense is used more frequently than expected in the texts of the English native speakers, and to a lesser degree, also in the Russian, Russian-German, and Vietnamese monolinguals. The results visible in Figure 104 are even more complex, as we find considerable individual variation between the language groups and across the entire corpus. Noteworthy are perhaps the overall high associations of the 12-year-old participants with bare forms (which can equally be seen in Figure 46 and Figure 105, because absence of the auxiliary and bare progressive is the exact same category), and that we cannot identify a clear pattern that perfectly relates to the language background of the participants. Hence, we need to stress again that the variation found across the students, may not depend on language background but possibly on other variables. We come back to this assumption further down in this section.

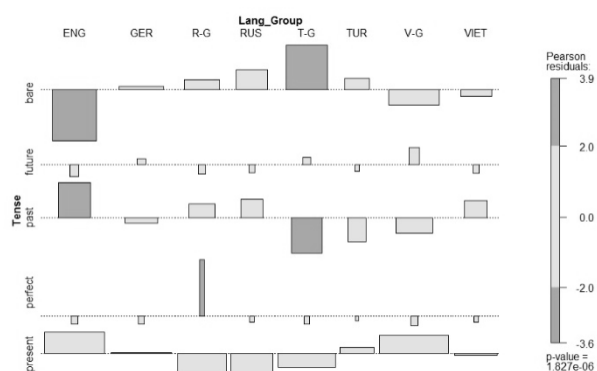


Figure 45: Association plot: Tense of progressive versus language group

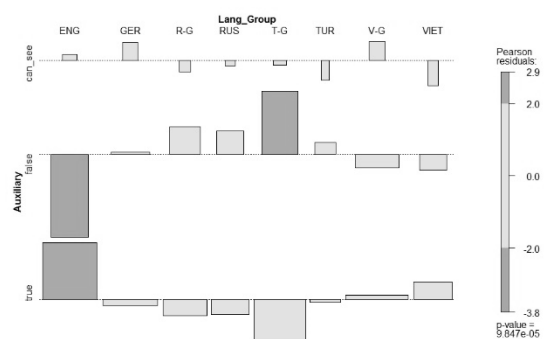


Figure 46: Association plot: Auxiliary present/absent/can see versus language group

As already partly described, the results in Figure 46 and Figure 105 clearly reveal that the auxiliary is less likely to be missing in the texts produced by the English children (Eng) and the Vietnamese-German students (V-G), and that in the other groups, especially in the Turkish-German texts, the frequency of missing auxiliaries is significantly higher than expected. Furthermore, for all 16-year-old participants, the association with missing auxiliary (here labeled as ‘false’) is negative, i.e. the older participants omit the auxiliary significantly less frequently. This confirms earlier claims, namely that initially, the progressive is acquired as a bare form and only with increasing proficiency, the auxiliary is used as well. This matches the findings of the study conducted by Gass and Selinker (2008) with Arabic students. Hence, once again, we report the same acquisitional patterns for both second language learners and third language learners. There are no apparent differences between the learners of English as a second language or a third language, but we observe comparable acquisitional patterns for all learners.

When investigating the statistical attraction of the type of lexical aspect and the learner groups, we conclude that there is no statistically significant association. Both plots (see Figure 106 and Figure 107 in Appendix II) return p-values below the threshold of 0.05. This does not come as a surprise, because the proportional distribution discussed above already indicated that overall, activities and accomplishments were used, whereas states and achievements appeared only marginally frequently. The distribution shows to be comparable across the learner corpus. Once again, this supports the Aspect Hypothesis, as explained above.

Yet, initially, we expected to find differences due to cross-linguistic influence, especially in the production of the Turkish monolinguals. In Chapter 4.5, we remarked that in Turkish, the imperfective marker is used for ongoing and incomplete situations (which is in line with the use of the English progressive), but also for states (which typically do not combine with the progressive aspect in English). Therefore, we hypothesized comparably frequent uses of stative progressives within the texts of the Turkish monolingual learners, as this has also been shown to be a typical problem area for Turkish learners of English in Abushihab (2014) and Çakır (2011), caused by negative cross-linguistic influence from Turkish. Intriguingly, the opposite is true: none of the Turkish monolinguals used a stative progressive. In fact, we only find progressives with accomplishment and activity verbs in their writings. On the one hand, this could imply that they are well aware of this difference between English and Turkish, i.e. not extending the progressive to stative verbs in English. On the other hand, this could be a consequence of the overall infrequent progressive uses within the texts of the Turkish monolinguals. This extremely low number (n=18), might not be representative.

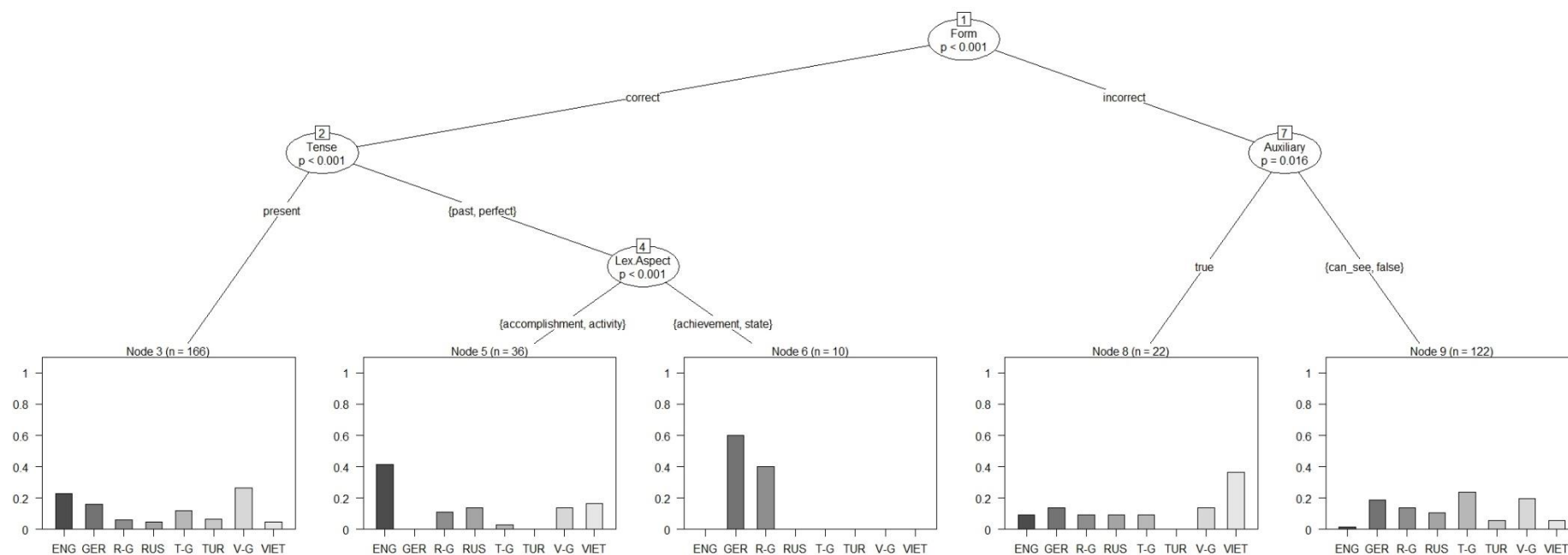


Figure 47: Conditional inference tree: progressives per language group

Following these individual statistical analyses, we now combine all variables within one model. First, a linear regression analysis is performed. The linear model is based on the general data set (i.e. the data set that was used for the former linear models, see for example Chapter 6.2.4). However, the model does not reach statistical significance ($p=.795$) and in addition, none of the explanatory variables returns a significant effect. Therefore, we decide to use a conditional inference tree model, instead. The advantage of conditional inference trees is that such models can also be used when individual variables are not independent but dependent on each other, i.e. when we find interactions between variables, and when the data set is small but the number of predictor variables is high (see Levshina 2015: 291-293). Both criteria apply here. We already discussed several interactions (i.e. bare form versus auxiliary absent; formal correctness versus auxiliary absent) and the overall frequency of progressives within the corpus was presented as relatively low. For this conditional inference tree (Figure 47), all variables, i.e. ‘age’, ‘lexical aspect’, ‘form’, ‘meaning’, and ‘auxiliary’, are included.

The algorithm of the conditional inference tree analysis makes binary splits, which means that the data set is split into two subsets for each individual node, starting with the most significant variable (Levshina 2015: 291). The output of all significant splits is then visualized as a tree structure that has branches and leaves (Levshina 2015: 291).

The first split, representing the strongest influence, appears between correct and incorrect form. To begin with, we follow the right branch. The next split appears for the variable ‘auxiliary’. We notice that 22 observations, i.e. 22 progressives, are formally incorrect while the auxiliary verb is present. Those are the cases where we find either a misspelled main verb or an incorrect form of *be*. Most incorrect progressives, however, co-occur either with an auxiliary verb, or are formed with the verb *see*. In total, 122 observations appear in this bin (or leave), with almost no observations for the English native speakers and observably fewer for the Russian, Turkish, and Vietnamese monolinguals. The German monolinguals, as well as the bilingual participants, show more instances of formally incorrect progressives. When we follow the left branch of the tree, we perceive that most formally correct progressives occur in present tense ($n=166$). We find fewer past or perfect progressives ($n=46$). The latter two are further subdivided into accomplishments and activities on the one hand, and states and achievements, on the other hand. This matches the formerly defined typical versus infrequent progressive contexts. Interestingly, the only stative or achievement progressives that occur in simple past or perfect tense, were found in the German monolingual and the Russian-German bilingual texts. Furthermore, we observe that the English native speakers produced overall more activity and accomplishment progressives in past or perfect tense.

A considerable proportion of the frequency differences in the five bins (or ‘leaves’) can be attributed to the overall different sizes of the individual language groups. Which means that we have considerably more German monolinguals, and bilingual participants represented in this corpus, which in turn produced overall more progressives. Also, the English native speakers produced a comparably many progressives. Yet, the conditional inference tree presents an interesting picture and demonstrates the dependencies of the individual variables.

Yet, the results are still not entirely conclusive, as we cannot single out language background as the main effect that influences the use of the progressive aspect. This supports even more that language background alone cannot be taken to explain the performance in another language, but that language use and language acquisition heavily depend on other variables, most likely on the social background of the learners and additional (personal) factors (see again Pavlenko 2002; Hoff & Tian 2005, for instance).

We now repeat the association plots and add other background variables, apart from language background, that proved to have a significant effect in the former analysis steps. For these association plots, the data set is reduced, as there is only sufficient information about the German monolinguals and the bilingual groups. Furthermore, first, all unknown cases are kept as a separate category, i.e. represented as N.A. (see Figure 48 to Figure 53).

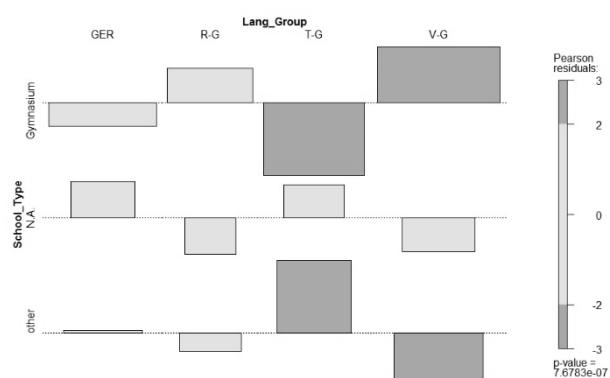


Figure 48: Association plot: type of school versus language group (only GER and bilingual participants)

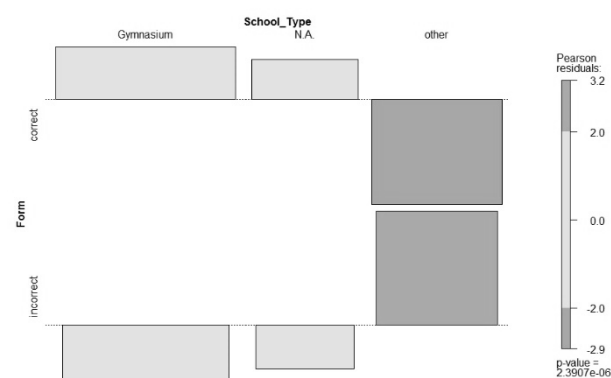


Figure 49: Association plot – form of progressive versus type of school (only GER and bilingual participants)

First school type and language group are correlated (Figure 48); it can be observed that more frequently than expected, the Vietnamese-German students attend the university-bound secondary-school track. The opposite is the case for the Turkish-German bilinguals. Here, the association between the other school types is particularly strong. Interestingly, there is a positive association of formal correctness and attending the university-bound school track

(‘Gymnasium’) and a negative association with attending the vocational-track secondary-schools. This can be observed in Figure 49 and it correlates with what was expected: a better performance (here shown with formal correctness) of those who attend the university-bound school type. This may also explain the comparably poorer performance of the Turkish-German bilinguals, as shown in the previous discussion, as these participants attend the other school types significantly more frequently. The same trend is replicated in Figure 50 and Figure 51. School type ‘other’ is strongly associated with bare progressives, or differently said, with progressives that lack the auxiliary verb. This again reinforces our initial hypothesis, namely that school type exerts a particularly large influence. In the current data set, the individuals of the Turkish-German bilinguals attend strikingly frequently vocational-bound secondary-schools. Hence, the result from above, namely that these students comparably often produce bare progressives is most likely attributed not to their language background but to their school type.

The same analysis with the variables ‘target-like meaning’ and ‘lexical aspect’ versus school type did not yield statistically significant output (target-like meaning: $p=.6541$; lexical aspect: $p=.2622$), which is in line with the former results.

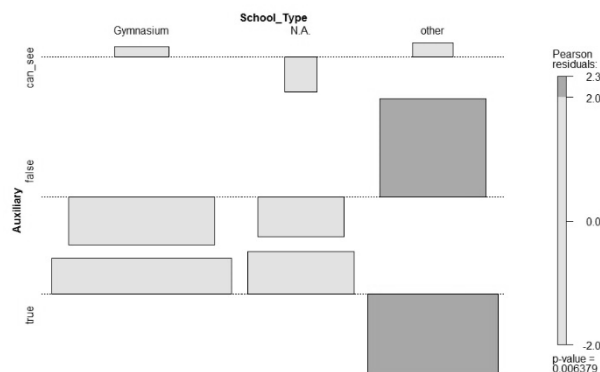


Figure 50: Association plot: type of school versus auxiliary present (true, false, *can see*) (only GER and bilingual participants)

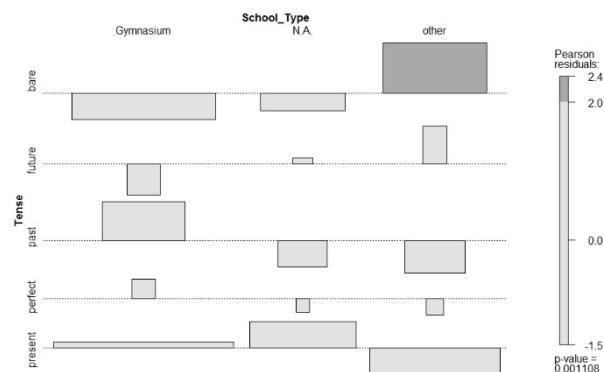


Figure 51: Association plot: tense used for progressive versus school type (only GER and bilingual participants)

Furthermore, the socio-economic status (HISEI) is included as another variable. Three groups are formed, i.e. low (16-30), mid (31-60), high (61-99) of the German monolingual and the Russian-German, Turkish-German, and Vietnamese-German bilinguals. In addition, those students from whom we have no information are kept as N.A. in the analysis. First, we combine these four categories of the socio-economic status with language background. The result (Figure 52) shows that the German monolinguals are overrepresented in the category ‘high’, i.e. the

German monolinguals have comparably a higher socio-economic status than the other participants. Yet, we need to keep in mind that here again, a considerable number of participants cannot be associated to a HISEI value. Especially for the Turkish-German bilinguals we lack information concerning their socio-economic status. The more differentiated association plot which also includes age (Figure 108 in Appendix II) returns that there are indeed not just differences between the language groups but that we notice differences within each group. For instance, especially the younger cohorts of the Russian-German as well as Vietnamese-German bilinguals have more frequently than expected a low socio-economic status, whilst this trend is the revers for the older cohorts of the same language groups. Furthermore, the 12-year-old German monolinguals are exceptionally strongly associated with a high socio-economic status, more than the 16-year-old German monolinguals. The distribution of the 12-year-old Turkish-German bilinguals mirrors the 16-year-old cohort.

The correlation between school type and socio-economic status is interesting (Figure 53), because the results demonstrate two striking observations. First, for most of the students attending the university-bound school track, we obtained the relevant information. Yet, for the other school types, a high proportion is associated with no value for HISEI. In addition, if there is a value for socio-economic status available, it is most frequently found in the category ‘low’. In addition, we find all three categories, ‘low’, ‘mid’, and ‘high’ among the university-bound secondary-school students, whilst ‘high’ and ‘mid’ is underrepresented among the vocational-track secondary-school students. None of the residuals is above 2 or below -2, indicating that the effect is not particularly strong, yet the general trend is still visible.

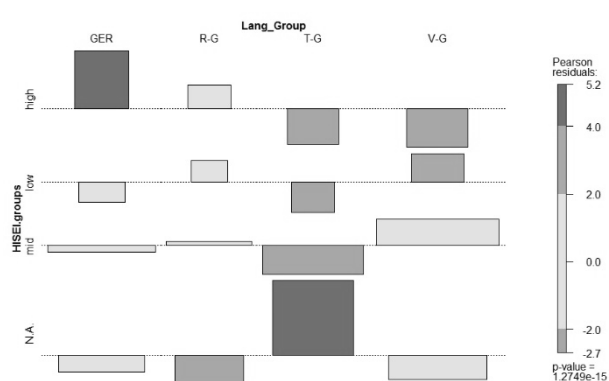


Figure 52: Association plot: HISEI index versus language group (only GER and bilingual participants)

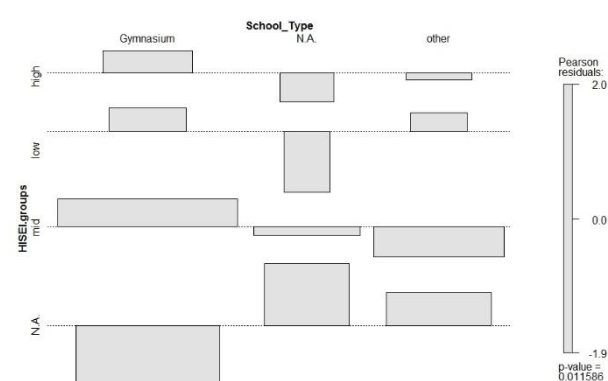


Figure 53: Association plot: HISEI index versus school type (only GER and bilingual participants)

The association analysis returns a statistically significant difference between HISEI index (low-mid-high-groups) and the tense that is used with the progressive aspect (Figure 54). Nevertheless, the results are not particularly meaningful, and, as visible from the mostly thin bars, based on few numbers per group only. Arguably the most interesting observation is the association between a low socio-economic status and bare progressives, though the residuals are not above 2.0, indicating that this effect is not particularly strong. For high socio-economic status, there is no particular association with bare progressives, i.e. there is neither a positive nor a negative association.

For the other comparisons, i.e. HISEI index versus (non-)target-like form of progressive ($p=.98132$), (non-)target-like meaning ($p=.26896$), presence of auxiliary verb *be* ($p=.34858$), or lexical aspect ($p=.68149$), no statistically significant results can be reported. This is a striking result, though it confirms what was argued in the previous case study, namely that the socio-economic status has only a marginal effect on the use of the progressive aspect.

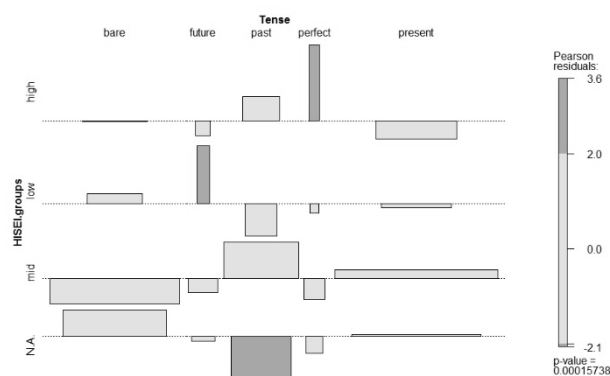


Figure 54: Association plot: HISEI index versus tense (only GER and bilingual participants)

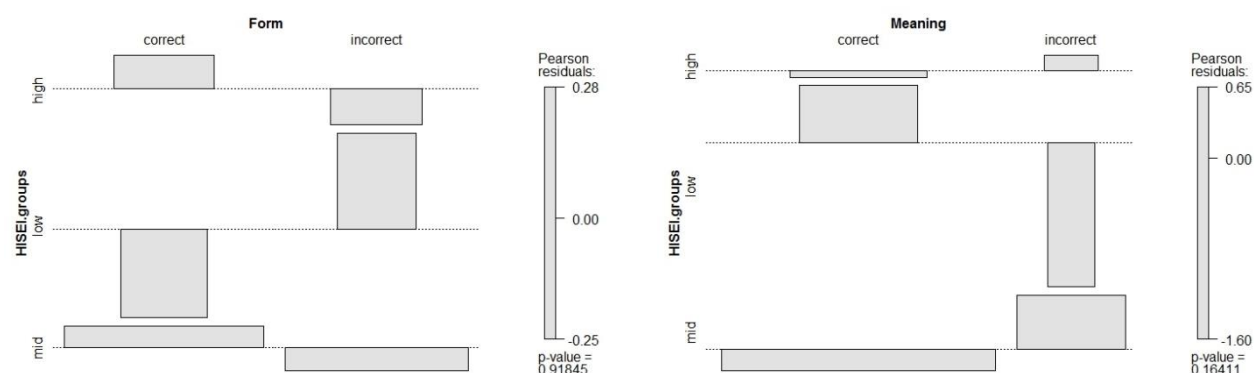


Figure 55: Association plot: HISEI versus (non-)target-like form of progressives (without N.A.'s for HISEI)

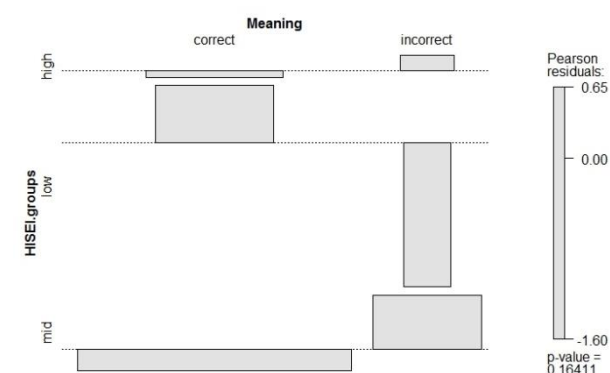


Figure 56: Association plot: HISEI versus (non-)target-like meaning of progressives (without N.A.'s for HISEI)

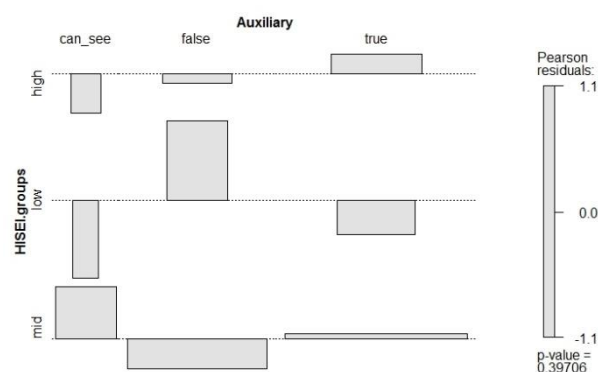


Figure 57: Association plot: HISEI versus presence of auxiliary form of *be* (without N.A.'s for HISEI)

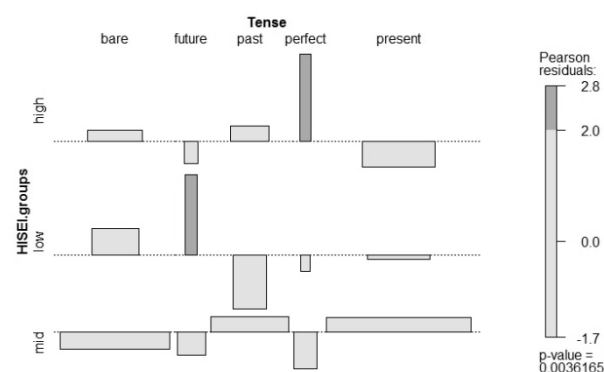


Figure 58: Association plot: HISEI versus tense of progressives (without N.A.'s for HISEI)

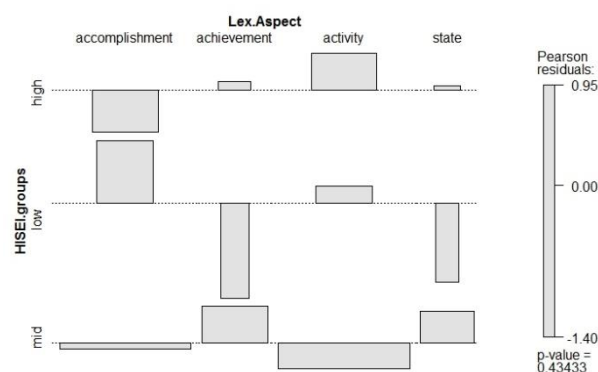


Figure 59: Association plot: HISEI versus lexical aspect of progressives (without N.A.'s for HISEI)

In the following procedure, we remove in two steps all cases with N.A. (again, only the German monolingual groups and the bilingual groups are regarded). First, all N.A.'s are taken out, for both HISEI and school type. A considerably smaller dataset remains, with only 133 progressive forms (instead of 225 progressive forms). The association between HISEI index and school type are calculated, yet the association plot does not return statistically significant results ($p=.82837$).

Second, two data sets are created, one without all N.A.'s for HISEI index ($n=156$), and one without all N.A.'s for school type ($n=182$). We repeat the cross-tabulation and receive the following association plots for all participants with complete HISEI values (Figure 55 to Figure 59) and second, for all participants where type of school is known (Figure 60 to Figure 64).

All association plots are presented here, even though only one of them, i.e. socio-economic status versus tense of progressives (Figure 58) is statistically significant, to highlight once again that the socio-economic status is not a strong explanatory variable that explains or predicts the use of the progressive aspect. Admittedly, the remaining progressives (n=156) are relatively few, especially when compared to the overall frequency of progressives of the entire corpus (n=356). Still, no particular strong association with any of the variables and HISEI can be identified.

Following this step, we analogously create six association plots for type of school. Clearly, this variable has a much stronger explanatory value, because three out of the five association plots return a p-value below 0.05. With these plots, we strengthen our former argumentation and report no statistically significant difference between school type and (non-) target-like meaning of progressives (Figure 61) or between school type and lexical aspect (Figure 64). What we do find, however, is a strong effect of ‘Gymnasium’ and formally correct progressives, and between other school types and formally incorrect progressives (Figure 60). Moreover, the association between school type ‘other’ and bare progressives is also highly significant (Figure 61 and Figure 62), demonstrating that formal incorrectness is attributed to the high frequency of missing auxiliaries. Initial we stated that formally incorrect progressives may also occur if the form of *be* is incorrectly conjugated or if the main verb is misspelled. Yet, this seems to be the exception, which was already visible in the conditional inference tree.

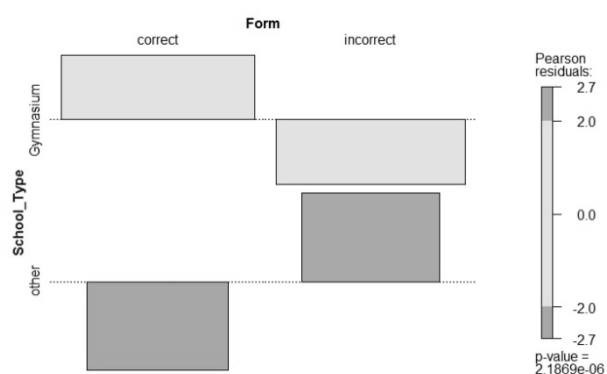


Figure 60: Association plot: school type versus (non-)target-like form of progressives (without N.A.'s for school type)

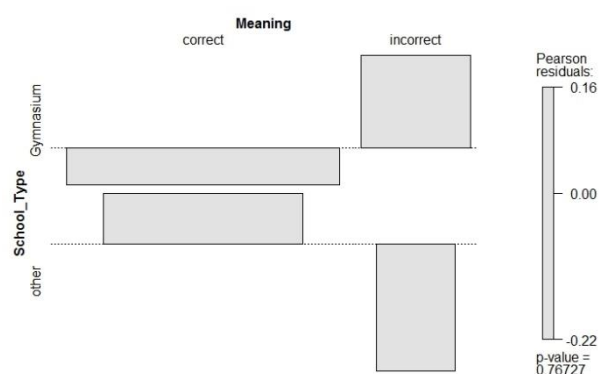


Figure 61: Association plot: school type versus (non-)target-like meaning of progressives (without N.A.'s for school type)

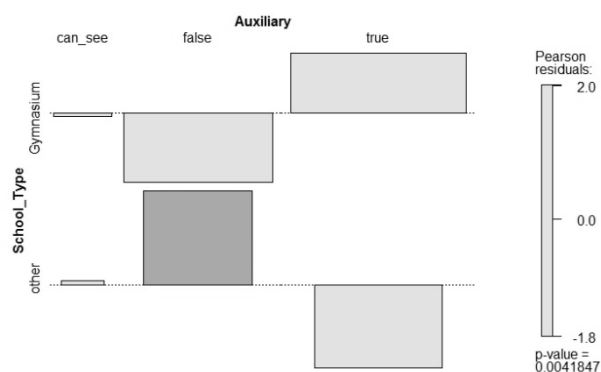


Figure 62: Association plot: school type versus presence of auxiliary form of be (without N.A.'s for school type)

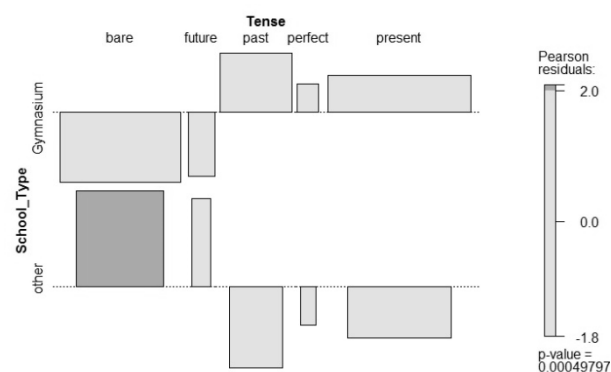


Figure 63: Association plot: school type versus tense of progressives (without N.A.'s for school type)

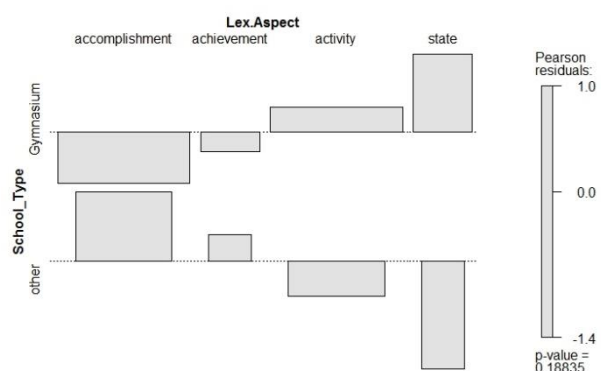


Figure 64: Association plot: school type versus lexical aspect of progressives (without N.A.'s for school type)

Finally, a second conditional inference tree analysis is run, again with the number of progressives as the response variable, but only with the reduced data set (i.e. German monolinguals and the bilingual participants). This time HISEI and school types are included. The N.A. variable is also kept, because otherwise the model would be too small, due to the limited number of participants who have completed the entire questionnaire. The output can be found in Appendix II (Figure 109). Interestingly, the most significant variable is the socio-economic status. The highest number of progressives found in among the variable HISEI 'high' comes from the German monolingual participants (right branch of the tree). Second, type of school is partitioned into 'Gymnasium' and 'other', on the one hand, and 'N.A.', on the other hand. This is striking, because before, we observed clear differences between 'Gymnasium' and 'other'. Yet, it only explains that for those students with a medium or low socio-economic status, we only find bilinguals who did not indicate their school type (node 12). The informative

value of node 11, however, is rather low, even though, a total of 109 progressives belong to this category. Following the left branch, i.e. those progressives where no information about the socio-economic status is available, we also find the type of school to have a statistically significant effect. We observe that almost exclusively the Turkish-German bilinguals are represented in school type ‘other’ (node 7), and that no German monolinguals are represented in either node 7 or 8. The last significant split occurs for all progressives which were produced by students with an unknown HISEI value and unknown school type (n=20). This is in itself rather disappointing, as we cannot make any meaningful assumptions for this group. Intriguing are only the high proportions of progressives visible in the German monolingual groups. Though, the overall frequency is low, and yields little representation.

Taken together, these results suggest that there is an association between the use of the progressive and the type of school, rather than between the socio-economic status or the language group and the use of the progressive aspect. We admit that the entire analysis is based on a fairly small data set, which might be responsible for the sometimes inconclusive results. Nevertheless, the overall analysis is in accordance with the former case study I, emphasizing that there is, so far, no visible difference between the L2 and L3 learners that could be attributed to their language backgrounds. What we find, instead, is a comparable developmental process for all learners, which are only affected by the type of school they attend.

After having analyzed the only aspectual distinction we find in English, we now turn to comparing present time versus past time reference.

6.4 Case study III – present versus past time reference

It was formerly stressed that largely, we find simple present and simple past uses in the learner corpus (see again Chapter 6.2.1). In the third case study, we therefore concentrate on the distribution between present and past time reference, in addition to discussing past tense reference more detailed. This approach is chosen to allow a deeper insight into the developmental stages of the different learner groups. When learning a foreign language, learners first acquire present tense (or bare) forms and second, they start to use past tense(s) (compare Chapter 4.7 and 4.8.2). We aim to assess if there are differences across the learner groups, based on their language background, age, and further personal characteristics.

Language Group		No. of simple present	No. of simple past	No. of present perfect	No. of past perfect	Total
ENG	Age 12	119	180	3	2	304
	Age 16	131	168	3	5	307
GER	Age 12	178	43	3	0	224
	Age 16	154	136	4	3	297
RUS	Age 12	39	79	0	0	118
	Age 16	84	31	3	3	121
RUS-GER	Age 12	117	72	3	2	194
	Age 16	187	200	4	2	393
TUR	Age 12	49	0	0	0	49
	Age 16	37	0	0	0	37
TUR-GER	Age 12	143	43	9	0	195
	Age 16	173	32	4	1	210
VIET	Age 12	94	9	2	0	105
	Age 16	56	119	3	7	185
VIET-GER	Age 12	274	55	5	1	335
	Age 16	221	100	4	3	328
Total		2056	1267	50	29	3402

Table 53: Tense overview (absolute frequencies): simple present, simple past, present perfect, past perfect

Table 53 provides an overview of the absolute frequencies of simple present, simple past, present perfect, and past perfect verb phrases. Immediately, we notice that the latter two categories are particularly infrequently and that there are nearly twice as many present tense forms than past tense uses. Figure 65 depicts the same information, visually and in proportions. A slightly different perspective is offered in Figure 66, by focusing on the difference between simple present and simple past. For the latter graph, we compare the mean distributions of present and past tense per text, hence, accounting for the varying numbers of texts across the individual language groups. The more detailed box plot, which differentiates the age of the language groups, can be found in Appendix II (Figure 110).

What is particularly striking is that for most groups that used at least some simple past verb phrases (hence, all except the Turkish monolinguals), we observe an increase of past tense and a decrease of present tense from the younger to the older cohorts. Intriguingly, the only groups that differ are the English native speakers, the Russian monolinguals, and the Turkish-German bilinguals. The proportions for present and past tense are nearly identical for the two native speaker groups, potentially attributed to comparable proficiency levels among the native speakers. In general, the 12-year-old Russian monolinguals used relatively high proportions of past tense, whilst the opposite is the case for the 16-year-old students. The Turkish-German bilinguals use overall only few past tense forms, the older even fewer than the younger students. Furthermore, the younger Russian monolinguals, both English native speaker groups, as well as the 16-year-old Vietnamese monolinguals show the highest frequencies of past tense uses.

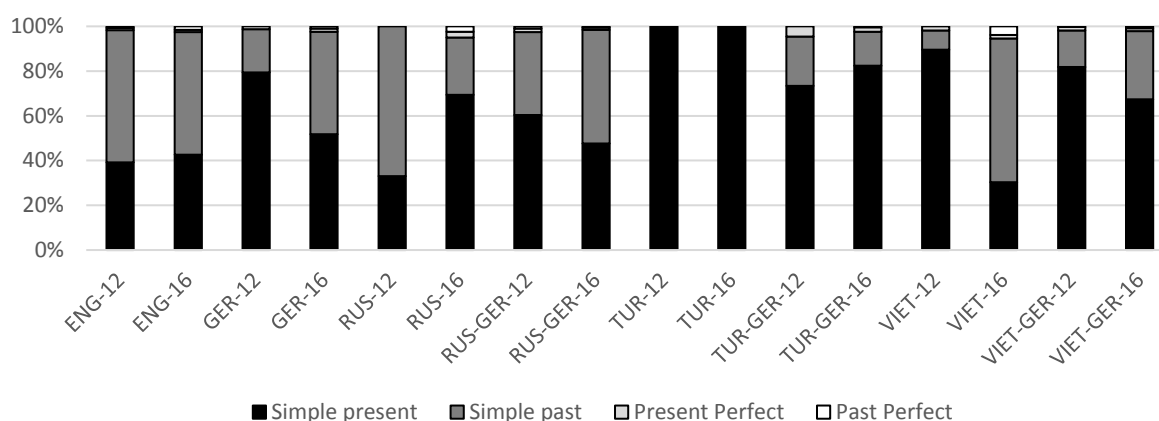


Figure 65: Tense overview (proportions): simple present/past, present/past perfect

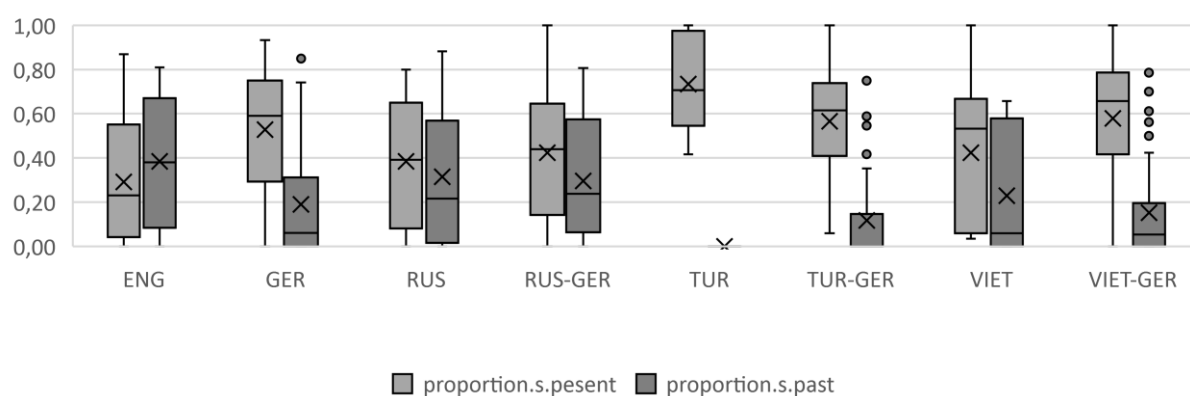


Figure 66: Proportions of simple present and simple past

The observed correlations between higher proportions of past tense and the groups just listed might be explained in two ways: (i) for the native speakers of English as well as the older cohorts of the Vietnamese monolinguals, we recurrently reported that their proficiency was noticeably above the rest of the participants. Here, a higher proportion of past tense reference could possibly correlate with a higher proficiency in English (keeping in mind the developmental paths discussed earlier). The 16-year-old German monolinguals and the Russian-German bilinguals also show fairly high rates of past tense. This further supports the hypothesis of more past tense forms with higher proficiency. Why then, however, do the 12-year-old Russian monolinguals also show particularly high proportions? (ii) Previously, we pointed out that Russian is a language that differentiates between past and non-past. More important, however, is the distinction between perfective and imperfective aspect (see Chapter 4.4). The imperfective aspect combines with present tense, yet not with past, and both

imperfective and perfective aspect are relevant for past tense. This perhaps explains the emphasis on past tense and might be an explanation for why the Russian monolinguals use past tense comparably frequently. It might be associated with cross-linguistic influence from Russian. Yet, this should only be understood as a cautious explanation, as we cannot observe this trend for the 16-year-old Russian monolinguals.

		Age 12	Age 16			Age 12	Age 16
Simple present/past	ENG native			GER mono			
	GER mono			RUS mono			
	RUS mono			RUS-GER			
	TUR mono	$\chi^2(7)=265.47,$	$\chi^2(7)=215.12,$	TUR mono	$\chi^2(6)=174.01,$	$\chi^2(6)=178.34,$	
	TUR-GER	$p<.05$	$p<.05$	TUR-GER	$p<.05$	$p<.05$	
	VIET mono			VIET mono			
	VIET-GER			VIET-GER			

Table 54: Pearson's chi-squared tests for simple present and simple past

The next step is to investigate whether this observed frequency difference is statistically significant. Four Pearsons's chi-squared tests are performed, based on the absolute frequencies of simple present and simple past tense forms. We differentiate between the two age cohorts and run two chi-squared tests for the entire corpus, and two without the English native speakers (Table 54). They all return low p-values, i.e. the null hypothesis can be rejected. This confirms our initial claim that there is a difference across the texts. Furthermore, the residuals underline what we noticed from the proportional differences: for the younger cohorts, the English native speakers, the Russian monolinguals, and the Russian-German monolinguals are reported as using more past tense forms than expected. Also, without the English native speakers, the results do not change. Though, for the 16-year-old students, the residuals return that the English native speakers, the German monolinguals, the Russian-German bilinguals, as well as the Vietnamese monolinguals show higher rates of past tense than expected. The result of the younger cohorts is striking, and may indeed point to CLI from Russian, also potentially visible in the Russian-German bilinguals. This effect, however, is lost with increasing age, as visible in the results of the 16-year-old participants. Here, the Russian monolinguals show comparably few past tens forms in their texts. Furthermore, the 12-year-old Vietnamese monolinguals used only few past forms, potentially also due to CLI from their L1, because Vietnamese is a language that lacks morphological tense distinctions (see Chapter 4.6). As referred to before, the performance of the Turkish monolinguals is outstanding, because they did not use any past tense forms. This is most likely related to their comparably low proficiency and not due to cross-linguistics influence from Turkish. The Turkish-German bilinguals also show only few

past tense forms, probably related to their background variables (especially the type of school they attend).

We further investigate the assumption that additional background variables affect the outcome by performing a multiple linear regression analysis. We use the frequencies of past tense forms as the dependent variable and include the same predictor variables as before, i.e. language background, age, gender, socio-economic status, school grades for German and English, school type, attitude towards English (difficult/useful), and the number of books per household. Model VIIa includes all participants, hence, the dummy variable N.A. is included for unknown information. Model VIIb is based exclusively on the participants with completely answered questionnaires, which means that 162 texts are excluded and that only the German monolinguals as well as the bilingual groups remain. Moreover, the variable age of onset of acquiring German is added to this latter regression model.

Linear Model VIIa: frequency of past tense versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-0.11910	4.45455	0.97869
ENG	6.38805	2.11510	0.00282 **
RUS	3.89198	4.01050	0.33287
RUS-GER	2.62556	1.71858	0.12799
TUR	-4.52752	2.80391	0.10778
TUR-GER	-0.96200	1.91018	0.61502
VIET	0.89498	2.26889	0.69362
VIET-GER	0.68193	1.81039	0.70677
Gender-male	-0.26374	0.94680	0.78084
Gender-N.A.	0.27384	2.67714	0.91862
Age	0.50461	0.22974	0.02909 *
HISEI	0.03813	0.06775	0.57418
School grade-GER	-0.13726	0.92869	0.88263
School grade-ENG	0.55798	0.86810	0.52104
School type-N.A.	1.48405	1.69178	0.38131
School type-other	-2.26181	1.39430	0.10617
ENG difficult-N.A.	-4.38141	3.45795	0.20645
ENG difficult-no	-0.65178	1.21536	0.59229
ENG useful-no	-1.09050	1.69490	0.52062
No of books-0-10	-5.21052	3.09450	0.09361 .
No of books-101-200	-5.17770	2.26540	0.02322 *
No of books-11-25	-4.21513	2.87938	0.14462
No of books-201-500	-4.04029	2.39042	0.09238 .
No of books-26-100	-5.09612	2.50299	0.04293 *
No of books-N.A.	-5.84597	2.39428	0.01540 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.2515			
F-statistic: 3.137 on 24 and 224 DF, p-value: 4.4e-06			

Table 55: Model VIIa: Past tense

The most important observation is that the former model, Model VIIa (Table 55), lacks predictive power; only approximately 25% can be explained with this linear regression, which is an exceptionally low rate. The English native speakers cause an increase in the number of

past tense forms (as expected), and also age shows the same trend as in previous analyses. Increasing age increases the number of past tenses, which most likely presents a correlation between higher proficiency and more frequent past tense uses. For owning between 26 and 200 books, when compared to 500 or more books per household, the number of past tense forms goes down. This is similar for those who have not indicated the number of books per household; in comparison with possessing 500 or more books, the frequency of past tense is lower. In addition, no significant effect can be attributed to the type of school. Seemingly, this model lacks predictive power, because a high number of texts cannot be assigned to meaningful categories of the independent variables. The reason is that the model regards all N.A.'s as one category, though those subsumed under this category might actually not belong to the same group but could be, in reality, part of all other categories. Hence, this hybrid group may distort the results. Therefore, we repeated this regression without all NA labels (Table 56), which considerably decreases the data set (162 cases are excluded).

Linear Model VIIb: frequency of past tense versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-5.98607	6.74349	0.37799
RUS-GER	1.25241	2.35764	0.59708
TUR-GER	0.30018	3.62521	0.93426
VIET-GER	-0.12532	2.70193	0.96315
Gender-male	-1.60379	1.33763	0.23489
Age	0.68580	0.34347	0.05005
Onset GER-five	9.31376	6.35087	0.14732
Onset GER-four	4.07399	3.50929	0.24992
Onset GER-seven+	3.73078	4.21824	0.37972
Onset GER-six	6.60098	3.96650	0.10089
Onset GER-three	-0.35947	2.02795	0.85986
HISEI	0.07330	0.04447	0.10412
School grade-GER	0.74849	1.18618	0.53025
School grade-ENG	-0.01830	0.88514	0.98356
School type-other	-1.99934	1.59805	0.21538
ENG difficult-no	1.38055	1.92681	0.47625
ENG useful-no	-1.01284	3.05553	0.74135
No of books-0-10	-4.61201	2.99818	0.12884
No of books-101-200	-5.58396	2.08414	0.00934 **
No of books-11-25	-4.91034	3.11171	0.11942
No of books-201-500	-8.05347	2.40529	0.00136 **
No of books-26-100	-5.59185	2.52815	0.03050 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4868			
F-statistic: 2.936 on 21 and 65 DF, p-value: 0.0004726			

Table 56: Model VIIb: Past tense

Model VIIb (Table 56) is comparably better than Model VIIa, based on the R-squared value, we can explain approximately 50% of the variation. This is still not ideal, but given the small

number of remaining texts, it is an acceptable result. Noticeably, there is no statistically significant influence from the background languages, i.e. there is again no difference between L2 and L3 learners of English. The influence of age is only marginal significant ($p=.05005$), and the observation for the number of books per household reinforces the predictions of the former model. Generally, owning fewer than 500 books significantly lowers the frequency of past tense forms. Surprising, the type of school is again not among the significant variables ($p=.2154$).

Next, to account for frequency differences among the groups, we repeat the regression analysis with a slightly different dependent variable, namely the proportion of past tense uses per text. We follow the same approach as before, i.e. first, the entire data set is used (Model VIIIA), and second, only complete cases are included (Model VIIIB).

Linear Model VIIIA: proportion of past tense versus background variables (language background (reference level: GER), age (numeric), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.186775	0.162902	0.2528
ENG	0.173724	0.077348	0.0257 *
RUS	0.242570	0.146663	0.0995 .
RUS-GER	0.106533	0.062848	0.0914 .
TUR	-0.199313	0.102538	0.0532 .
TUR-GER	-0.044552	0.069854	0.5243
VIET	0.011136	0.082973	0.8934
VIET-GER	0.018249	0.066205	0.7831
Gender-male	0.002635	0.034624	0.9394
Gender-N.A.	0.048516	0.097902	0.6207
Age	0.009355	0.008402	0.2667
HISEI	-0.001246	0.002478	0.6156
School grade-GER	-0.020351	0.033962	0.5496
School grade-ENG	0.033439	0.031746	0.2933
School type-N.A.	0.026377	0.061868	0.6703
School type-other	-0.067328	0.050989	0.1880
ENG difficult-N.A.	-0.163105	0.126456	0.1984
ENG difficult-no	-0.022155	0.044445	0.6186
ENG useful-no	-0.017981	0.061982	0.7720
No of books-0-10	-0.192302	0.113165	0.0907 .
No of books-101-200	-0.171002	0.082845	0.0402 *
No of books-11-25	-0.135637	0.105298	0.1990
No of books-201-500	-0.094146	0.087417	0.2826
No of books-26-100	-0.191172	0.091533	0.0379 *
No of books-N.A.	-0.127777	0.087558	0.1459

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.1953			
F-statistic: 2.266 on 24 and 224 DF, p-value: 0.001052			

Table 57: Linear Model VIIIA: Proportion of past tense

The predictive power of Model VIIIA (Table 57) is even lower than before, the model explains less than 20%, which is arguably a strikingly low proportion. The significant independent variables are the English native speakers (increase of the proportion of past tense forms), the Turkish monolinguals (decrease of proportion), and yet again the number of books per

household. The second model, Model VIIIb (Table 58), shows a higher predictive power (approximately 44.2%), plus it returns an interesting outcome: starting to acquire German at the age of five increases the proportion of past tense forms, when compared to those who started acquiring German from birth onwards. What was said about the numbers of books per household applies here as well. Yet, the most intriguing observations for both models are that neither background languages, nor school type, or age affect this variable. This comes as a surprise, as in the former regression analyses, we nearly always found at least school type and age to have a statistically significant effect. The proportions of past tense, however, cannot be predicted based on age or school type, when all other variables are controlled for.

Linear Model VIIIb: proportion past tense versus background variables (language background (reference level: GER), age (numeric), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.029263	0.249158	0.9069
RUS-GER	0.090975	0.087110	0.3002
TUR-GER	0.043957	0.133944	0.7438
VIET-GER	0.006667	0.099830	0.9470
Gender-male	-0.029165	0.049422	0.5572
Age	0.013899	0.012691	0.2775
Onset GER-five	0.497788	0.234651	0.0377 *
Onset GER-four	0.054318	0.129661	0.6767
Onset GER-seven+	0.263297	0.155855	0.0959 .
Onset GER-six	0.251345	0.146554	0.0911 .
Onset GER-three	-0.027527	0.074929	0.7145
HISEI	0.001743	0.001643	0.2928
School grade-GER	0.024724	0.043827	0.5746
School grade-ENG	-0.004528	0.032704	0.8903
School type-other	-0.046203	0.059045	0.4368
ENG difficult-no	-0.003224	0.071192	0.9640
ENG useful-no	-0.089556	0.112895	0.4305
No of books-0-10	-0.159853	0.110776	0.1538
No of books-101-200	-0.178317	0.077005	0.0237 *
No of books-11-25	-0.186274	0.114971	0.1100
No of books-201-500	-0.284784	0.088870	0.0021 **
No of books-26-100	-0.205367	0.093410	0.0315 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4419			
F-statistic: 2.45 on 21 and 65 DF, p-value: 0.003112			

Table 58: Linear Model VIIIb: Proportion of past tense

Furthermore, we also code each text for the main tense that is used (see Chapter 5.3, for a detailed explanation of the coding decision). Table 59 shows the absolute numbers per language group and Figure 67 provides a proportional visualization. In accordance with the above discussion, most texts were overall written in present tense. Yet, we also find a large number of past tense texts, and a small number of mixed tenses. Especially the latter texts are of interest, because these show inconsistencies, i.e. unmotivated switches between present and past tense.

Language Group		mix	past	present	Total
ENG	Age 12	1	8	6	15
	Age 16	2	6	7	15
GER	Age 12	4	1	15	20
	Age 16	1	7	12	20
RUS	Age 12	1	5	4	10
	Age 16	1	4	5	10
RUS-GER	Age 12	4	2	9	15
	Age 16	3	9	11	23
TUR	Age 12	-	-	7	7
	Age 16	-	-	5	5
TUR-GER	Age 12	3	2	15	20
	Age 16	1	2	18	21
VIET	Age 12	1	-	9	10
	Age 16	-	6	4	10
VIET-GER	Age 12	-	3	23	26
	Age 16	-	5	17	22
Total		22	60	167	249

Table 59: Main tense per text

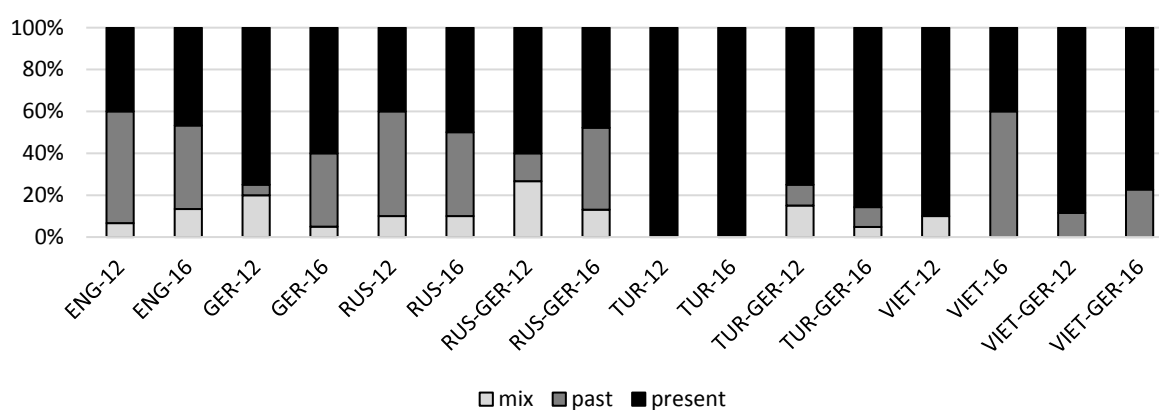


Figure 67: Main tense per text

Overall, the absolute numbers of texts that show frequent uses of both present and past tense are relatively low. Nevertheless, we perform a statistical analysis to investigate whether there is a particularly high association with one of the three categories and one or several of the language groups (Figure 68). We observe that the Vietnamese-German bilinguals switch comparably infrequently between present and past tense and that the English native speakers' association with past tense is particularly high. Further weaker trends are positive associations with mixed tenses for the German monolinguals as well as the Russian-German bilinguals. Moreover, past tense appears as the main tense, although to a lesser extent, more frequently than expected in the texts of the Russian and Vietnamese monolinguals, as well as the Russian-German bilinguals. Figure 110 in Appendix II presents the same results for the different age groups. We now perceive that especially the younger cohorts have higher associations for using mixed tenses (except for the Turkish monolinguals and the Vietnamese-German bilinguals).

For using mainly past tense, we notice that the English native speakers, the Russian monolinguals, as well as the 16-year-old German monolinguals, Russian-German and Vietnamese-German bilinguals, show higher frequencies than expected. This is in line with the formerly explained age dependent development: younger age, which represents lower proficiency in English, shows higher frequencies of mixed tense texts; conversely, older age, i.e. more proficient in English, correlates with higher proportions of past tense uses.

In addition, we now need to assess, if the other background variables also demonstrate to have a statistically significant effect on the use of the choice of the overall tense by correlating variables such as socio-economic status, school type, and age of onset of acquiring German with the variable ‘main tense’. Intriguingly, only one other association plot returns a low p-value (Figure 69). The surprisingly high associations with past tense are obtained from students who possess either 500 or more books or between 200 and 500 books, the two highest categories. If the number of books is indeed an indicator for proficiency, and if the use of past tense over present tense also correlates with higher proficiency, we find a logical correlation, supported in this association plot.

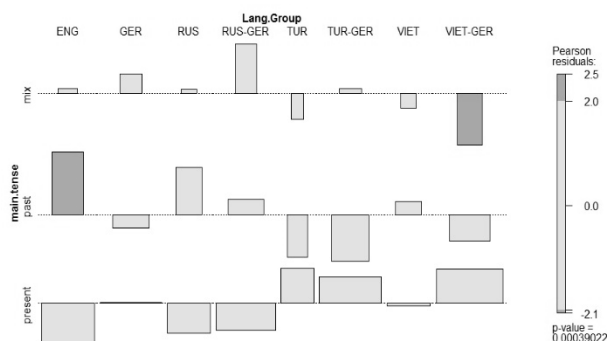


Figure 68: Association Plot: Main tense versus language group

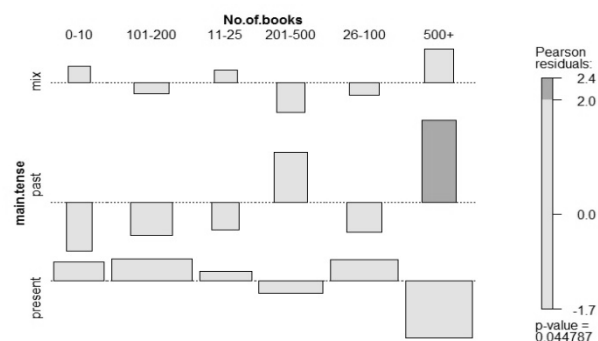


Figure 69: Association plot: Main tense versus number of books per household

However, all other plots return insignificant results (main tense versus English observed as difficult: $p=.8494$; main tense versus English observed as useful: $p=.1738$; main tense versus HISEI (low, mid, high): $p=.3310$; main tense versus age of onset of acquiring German: $p=.2082$). Still interesting is Figure 70, which shows the association between school type and main tense. We admit that it is merely marginally significant ($p=.0582$), but the trend that is visible corresponds to previous findings and supports the assumption that higher use of past

tense correlates with higher proficiency, i.e. past tense overrepresented for ‘Gymnasium’ and underrepresented for all other school types.

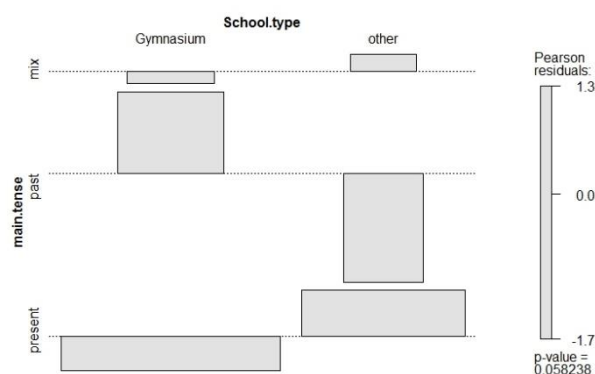


Figure 70: Association plot: Main tense versus school type

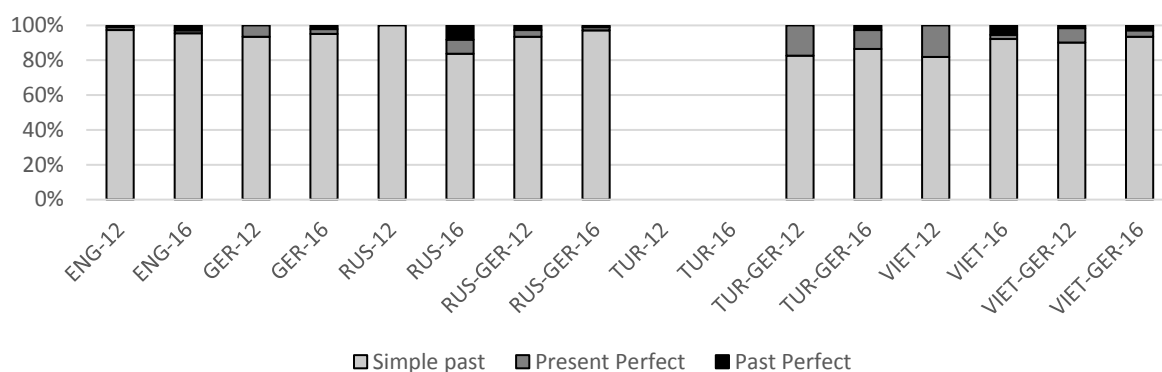


Figure 71: Past tense overview (proportions): simple past, present/past perfect

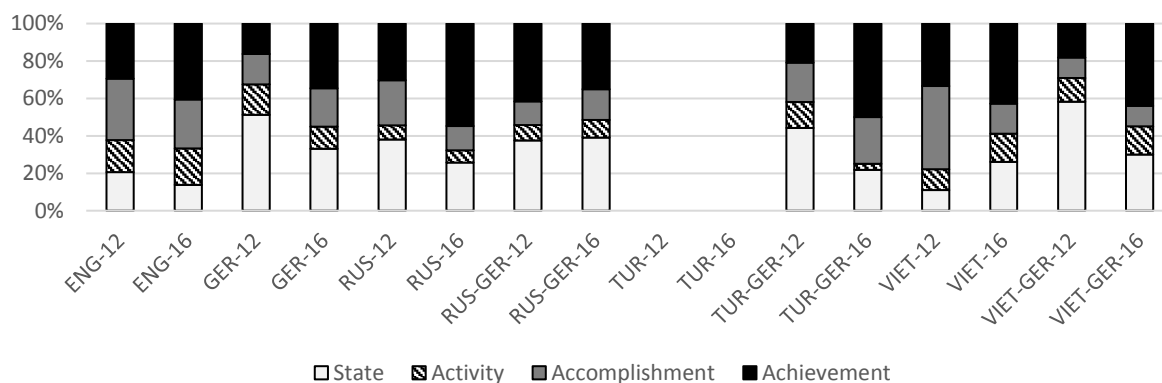


Figure 72: Distribution of lexical aspect of simple present (proportions)

Next, we zoom in even further into the use of past tenses. Figure 71 depicts the distributions for simple past, present perfect, and past perfect. For all groups, less than 20 % of all verb phrases together are either present perfect or past perfect forms. Therefore, we concentrate on simple past tense only.

Every simple past tense verb phrase is coded for lexical aspect. According to the Aspect Hypothesis, (perfective) past tense marking appears first on achievements and accomplishments and only later on activities and statives (compare Chapter 4.7). When we observe the absolute numbers presented in Table 60, we notice the surprisingly high values for stative verbs. What these numbers show, however, is that the participants in this study have already passed this initial stage and are well capable of applying past tense morphology to all types of lexical aspects. Figure 72 visualizes the same numbers as proportions per language group. This graph strengthens the diverse picture that emerges from both the table and the figure, which seems generally difficult to interpret.

Language Group		Simple past	State	Activity	Accomplishment	Achievement	<i>was/were</i>	other
ENG	Age 12	180	37	31	59	53	26	154
	Age 16	168	23	33	44	68	14	154
GER	Age 12	43	22	7	7	7	17	26
	Age 16	136	45	16	28	47	29	107
RUS	Age 12	79	30	6	19	24	18	61
	Age 16	31	8	2	4	17	4	27
RUS-GER	Age 12	72	27	6	9	30	25	47
	Age 16	200	78	19	33	70	50	150
TUR	Age 12	0	0	0	0	0	0	0
	Age 16	0	0	0	0	0	0	0
TUR-GER	Age 12	43	19	6	9	9	16	27
	Age 16	32	7	1	8	16	4	28
VIET	Age 12	9	1	1	4	3	1	8
	Age 16	119	31	18	19	51	25	94
VIET-GER	Age 12	55	32	7	6	10	28	27
	Age 16	100	30	15	11	44	18	82
Total		1267	389	168	260	449	275	992

Table 60: Lexical aspect of simple past; forms of *be* (*was/were*) and other verbs (absolute frequencies)

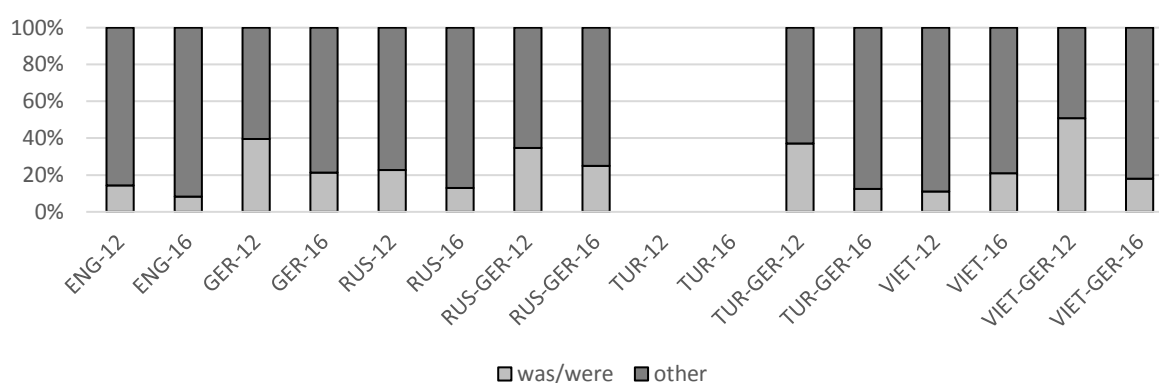


Figure 73: Forms of *be* (*was/were*) versus all other simple past forms (proportions)

Again, the large proportion of stative verbs across the learner corpus is noteworthy. Therefore, a more fine-grained analysis is conducted, which reveals that many past tense verbs are forms of the copula verb *be* (Table 60).

Figure 73 visualizes this trend. Especially the younger cohorts use comparably high proportions of the copula verb *be*. We run chi-squared tests to analyses if this seemingly higher use of past copulas for the younger cohorts compared the respective older cohorts is statistically significant (Table 61). We created a two-by-two table for each language group and compared the younger with the older cohorts.

Our initial hypothesis is partly confirmed: we find a statistically significant difference for the German monolinguals, the Turkish-German, and Vietnamese-German bilinguals. Hence, there are age differences; yet, they do not apply to all groups, but are only trends that lack statistical significance. It seems that for some of the younger groups, *be* is frequently used in past tense; this decreases with increasing age. This confirms what was presented in Chapter 4.8.2, namely that according to the order of grammatical morphemes that are acquired in English, first, we find forms of the copula verb *be*, and irregular past, and later regular past tense forms.

		Age 12 versus Age 16
Simple present/past	ENG native	$\chi^2(1)=2.6176$, $p=.1057$
	GER mono	$\chi^2(1)=4.7609$, $p<0.5$
	RUS mono	$\chi^2(1)=0.8113$, $p=.3677$
	RUS-GER	$\chi^2(1)=2.0426$, $p=.153$
	TUR mono	NA
	TUR-GER	$\chi^2(1)=4.5342$, $p<0.05$
	VIET mono	$\chi^2(1)=0.0795$, $p=.778$
	VIET-GER	$\chi^2(1)=16.871$, $p<0.05$

Table 61: Pearson's chi-squared test for past tense and copula verb *be*

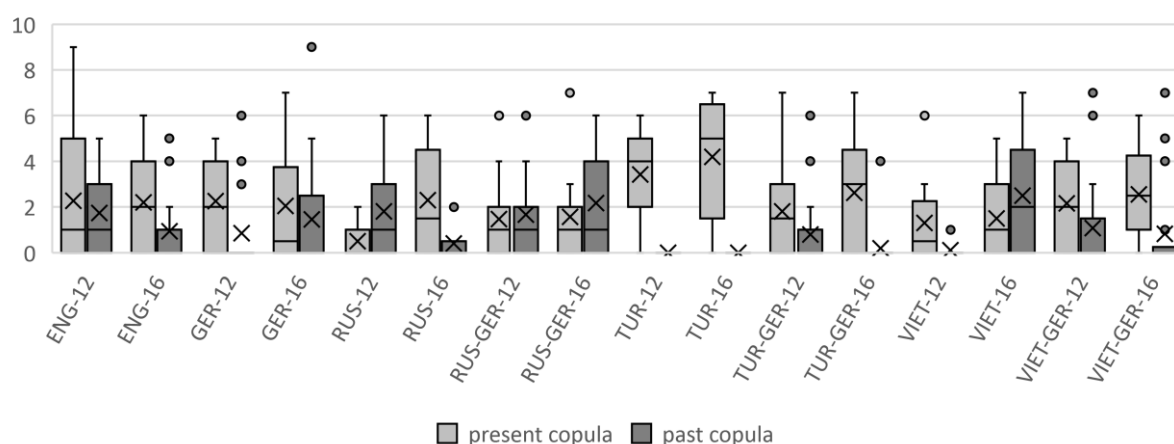


Figure 74: Mean frequencies of present and past forms of the copula *be*

We have now shown that there are quite a few past copula verbs. In the last comparison, we investigate the distribution of present tense copulas and past tense copulas across the corpus. Figure 74 provides the graphical representation, based on the mean frequencies per language group. This figure shows once again the high ratios of individual variation across the entire corpus, especially visible in of the frequent outliers that appear outside of the boxes. Overall, however, there are more present copula verbs than past copula verbs. We refrain from performing any additional statistical tests, because in Chapter 6.2.3, we already demonstrated that there is a statistical significance across the corpus for using present tense forms of *be* and we have just analyzed the use of past copula forms in comparison with the overall past tense use.

Finally, a linear model is run, which includes the response variable ‘past tense of copula *be*’, and the explanatory variables from the previous regression analyses. However, the model is not statistically significant and does not return an interpretable output. A conditional inference tree analysis is also performed, but here as well, no statistically significant results appear.

In conclusion, the difference between simple past and simple present use seems difficult to predict and explain. Age and the number of books seem to exert some influence on the use of past tense, yet not convincingly across the entire analysis. We might speculate that a higher number of books per household correlates with frequent reading in the free time, which could then be associate with using past tense forms, similarly to verbal uses in fiction stories. Yet, neither language background nor any of the other variables that were demonstrated as significant predictor variables in the former analyses, such as school type, seems to have a meaningful influence here. We observed some age differences between the proportions of *be* in past tense and all other verbs used in simple past. The 12-year-old cohorts were argued to use the past forms of *be* more frequently than their older peers. This result, however, was only statistically significant for some of the groups. What seems more plausible is that the choice between simple present and simple past for writing this picture story is largely based on an individual preference that can only be explained by chance, i.e. no convincingly clear trends are apparent.

After having looked at the written section of the corpus, we will finish the analysis with case study IV, a comparison between written and spoken production in English.

6.5 Case study IV – comparison of written and oral data

The last part of the analysis deals with a comparison between the written performance of the learners of English and the oral production of the exact same learners. As was mentioned in Chapter 6.1.2, not all students participated in both tasks. Whereas all students wrote a short text, only a subgroup took part in the oral exercise; hence, the oral section of the learner corpus contains fewer transcripts than the written section. In order to ensure comparability, we reduce the corpus so that only those written text samples are included that also have a spoken counterpart. This minimizes the data set to a total number of 176 students (see last row of Table 62), which makes up a learner corpus that includes 352 individual texts and consists of 33,759 word tokens. All foreign language learner groups are included, whilst the English native speakers are not, because none of the English native speakers participated in the oral task. Thus, we are now left with seven groups, subdivided into two age cohorts. The same unequal distribution addressed in Chapter 6.1.2 prevails also across the remaining groups, i.e. in the group of the 16-year-old Turkish monolinguals, there are only four students, while in the 16-year-old Vietnamese-German bilingual group, there are as many as 21 students present.

Frequency overview: written texts versus oral recordings

Language Group		No. of words		No. of VP tokens		No. of VP types		Type-token ratio VPs		No. of
		written	spoken	written	spoken	written	spoken	written	spoken	participants
GER	Age 12	874	985	132	141	84	92	63.71	69.13	10
	Age 16	1699	1350	265	182	164	136	64.10	78.66	11
RUS	Age 12	789	555	153	100	102	66	68.57	66.91	10
	Age 16	1031	856	180	146	125	80	71.35	62.90	10
RUS-GER	Age 12	1283	747	209	112	136	85	65.05	78.56	12
	Age 16	2835	1942	468	302	320	220	68.91	74.26	20
TUR	Age 12	368	466	61	62	35	32	55.83	54.72	6
	Age 16	250	248	50	50	25	22	51.46	45.78	4
TUR-GER	Age 12	1234	856	195	136	126	101	65.51	75.41	15
	Age 16	1624	1468	258	195	168	126	66.75	68.19	17
VIET	Age 12	840	602	156	107	102	80	69.66	76.32	10
	Age 16	1821	1209	283	203	201	140	70.89	70.47	10
VIET-GER	Age 12	1943	1337	337	233	202	161	61.30	70.31	20
	Age 16	2708	1839	432	293	283	198	65.03	71.83	21
Total		19299	14460	3179	2262	2073	1539	65.66	70.83	176

Table 62: Frequency overview: written versus oral production

Table 62 provides a frequency overview of the accumulated numbers of words, VP tokens, and VP types per language group. It is evident that overall, the students use fewer words, VP tokens, as well as VP types for the oral picture description than for the written task. There are, however, individual differences, which can be observed by looking at each learner group separately. We

realize that the younger cohorts of the German monolinguals as well as both cohorts of the Turkish monolinguals produce more words and VP tokens in the oral descriptions than in the written texts.

Language Group		No. of words per text (means)		Normalized VP tokens (means)		Normalized VP types (means)	
		written	spoken	written	spoken	written	spoken
GER	Age 12	87.40	98.50	15.46	14.89	13.20	14.10
	Age 16	154.45	122.73	15.86	13.89	24.09	11.08
RUS	Age 12	78.90	55.50	19.31	19.16	15.30	10.00
	Age 16	103.10	85.60	17.46	17.11	18.00	10.58
RUS-GER	Age 12	106.92	62.25	16.97	14.99	17.42	9.33
	Age 16	141.75	97.10	16.55	15.58	23.40	14.52
TUR	Age 12	61.33	77.67	16.43	13.72	10.17	10.33
	Age 16	62.50	62.00	20.18	19.79	12.50	8.91
TUR-GER	Age 12	82.27	57.07	16.01	16.47	13.00	9.07
	Age 16	95.53	86.35	16.56	14.49	15.18	9.85
VIET	Age 12	84.00	60.20	18.08	17.63	15.60	10.70
	Age 16	182.10	120.90	16.20	17.51	28.30	12.28
VIET-GER	Age 12	97.15	66.85	17.37	17.94	16.85	11.65
	Age 16	128.95	87.57	16.03	16.57	20.57	11.98
Total		109.65	82.16	16.81	16.30	18.06	11.29

Table 63: Mean frequency of normalized VP tokens and VP types (oral versus written production)

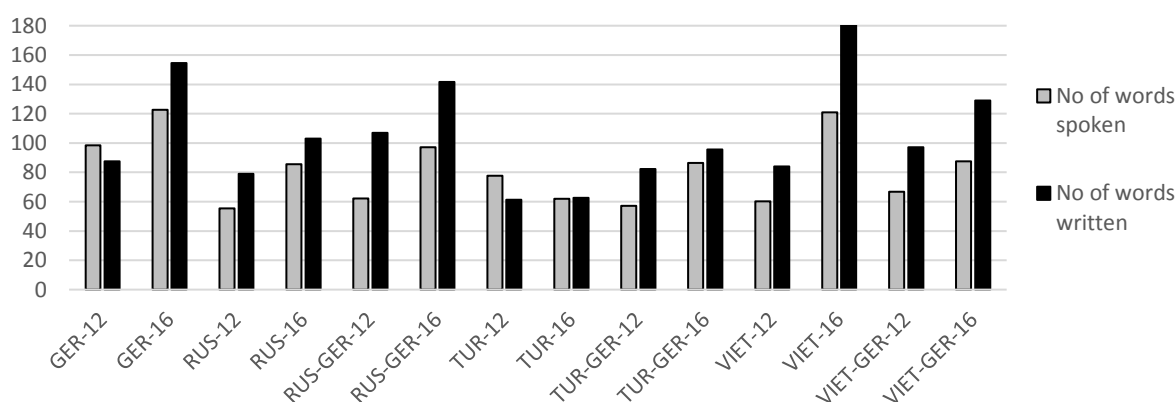


Figure 75: Mean number of words (oral versus written production)

Furthermore, we notice that the frequencies across the groups differ considerably. Yet, we cannot make a direct comparison at this stage, since in each group, we find a varying number of participants. Therefore, we investigate the mean frequencies instead (see Figure 75, Figure 76, and Figure 78). It is apparent, that the 12-year-old cohorts use approximately between 55 and 62 words per oral recording (Figure 75). Noticeably different are the German monolinguals (98.5 words on average) and the Turkish monolinguals (77.76 words on average). The average frequencies of the 16-year-old participants are visibly higher (except for the monolingual Turkish learners). This suggests that there is an overall increase in the length of the oral recordings with increasing age. Compared to the written texts, we clearly perceive that on

average, the students produce longer written texts (apart from the 12-year-old German and Turkish monolinguals). Moreover, a comparison across the learner groups reveals that the German monolinguals, the Russian-German, and Vietnamese-German bilinguals, as well as the 16-year-old Vietnamese monolinguals have slightly higher mean values than the other monolinguals and the Turkish-German bilinguals (see Table 63). This trend is visible for both spoken and written and has already been discussed in the previous sections. Hence, we observe the same trends across the written and spoken sections of the learner corpus.

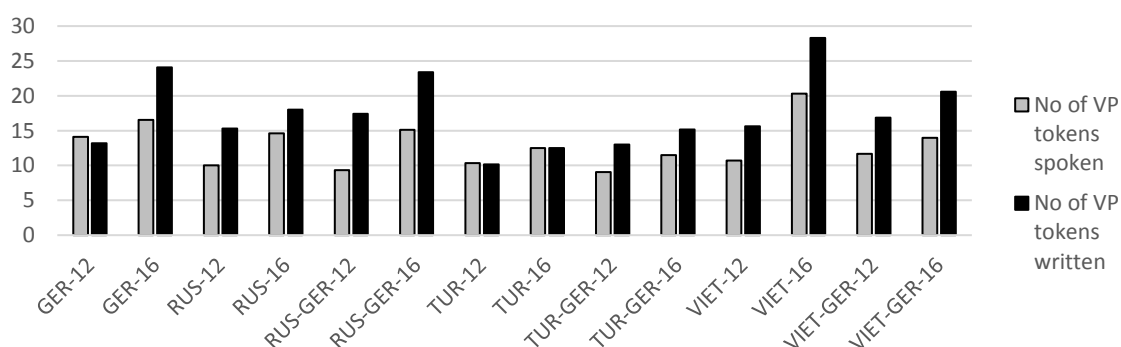


Figure 76: Mean number of VP tokens (oral versus written production)

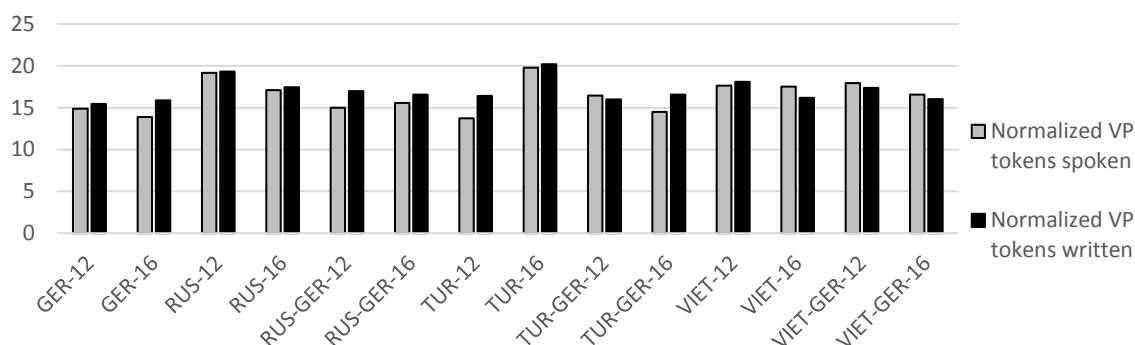


Figure 77: Mean number of normalized VP tokens (oral versus written production)

Furthermore, when looking at the mean frequencies of VP tokens (Figure 76), we notice the same pattern as was presented for the mean number of words. Again, a direct comparison might be misleading, because the observed differences might depend on the general frequency differences of the number of words used per picture description. Therefore, an additional bar plot is created, which depicts the normalized VP tokens. For this, the number of VPs per 100 words is calculated for each participant, to have a different point of reference. The respective mean values are visible in Figure 77. Strikingly, the former differences disappear. In some

cases, they are even the opposite than before, such as that the monolingual Russian and Turkish students have particularly high mean frequencies, whereas in the former graph, they were presented among those students who have relatively low mean values (see also Table 63).

What remains is that the differences both across the language groups and also within each language group are very small. This finding is slightly different to what was presented in Chapter 6.2.1. However, we must keep in mind that for this comparison, a reduced learner corpus is used (i.e. fewer participants per language group). In general, we can argue that there are no pronounced differences between the frequencies of VPs per 100 word across the corpus, neither across the language groups nor between the two age cohorts. Chi-squared tests are used to compare the learner groups by considering the mean frequencies of VP tokens in the written texts and the oral recordings per age cohort. The results confirm the former assumptions. There is no statistically significant difference across the learners (12-year-old participants: $\chi^2(6)=0.299954$, $p=.9995$; 16-year-old participants: $\chi^2(6)=0.29996$, $p=.9995$). By and large, all learners use a comparable number of verb phrase tokens within 100 words, both in spoken and written English language production.

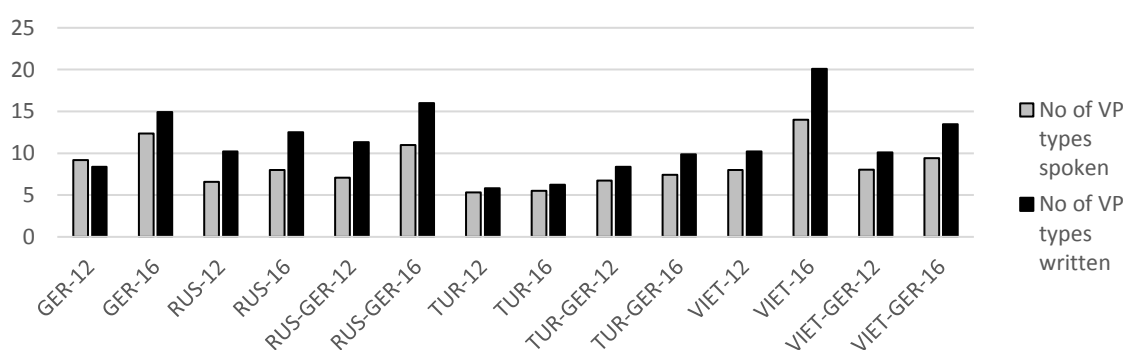


Figure 78: Mean number of VP types (oral versus written production)

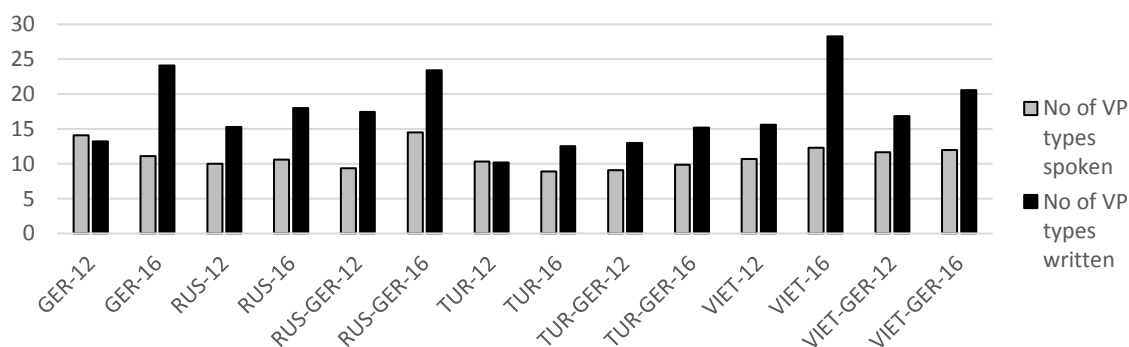


Figure 79: Mean number of normalized VP types (oral versus written production)

Similarly, we compare the mean frequencies of VP types. For the means of the absolute frequencies, we perceive again clear differences (Figure 78). Overall, for nearly all groups, there are more VP types in the written texts than in the oral recordings. The only exception is again the younger cohort of the German monolinguals, but this difference is extremely small (written: 13.2; spoken: 14.1) (Table 63). Furthermore, the 16-year-old German monolinguals, Russian-German bilinguals, and Vietnamese monolinguals have comparably more VP types per oral recording than the other learners. Yet, we cannot take this as the final argument, because we have already seen that this is most likely related to the general length differences. Therefore, the normalized VP types are also calculated, visible in Figure 79.

Intriguingly, this time, unlike in the previous analysis, there are distinguished differences across the corpus. Most importantly, the normalized frequencies of VP types in the written texts are higher than in the oral recordings. What this means is that on a global scale, the lexical variety, i.e. the number of different verb forms, is greater in writing than in speech production. In the spoken picture descriptions, the learners apparently repeat the same verbs more often, whereas in the written task, they use a larger variety. Clearly, there are only few visible peaks within the oral recordings (i.e. comparably higher frequencies for the 12-year-old German monolinguals and the 16-year-old Russian-German bilinguals), but there are several groups that have relatively high normalized VP types per written texts (especially the groups of the 16-year-old participants). Noteworthy are the 16-year-old German, Russian, and Vietnamese monolinguals, as well as the 16-year-old Russian-German, and Vietnamese-German bilinguals. Particularly in writing, they use comparably many VP types. Both the Turkish monolinguals and the Turkish-German bilinguals produce, to some extent, fewer VP types (see also the mean values for the normalized VP types in Table 63). For VP types, there seems to be a clear age difference, other than what was apparent from the VP tokens. Furthermore, it is interesting that the performance of the Turkish monolinguals as well as the Turkish-German bilinguals is so different, when compared to their peers.

Thinking back to the former analysis, we can speculate that this is on the one hand related to the overall lower proficiency of the Turkish monolinguals, and on the other hand, it might be related to the type of school that the Turkish-German bilinguals comparably frequently attend (i.e. vocational-track secondary-school instead of university-bound secondary-school). It is, however, unlikely that we have here identified an instance of cross-linguistic influence from Turkish. Further down, we include additional background variables in the analysis, to

assess how school type and other variables affect the findings and if they explain the observed differences.

Interestingly, however, the visible differences are not statistically significant based on several chi-squared tests. We compare the mean frequencies of VP types in the spoken and written descriptions across all learners for the two age cohorts individually (12-year-old participants: $\chi^2(6)=2.2679$, $p=.8935$; 16-year-old participants: $\chi^2(6)=1.4118$, $p=.9651$), and we also run chi-squared tests that compare the younger with the older cohorts for either the spoken or the written mode (spoken: $\chi^2(6)=1.6546$, $p=.9486$; written: $\chi^2(6)=2.0499$, $p=.915$). All p-values are extremely high, which means that we cannot reject the null hypothesis, i.e. the differences that we observe are most likely due to chance.

In conclusion, overall, there are no statistically significant differences across the spoken and written parts of the corpus in relation to the frequency of verb phrase tokens or types, when used as normalized values per 100 words. We had to use this normalized measure of comparison, because the number of words per text differ extremely across the language learners. In general, we argue that all participants use a comparable number of VP tokens and VP types. This is a crucial result and confirms that in terms of quantity, the learners are clearly comparable. In addition, there is not only no statistically significant difference across the English language learners, but there is also no significant difference between the two tasks. Hence, we find a parallel performance for VP types and tokens, when we control for frequency differences that are clearly visible (i.e. more words used for the written task than for the spoken task). Therefore, we now consider the quality instead and introduce several additional grammatical variables in the subsequent sections.

Use of tenses

In accordance to the analysis of the written texts, we also provide a close analysis of the oral recordings, albeit less detailed. The individual performance of all students can be found in Appendix II (Table 84); here, all verb classifications that were presented in the analysis of the written performance are included as well.

First, we investigate the tense and aspectual distinctions that are used within the oral picture descriptions. Figure 80 visualizes the individual tenses as well as the progressive uses in proportions to ensure comparability. Again, unclear verb phrases, passives, as well as imperatives are not included, because there are only few uses across the spoken part of the learner corpus, similar to what we earlier discussed for the written texts (see also the absolute

values plus the proportions of the tense uses in Table 88 (Appendix II)). We already presented that for the written performance, simple present uses make up a large proportion. This is even more distinct for the oral recordings. Nearly all groups use for approximately 50% or even more than half of the verb phrases the simple present tense. Only the 16-year-old German and the 16-year-old Vietnamese monolinguals use the simple present less frequently. What is more, the simple past is used comparatively infrequently, apart from the 12-year-old Russian monolinguals (32.32 %) and the 16-year-old Vietnamese monolinguals (33.67%), who show relatively high proportions of VPs in the simple past.

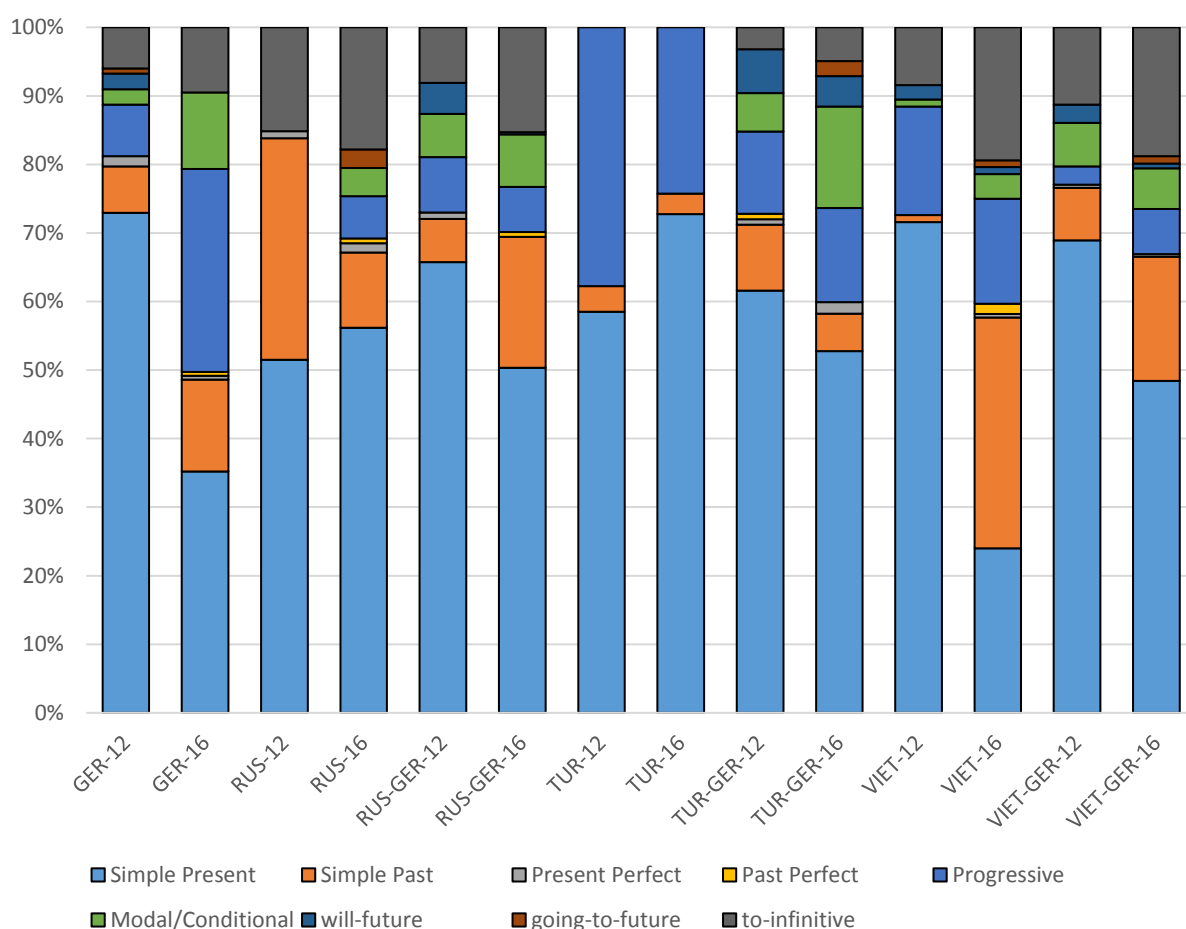


Figure 80: Overall tense classification of VPs (oral production)

Furthermore, the use of the progressive aspect is also noteworthy. Overall, approximately 11% of the VPs of the entire spoken corpus are progressive forms. Yet, the distribution across the corpus is rather diverse. Except for the 16-year-old German monolinguals (29.61%), and both Turkish monolingual groups (12-year-old: 37.74%; 16-year-old: 24.24%), there are overall only small proportions of progressives. This is in a sense comparable to the written performance;

yet, those three groups that were just mentioned are clearly the exception, because such high proportions were not visible in the written texts.

In addition, we notice several modal or conditional uses, as well as some uses of *to*-infinitives; the other tenses appear generally infrequently. This last finding is also similar to what was presented in the analysis of the written texts (compare Figure 28).

In conclusion, across the corpus, there is no clear pattern visible that can be explained with the variables age or language group. We observe differences; though, it seems difficult to argue for cross-linguistic influence at this stage. What is meant by this is that neither age nor language group seems to trigger specific tense (or aspect) uses. This accords to what was presented earlier (see Chapter 6.2.1).

Before we look at further verbal categories, we assess the use of the main tense of the oral story. As before, each recording was coded for the tense that is mainly used by differentiating between three categories, i.e. present, past, and mix, following the coding scheme described in Chapter 5.3.

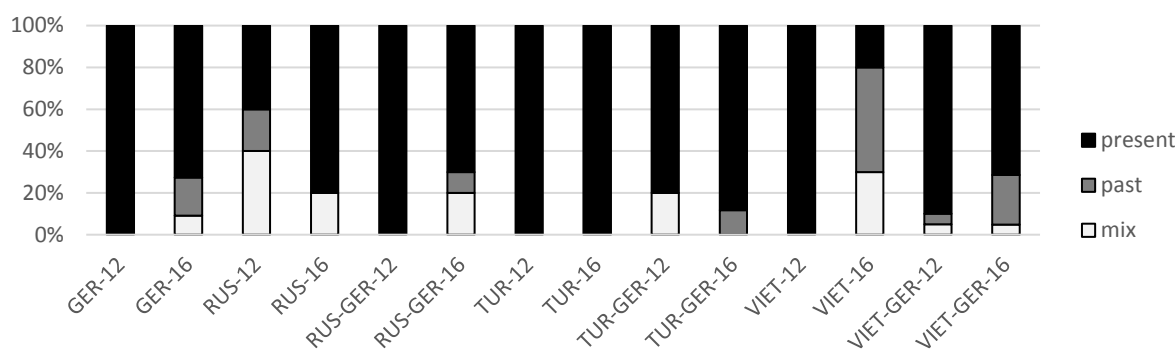


Figure 81: Main tense per oral recording

In Figure 81, we quite clearly observe that most of the students use the present tense throughout the oral story. Outstanding are the 16-year-old Vietnamese monolingual students, because they use the simple past tense relatively frequently. In addition, some groups vary between present and past, which means that they use both tenses inconsistently. This seems to be particularly the case for the 12-year-old Russian monolinguals as well as the 16-year-old Vietnamese monolinguals. As before, there is no clear age-related variation or a difference that could be explained with the language group the students belong to.

This assumption is further supported by the statistical analysis. We create an association plot that includes the language groups without differentiation between the two age cohorts and

that compares the attraction to the main tense use. This plot returns an insignificant result ($p=.0722$) (see Figure 82). However, the more fine-grained analysis, i.e. when we differentiate between language group and age, we find significant associations (Figure 84). This is overall not too surprising but clearly supports our initial assumptions. Especially the 12-year-old Russian monolinguals alternate between the simple present and the simple past tense (visible in the high attraction between this group and the category ‘mix’), and the 16-year-old Vietnamese monolinguals use comparably few simple present forms but many simple past tense forms.

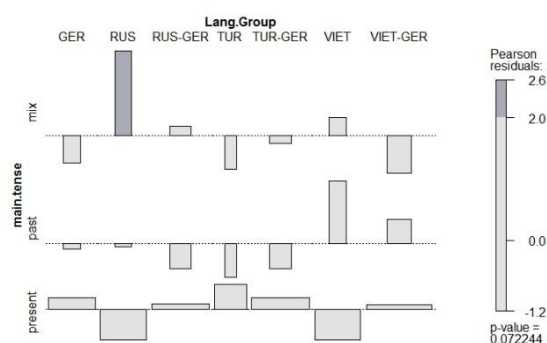


Figure 82: Association plot: main tense versus language group (spoken production)

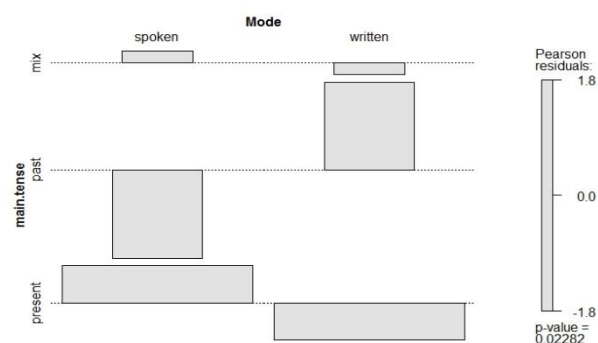


Figure 83: Association plot: main tense use versus mode

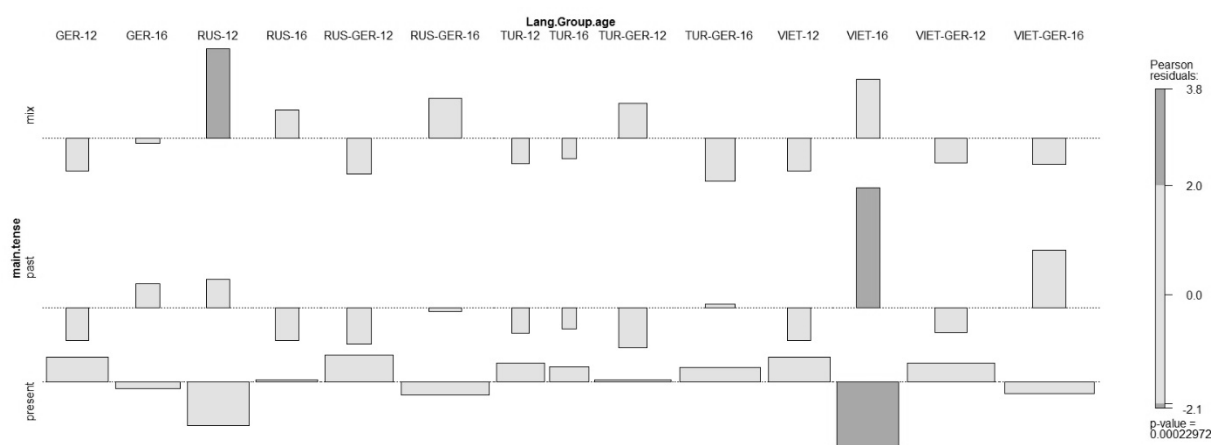


Figure 84: Association plot: main tense versus language group and age (spoken production)

The next step is to assess, whether the observed difference between written and oral performance is likewise statistically significant. We reported higher proportions of simple present in the oral recordings than in the written texts. Therefore, we investigate the statistically

significance again with an association plot. Here, both sections of the learner corpus are included, and we compare the main tense use with either spoken or written mode (Figure 83). This highly significant plot confirms that the simple past tense is more frequently used in the written stories, and that the oral recordings are significantly stronger associated to the present tense. This means that there is a difference, which can be attributed to the type of task the participants performed. Yet, this result, i.e. more frequently simple past in the writings versus more frequently simple present uses in speech, is rather a global trend. We argue this, because there is no apparent or consistent age or language group effect across the corpus. We only notice individual groups that are outstanding, but no general patterns emerge, except for comparably more frequent present tenses uses in the spoken language production and conversely more frequent simple past uses in the written language production.

Subject-verb-agreement

We now look at subject-verb-agreement in the oral recordings. Previously, we differentiated between subject-verb-agreement of lexical verbs (i.e. affixal SVA), which is realized with the third person singular {-s} morpheme, and between SVA of the verb *be* (i.e. suppletive SVA). We use the same methodology and present the distribution of correct SVA and incorrect SVA in bar plots. Figure 85 visualizes the absolute frequencies of target-like SVA of lexical verbs (i.e. 3rd person singular {-s} present), non-target-like SVA of lexical verbs (i.e. 3rd person singular {-s} absent), as well as overuse of the third person singular {-s} (i.e. use of {-s} morpheme for plural reference or with simple past tense verbs). The opposite category, namely the use of correct and incorrect forms of *be* are presented in Figure 86. In addition, the absolute, accumulated values for each group can be found in the Appendix I (Table 89).

Not surprisingly, the overall distribution is not entirely different to what we presented for the written texts. This means that there are generally high proportions of missing 3rd person singular {-s} morphemes across all language groups. This is especially visible across the monolingual Russian, Turkish, and Vietnamese, as well as the Turkish-German bilingual cohorts. The other three groups show relatively more target-like uses, visible in Figure 85. In addition, the 16-year-old monolingual German students show the lowest proportions of missing third person singular {-s} morphemes, which means that their performance is comparably better than of their peers. Yet, it is nevertheless striking that the absolute numbers of required third person singular {-s} morphemes are drastically different for the individual groups. The Turkish monolinguals have fewer than 20 contexts available in their picture descriptions, whereas in the

recordings of the 12-year-old Vietnamese-German bilinguals we find more than 120 situations that require a third person singular {-s}. Again, much of this can be explained with the overall number of participants per group. Therefore, we will compare proportions instead of absolute frequencies in the regression analysis that follows.

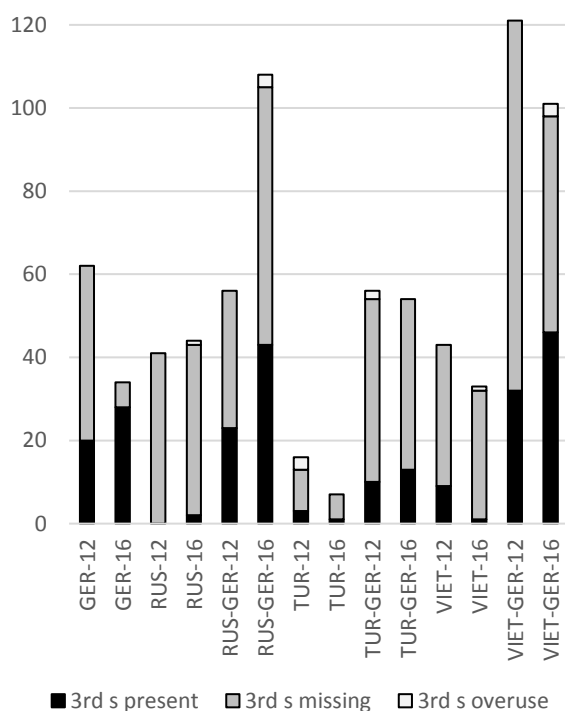


Figure 85: Presence/absence/overuse of 3rd person singular {-s} (oral production)

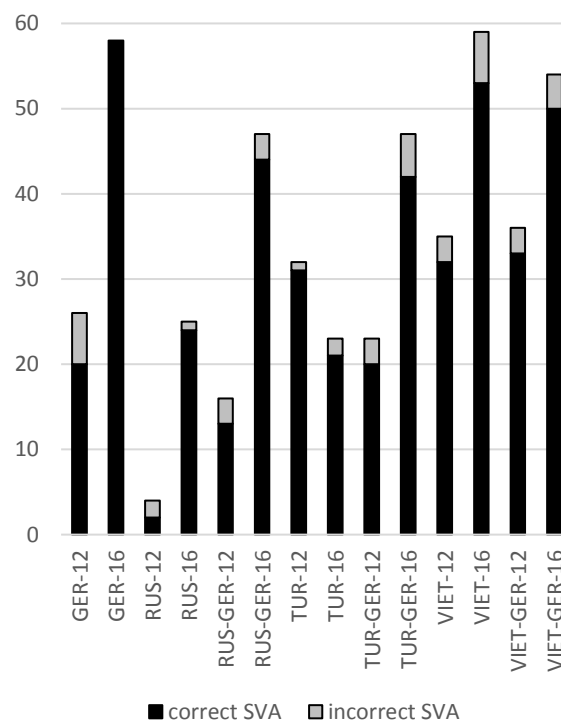


Figure 86: Subject-verb-agreement of the verb *be* (oral production)

Furthermore, the use of correct subject-verb-agreement with the verb *be* is markedly different (Figure 86). In comparison to lexical verbs, only few forms of *be* are used incorrectly, which shows that the participants of this study are clearly able to use correct subject-verb-agreement with the suppletive verb *be*. This is visible for all learners. None of the 16-year-old German monolinguals uses one incorrect form of *be*, and also the others have not more than six incorrectly used forms per group, which is a strikingly low number, compared to the absolute frequencies of missing 3rd person singular {-s} morphemes. Noteworthy is also that in total, there are fewer forms of *be* than lexical verbs that require subject-verb-agreement.

When we now compare this to the written texts, we make two crucial observations: (i) the ratio of missing 3rd person singular {-s} morphemes is comparably higher in the spoken part of the corpus, and (ii) in the written section, there are on the whole more uses of forms of *be*

than in the spoken section. This latter point is of interest for the next section, which discusses the use of the copula verb *be*.

In general, we can argue that for both written and oral production, we observe the same results: many non-target-like lexical verbs as opposed to few non-target-like forms of *be*. Whether this difference is statistically significant will be addressed in the linear regression analysis at the end of this section.

Use of copula verb be

Furthermore, we investigate the use of the copula verb *be*, by paying special attention to absent forms of *be*, which were argued to be a characteristic feature of the Russian, Turkish, and Vietnamese monolinguals, according to the analysis of the written texts (see Chapter 6.2.3). Table 64 presents the absolute numbers of required and missing copula verbs, as well as the respective percentages. Moreover, we also include the number of students who omitted at least one form of *be*, to assess whether only few, individual students omit copula verbs, or whether this is a general problem (additional numbers can also be found in the Appendix I, Table 89).

		Required <i>be</i>	Absent <i>be</i>	% of absent	No. of students who omitted at least 1 <i>be</i>	% of students who omitted at least 1 <i>be</i>	Total no. of students in group
GER mono	Age 12	14	0	0.00	0	0.00	10
	Age 16	20	0	0.00	0	0.00	11
RUS mono	Age 12	3	0	0.00	0	0.00	10
	Age 16	19	6	31.58	4	40.00	10
RUS-GER	Age 12	11	1	9.09	1	8.33	12
	Age 16	24	0	0.00	0	0.00	20
TUR mono	Age 12	16	2	12.50	1	16.67	6
	Age 16	16	3	18.75	1	25.00	4
TUR-GER	Age 12	16	0	0.00	0	0.00	15
	Age 16	18	1	5.56	1	5.88	17
VIET mono	Age 12	15	1	6.67	1	10.00	10
	Age 16	29	1	3.45	1	10.00	10
VIET-GER	Age 12	22	1	4.55	1	5.00	20
	Age 16	37	0	0.00	0	0.00	21
Total		260	16	6.15	11	6.25	176

Table 64: Absolute frequencies and percentages of required and missing copula verb *be*, number of students (oral production)

Intriguingly, there are considerably fewer absent forms of *be*, when we compare the absolute frequencies between the written texts and the oral recordings. Remember that we reported 43 omitted forms of *be* in the written picture descriptions, whereas there are only a total number of 16 omitted forms of *be* in the oral picture descriptions. However, this number is most likely also related to general frequency differences. In the written texts, there are 864 contexts where a form of *be* is necessary; though in the oral recordings, there are only 260 required forms of

be. Clearly, there are fewer texts, words, and VPs in the oral section of the corpus; yet, this does not explain this huge discrepancy. In conclusion, we notice that in the oral picture descriptions, there are markedly fewer contexts that require a copula verb.

This is clearly problematic for a statistical analysis, because the analysis would be entirely based on few instances; therefore, we are reluctant to understand this as a general phenomenon. Though, we can argue that again, the same groups as in the previous analysis omit copula verbs comparably more frequently. In total, eight students of the Russian, Turkish, and Vietnamese monolingual groups omit a minimum of one copula form. Nevertheless, there are three participants from the three bilingual groups (one per group), who also miss one copula verb each. Clearly, this is the same trend as before, namely that the monolingual Russian, Turkish, and Vietnamese students show more absent forms of copula verbs. Yet, in contrast to the previous analysis, we are far from being able to make a generalizing statement based on these low numbers found in the oral recordings. A larger corpus with more contexts that need a copula verb *be* might be able to further support this tendency.

Formal correctness and target-like meaning of VPs

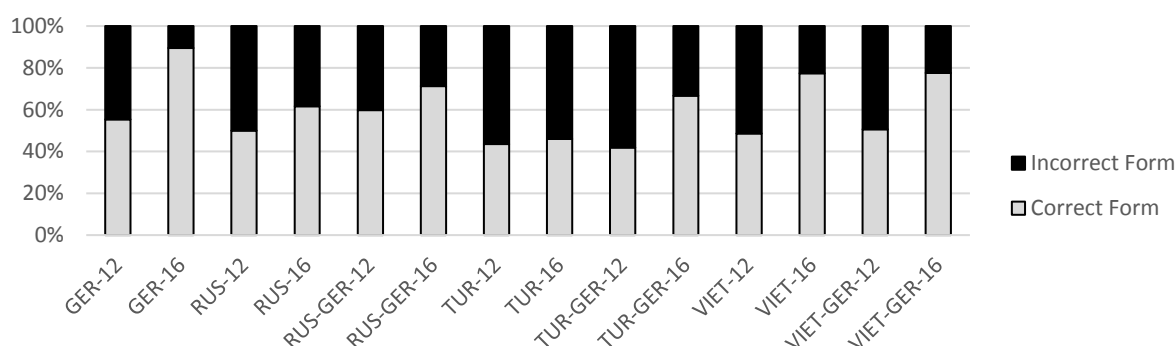


Figure 87: (In)correct form of VPs (oral production)

We now investigate formal correctness and target-like meaning of verb phrases. In the oral part of the learner corpus, formal correctness does of course not refer to spelling mistakes, but we also pay attention to grammatical mistakes, such as missing third person singular {-s} morphemes (see section above), or incorrectly formed past tense verbs, such as *catched* instead of *caught*. Target-like meaning, as before, refers to whether this verb is a target-like use, i.e. if the choice of tense and aspect fits into the context. The accumulated frequencies of formally (in)correct VPs and VPs with (non-)target-like meaning can be found in Appendix I (Table 89).

In addition, the proportions of correct form and target-like meaning of verb phrases are visualized in Figure 87 and Figure 88.

For the former category, the overall trend is that all younger cohorts have proportionally more formally incorrect VPs than the respective older cohorts (Figure 87). Like in the previous discussion of the written texts (see Chapter 6.4.2), the Turkish monolinguals are an exception, because here, this age-related improvement does not hold. In addition, they show the weakest performance of all groups. Furthermore, the extremely high frequency of formally correct VPs of the 16-year-old German monolinguals is remarkable (89.6%) and stands out in comparison to the other learner groups. This aligns with the former analysis of subject-verb-agreement, because this group was presented as having only few omitted third person singular {-s} morphemes per recordings and that none of the forms of *be* was incorrectly used. Clearly, subject-verb-agreement is a subcategory of formal correctness; therefore, we see this high overlap between the former and the present results.

The analysis of target-like meaning versus non-target like meaning of VPs presents contrasting results (Figure 88). Here, the first overview demonstrates that the ratios for target-like uses of verb phrases are generally higher than was shown for formally correct VPs. This trend was also reported for the examination of the written texts. In addition, most learner groups show more VPs with target-like meaning with increasing age, though this increase is less pronounced than was visible for formal correctness. Also, the Turkish monolinguals and the Vietnamese-German bilinguals are different. The former groups show the revers pattern, i.e. higher proportions for non-target-like VPs; plus, they are overall the weakest participants. The latter groups have nearly the same proportions for (non-)target-like meaning of VPs in both cohorts.

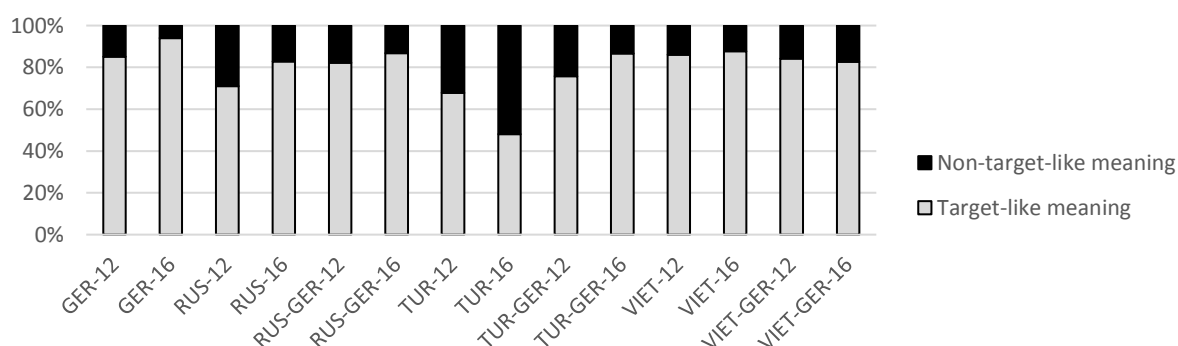


Figure 88: (Non-)target-like meaning of VPs (oral production)

For this section, we reported the proportional distribution of formal correctness and target-like meaning of VPs. Clearly, there are proportionally fewer formally correct VPs when compared to the ratios of VPs that have target-like meaning. In the analysis of the written texts (compare Chapter 6.2.4) we observed the same trend, i.e. higher proportions of target-like meaning than formally correct VPs. For the oral section of the learner corpus, we have so far not clarified whether these contrasts reach statistical significance or whether the difference between spoken and written is statistically significant. We come back to this in the linear regression analysis at the end of this chapter.

We have now given a concise overview of the oral section of the learner corpus. We examined each grammatical category in comparison to the language groups and the two age cohorts. What we have not considered is a correlation with additional background variables. We continue with this step, because the former case studies demonstrated how crucial the inclusion of additional background variables is for the interpretation of the results.

Assessment of background variables

In Chapter 6.1.3, we analyzed the background variables of all participants. In this previous analysis, all participants were included that took part in the written task. For the current analysis, however, we work with a reduced data set. Therefore, we have to look at some of the background variables again, to investigate, if the composition of the learner corpus is now different than before. Since we lack considerable information of the Russian, Turkish, and Vietnamese monolingual groups, they are not part of this analysis. This means that only the German monolinguals are included, as well as the three bilingual groups, i.e. there are now 126 remaining students that are part of the analysis of the background variables.

Again, association plots are used to calculate the attraction between the background variables socio-economic status (HISEI), number of books per household, type of school, age of onset of acquiring German, as well as attitude towards English (useful/difficult) and the four language groups, differentiated by age. In the first step, we examine all 126 participants, which means that for some of the variables we use the dummy coding ‘N.A.’. Second, we rename it NA, which causes R to exclude all unknown cases for each calculation. Hence, for the second association plots, fewer participants are included. We display both steps, because until now, for the descriptions of the oral section of the corpus, we have considered the entire corpus. Thus, we need to know to which groups the participants belong. The second step is especially crucial

for the following linear regression analysis, because in the regression models, we will exclusively include those participants who have completed questionnaire information.

The most striking result to emerge from the data is that both cohorts of the German monolinguals are strongest associated to high HISEI values. This is true for both analyses, i.e. with or without incomplete cases (see Figure 89 and Figure 90 respectively). This is especially noteworthy, because this might be an indication for why the German monolinguals were shown to perform comparably better than the other groups throughout this current case study, if high HISEI values correlate with enhanced performance. In addition, the 12-year-old Vietnamese-German bilinguals are strongly associated to low HISEI values, in contrast to their older peers.

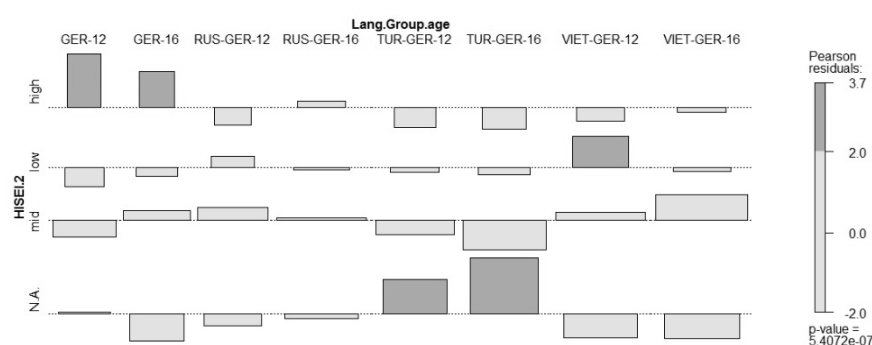


Figure 89: Association plot: HISEI groups versus language groups (including N.A.)

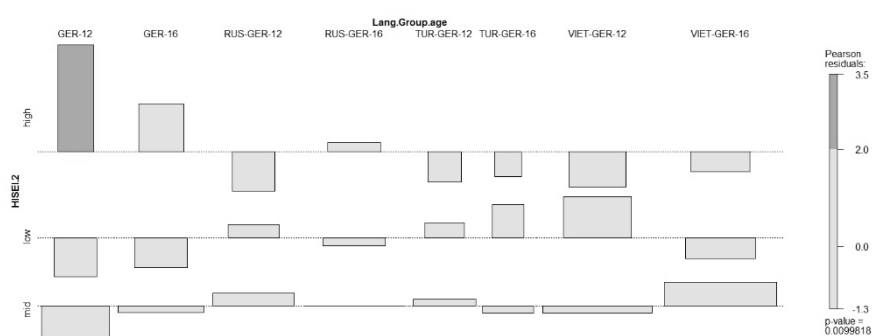


Figure 90: Association plot: HISEI groups versus language groups (only complete cases)

As before, we observe that most information that is missing comes from the Turkish-German bilinguals; therefore, they are underrepresented in all HISEI groups (i.e. low, mid, high), but overrepresented in the category N.A. (Figure 89). In the model from where only those students are included for whom we have a specific HISEI value assigned, the picture barely changes. However, we now observe that the Turkish-German bilinguals are comparably overrepresented

in the group of low HISEI values. The value with the highest Pearson residual, i.e. the strongest combination of the entire model, is between the younger cohort of the German monolinguals and high HISEI values. All other combinations are comparably weaker; yet, the general trend is highly interesting and even confirms results from other studies, namely that German monolinguals have by and large a higher socio-economic status when compared to bilingual heritage speakers who grow up in Germany (see for example the socio-economic status of the monolingual German and Turkish-German bilinguals in Hopp 2019).

Equally informative are the association plots visualizing the attraction between the language groups and the type of school (Figure 91 and Figure 92). As discussed before, the Turkish-German bilinguals attend particularly frequently vocational-track secondary-school types instead of the university-bound secondary-school type. In addition, we observe that both cohorts of the Russian-German bilinguals as well as the younger cohort of the Vietnamese-German bilinguals are relatively strongly associated with ‘Gymnasium’. This trend is not visible for the German monolinguals. This is notably, because these groups were demonstrated as having a statistically significantly higher socio-economic status.

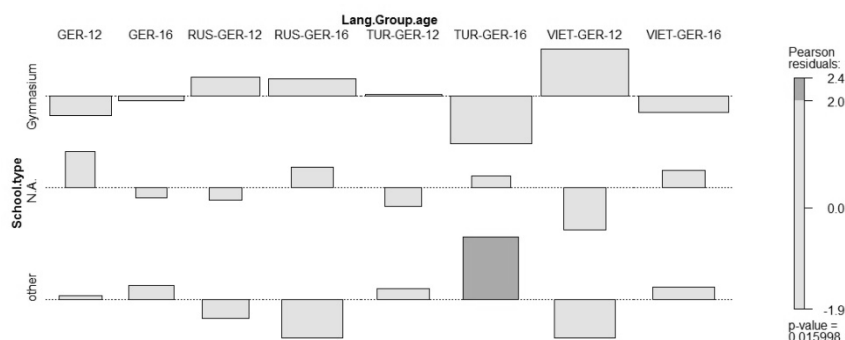


Figure 91: Association plot: Type of school versus language groups (including N.A.)

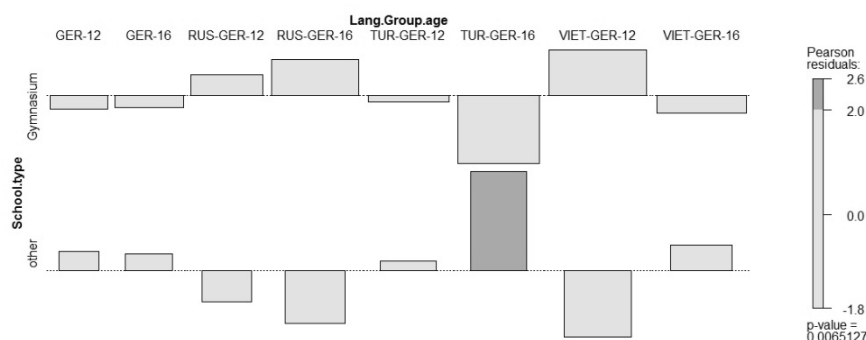


Figure 92: Association plot: Type of school versus language groups (only complete cases)

Therefore, one additional association plot is included, to assess the attraction between school type and socio-economic status, as we have reason to believe that these two categories are not necessarily related. In fact, Figure 93 and Figure 94 reveal that there is no statistically significant association between these two variables. There is a visible trend that suggests that ‘Gymnasium’ and a higher socio-economic status are correlated. Conversely, attending a vocational-track secondary-school seems to be associated strongly with lower HISEI values. Yet, both association plots are not statistically significant; hence, we cannot reject the null hypothesis and are left with mere tendencies. This perfectly demonstrates that we need to include both variables in the subsequent regression analysis, because the two variables have a different informative value.

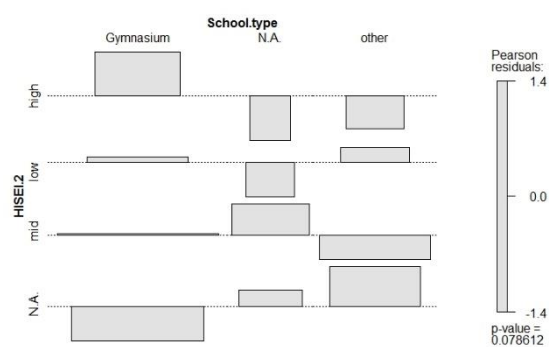


Figure 93: Association plot: HISEI groups versus type of school (including N.A.)

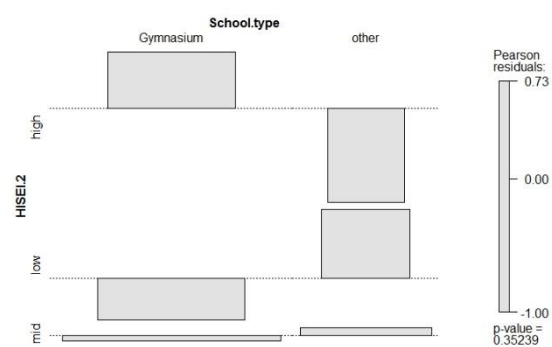


Figure 94: Association plot: HISEI groups versus type of school (only complete cases)

The next two plots (Figure 95 and Figure 96) are quite revealing in several ways. First, we observe, again, that the variable ‘number of books per household’ adds additional information and is not simply a sub-variable of either type of school or HISEI. Second, the pattern that emerges nevertheless supports both previous analyses, because we find repeated patterns. The German monolinguals are among those who have the highest numbers of books per household (i.e. 500+); similarly, the Russian-German bilinguals are also overrepresented in this category, albeit the latter association is less pronounced. This somehow correlates for the German monolinguals with their socio-economic status, and for the Russian-German bilinguals with the type of school they frequently attend.

The Turkish-German bilinguals rarely indicated the number of books they have in their households (visible in the high attraction to the dummy category N.A.) (Figure 95). In addition, there is only one category that appears more frequently than expected and that is one of the lowest possible numbers, i.e. between 11 and 25 books. For the other association plot (Figure

96), we observe that the total number of Turkish-German participants who are finally included in this calculation is very low (visible because the width of the bars is drastically smaller than of all other groups). For the younger cohort, we notice an association for having between zero and 100 books, i.e. this is at the lower end of this variable. The result for the 16-year-old Turkish-German bilinguals is different in that they show a positive association with possessing between 201 and 500 books, which is the category which includes the second highest number of books. This is intriguing, but we need to keep in mind that the number of students for whom this attraction is calculated is extremely small.

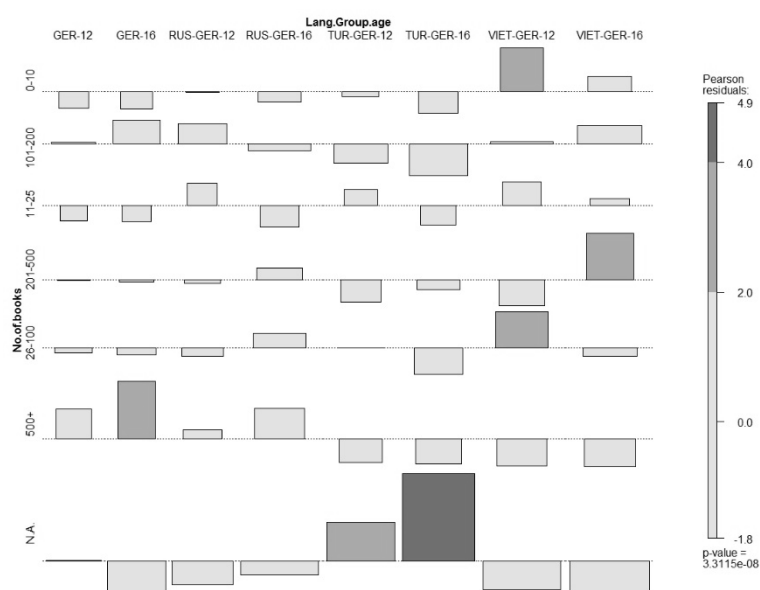


Figure 95: Association plot: Number of books per household versus language groups (including N.A.)



Figure 96: Association plot: Number of books per household versus language groups (only complete cases)

Lastly, we have a closer look at the Vietnamese-German bilinguals. Both cohorts also possess comparably few books (Figure 95). The 16-year-old students indicated to have slightly more

books, visible in the positive attraction between this group and the category ‘201-500’, which is the second highest category. Nevertheless, the German monolinguals as well as the Russian-German bilinguals possess overall more books than the other two bilingual groups.

Next, we also consider the age of onset of acquiring German. For this calculation we excluded the German monolinguals, as they were all born in Germany and are naturally exclusively associated to the category ‘birth’. Interestingly, all association plots return high p-values, hence there is no statistically significant association between the language groups and the age of onset categories defined in this study, i.e. birth, three, four, five, six, seven+. The only remarkable plot is Figure 97. It is also not statistically significant; however, we could argue that it is marginally significant, as the p-value is comparably low ($p=.07342$). What we find in this plot can only be understood as a tendency and should be taken with caution. All three 12-year-old groups started to acquire German from birth onwards comparably more frequently than the older cohorts. In addition, we especially lack information from the 16-year-old Russian-German bilinguals. What is more, this group is more strongly associated to the older age categories, i.e. onset of acquiring German at the age of four, six, and seven. In contrast, many Vietnamese-German bilinguals indicated age three as their onset of acquiring German. The two Turkish-German groups show the opposite trends, the 12-year-old students started relatively younger than their 16-year-old peers.

In summary, the results for age of onset of acquiring German is rather divers. Yet, we include it in the analysis, since it might add important information to the final regression models.

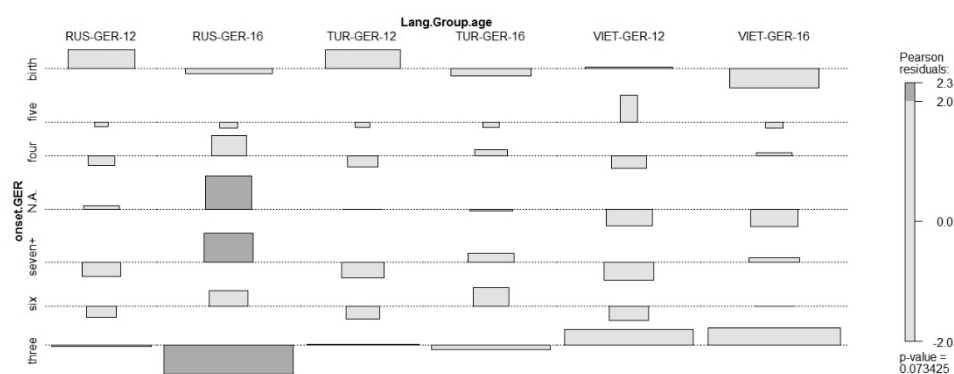


Figure 97: Association plot: Age of onset of acquiring German versus language groups (including N.A.)

The last two categories that we examine are the attitudes that the students have towards English; we differentiate between English considered as difficult or not, and between English viewed as

a useful language or not. None of the association plots returns a statistically significant association. We only obtain a statistically significant result if we include the variable ‘English difficult’ and compare it to the language groups without differentiating between the two age cohorts and without the incomplete cases (Figure 98). For this context, we notice that exclusively the Turkish-German bilinguals regard English as a difficult language; all other groups do not perceive English as a difficult language to study. This might have a significant effect on their performance in English. Having difficulties might correlate with a weaker performance in that language.

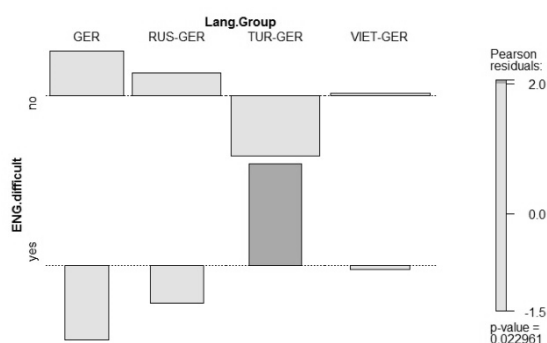


Figure 98: Association plot: English regarded as difficult versus language groups (only complete cases)

This close analysis justifies that when analyzing the English texts and oral recordings, we have to consider all background variables, as there is (i) substantial variation across the corpus, and (ii) each variable adds a different informative value, which might turn out to be relevant when combined in one model. The latter point is particularly crucial because with this information, we may better explain the variation found across the learners than with belonging to a particular language group.

Multiple linear regression analysis of written and oral performance

General description of regression analysis

The last section of case study IV combines the written and oral language production of the learners with the background variables that have just been described. All linear regression models that are described in the following paragraphs can be found in the Appendix I (Table 90 to Table 100). Several different dependent variables are used, namely ‘number of word

tokens' (absolute frequencies), 'number of VP tokens' (absolute frequencies), 'number of VP types' (absolute frequencies), 'formally correct VPs' (absolute frequencies), 'proportions of formally correct VPs', 'VPs with target-like meaning' (absolute frequencies), 'proportions of VPs with target-like meaning', 'proportions of 3rd person singular {-s} missing', 'proportions of incorrect SVA with *be*', and finally, 'absolute frequencies of forms of *be*'. For each of the eleven regression models (except if otherwise stated), we use the exact same explanatory variables with the identical reference levels to ensure comparability. The following independent variables are included:

- a) Language background (reference level: German monolinguals)
- b) Gender (reference level: female)
- c) Age (as a numeric value)
- d) Mode (reference level: spoken)
- e) Age of onset of acquiring German (reference level: birth)
- f) HISEI (as a numeric value)
- g) School grade in German (as a numeric value)
- h) School grade in English (as a numeric value)
- i) School type (reference level: Gymnasium)
- j) English difficult (reference level: yes)
- k) English useful (reference level: yes)
- l) Number of books per household (reference level: 500+)

In addition, all models only include complete background information, which means that we use the label NA not as a dummy variable, but R automatically excludes all incomplete cases from the analysis. Therefore, there are only four learner groups represented in the regression models, namely the German monolinguals, as well as the Russian-German, Turkish-German, and Vietnamese-German bilinguals. Hence, what we can demonstrate with these models is if there is a statistically significant difference between the learners of English for whom this additional language is either a second or a third language. In addition, we examine which of the supplementary background variables have a statistically significant influence on the ten dependent variables mentioned above.

Frequency overview

First, we assess the overall frequency differences. This means we want to find out how the differences in the number of words, VP tokens, and VP types (that were presented in the preceding analyses) can be explained based on the independent variables. Initially, we observed that some of the language groups wrote more words than others. This is supported in Linear Model IXa (Table 90). In fact, all bilingual groups produce significantly fewer words per

written and oral picture description task than the monolingual German participants. This could be a first indication that the performance of the German monolinguals is comparably better than that of their bilingual peers, if we regard the number of words as an indicator for proficiency in English. We argued that the number of words that are used for the task completion increases with increasing proficiency in the respective (foreign) language. Based on this argument, the German monolinguals outperform the bilingual participants. Since we cannot base proficiency exclusively on the numbers of words that are written or spoken, we later investigate how this explanatory variable behaves for other response variables.

Moreover, we also confirm that there are significantly more words per written texts than per spoken transcript. Interestingly, the influence of the type of school also reaches statistical significance. Attending a vocational-track secondary school in comparison to the university-bound secondary-school type decreases the number of words that are produced. Relating this again to proficiency, we notice a remarkable school-dependent effect. Again, in the later discussion, we go beyond the number of words and investigate more meaningful grammatical categories.

The correlation between a weaker (i.e. higher) school grade in German and a higher number of words is interesting, because it might suggest that the proficiency in German is negatively related to the performance in the foreign language English. A strong reliance between the academic achievement in German and English was demonstrated in a study by Hopp et al. (2019). They analyzed very young monolingual German and several different bilingual heritage speakers and found a correlation between productive vocabulary development in German and English (Hopp et al. 2019: 104). It is crucial that we identify the opposite trend in this regression model, because here, a better performance in English correlates with producing fewer words in English. The following regression models will exhibit if we can further confirm this dependency.

The last two explanatory variables that return a low p-value are two categories pertaining to the number of books per household and one particular age of onset of acquiring German. Bilingual students who started to acquire German the age of six produced more words than those who started to acquire German from birth onwards. None of the other categories adds significantly to the overall model, which suggests that there is no general effect of age of onset, but that this is maybe rather related to individual differences, i.e. here for those who indicated age six as their age of onset of acquiring English. Equally less straightforward are the results for the variable ‘number of books per household’. There is no perfect trend visible, because only two groups, i.e. ‘26-100’ and ‘101-200’ books per household in comparison with

500 or more books, significantly lower the absolute frequency of word tokens. We could understand this as indicating that the number of books also influences the proficiency in the foreign language English. But we need to be careful, because we cannot generalize here, due to three non-significant comparisons.

Intriguingly, the socio-economic does not act as an important predictor, which is, in view of the former discussions, rather surprising (see Chapters 3.1.2 and 3.1.3). This, however, underlines that the socio-economic status of a child is not necessarily related to the type of school he or she attends. Also, the attitudes towards English or the gender of the participants do not have a statistically significant effect on the number of words that were written or uttered.

We now go one step further and investigate the number of VP tokens instead of word tokens. In Linear Model IXb (Table 91), we identify similar meaningful variables, but not all formerly significant explanatory variables exert a statistically significant influence on this response variable. Only age, mode, school type, plus the same categories of age of onset and number of books per household as before return tangible results. The exact same effects as previously described remain, which is to be expected, because these two variables are related. However, what is particularly remarkable is that here, the school grades in German or the language background do not contribute to explain the variation in the number of VPs tokens.

Largely the same is true for the number of VP types, visible in Linear Model IXc (Table 92). Increasing age increases the number of VP types. In addition, written mode and attending the university-bound secondary-school type also increase the number of VP tokens. This should not come as a surprise, but it is clearly in line with the two former regression models. The only additional information is that now, starting to acquire German either at the age of four or at the age of six has an increasing effect. The number of books per household show the same effect as before.

What these three regression models demonstrate is that (i) the overall number of words that is produced depends especially on age, mode (or differently said the specific task type), the type of school, the grade in the school subject German, and the language background. In addition, (ii) some influence of the age of onset or the number of books can also be identified, not only for the number of words, but also for the frequencies of VP tokens and types. Clearly, (iii) the response variables ‘number of VP tokens’ and ‘number of VP types’ can be best explained with the variables age, mode, and school type. Furthermore, the predictive power of both models is moderately high, which means that more than 50% of the variation visible in the dependent variables can be explained with these regression analyses. In addition, due to missing information, 210 participants are not considered. This means that this model is based on 142

texts, which is clearly a low number compared to the potentially higher number if all variables were complete (this is further addressed in Chapters 8 and 9, which discuss limitations and provide an outlook for further research).

So far, we have considered a pure frequency difference, without reflecting on grammatical correctness. The more meaningful response variables are inspected henceforth. This means that the remaining analyses need to show if the same effects are also visible, when we pay attention to formal correctness, target-like meaning, and subject-verb-agreement.

Assessing formal correctness of verb phrases

Linear Model Xa (Table 93), which considers formal correctness of VPs, returns a comparably high predictive value ($R^2=0.5649$), i.e. 56.5% of the variation in the dependent variable ‘absolute frequencies of formally correct VPs’ can be explained with the independent variables. What is striking about the figures in this table is that neither language background nor the socio-economic status shows a statistically significant effect. Gender, as well as the school grades in English and German, plus the attitudes towards English are also insignificant. Yet, there are four predictor variables that are noteworthy. With increasing age, the absolute number of formally correct VPs increases significantly. Formerly, we have repeatedly observed age differences, which are also supported in this regression model. Increasing age correlates with higher proficiency in English, which is here visible with fewer formally incorrect VPs.

Furthermore, the mode, i.e. the task, influences the number of formally correct VPs. We find considerably more VPs that are formally correct in the written texts, when compared to the oral recordings. The former observation is now clearly established, i.e. more formally correct VPs, while at the same time supporting the overall frequency differences (see the previous section). The school type is also relevant in that attending vocational-track secondary-schools significantly decreases the number of formally correct verb phrases. Hence, the type of school explains a correlation between higher and lower proficiency in English. Quite striking is that all numbers of books per household when compared to the highest possible number, i.e. 500 or more books, significantly diminish the frequency of formally correct VPs. This suggests that the more books at home, the more formally correct VPs per text or recording, i.e. the better is the proficiency in English.

Slightly perplexing is again the finding that starting to acquire German at the age of four and six significantly increases the number of correct VPs. The other variables, when compared to the reference level ‘birth’ do not return a significant effect. What is particularly striking is

that initially, we argued that an early age of onset might have a facilitative effect on further language acquisition (Maluch & Kempert 2017; see also Chapters 3.5 and 5.4). This, however, cannot be confirmed when considering the number of formally correct VPs, because the opposite effect is in fact visible.

Throughout case study IV, we remarked that there are overall frequency differences that can be traced back to the number of words each participant produced (see again Linear Model IXa). Therefore, we also examine the dependent variable ‘proportions of formally correct VPs’ in Linear Model Xb (Table 94), to obtain slightly different results and to include one additional layer of information. We now add the correctness proportions, i.e. we include the relevant information about the distribution of formally correct versus incorrect VPs across the language learners, instead of relying exclusively on the frequencies of formally correct VPs (which are necessarily dependent on the overall number of words per text or recording).

The results are strikingly different, which confirm our concerns that a direct comparison of absolute values might be somewhat misleading. Though, the figures are not completely opposite, because some of the significant effects remain. Increasing age has still a facilitative effect and the type of school affects the overall formal correctness as well. It remains that attending a school type other than ‘Gymnasium’ significantly lowers the proportions of formally correct VPs, demonstrating that a lower proficiency in English is associated with attending a vocational-track secondary-school. The results are less straightforward for the number of books per household. Only three categories show to have a significant effect. The direction remains negative; hence, fewer than 500 books significantly decreases the proportion of formally correct VPs. Interestingly, the mode does not significantly add to predicting the proportions of formally correct VPs. With this, we cannot confirm the previously reported differences between the spoken and written task, but we must argue that these discrepancies were triggered because of the general frequency differences.

For these two regression models, we used the variable formal correctness of verb phrases as an estimation for proficiency, i.e. more formally correct VPs per text or oral recording equals higher proficiency in English. What these two regression models perfectly demonstrate is that formal correctness is not dependent on the language group, nor the socio-economic status, gender, the school grades, or the particular tasks. The variation can, however, be explained with a facilitative effect of older age (i.e. higher proficiency in English because of four more years of foreign language instruction), attending the university-bound secondary-school track (as opposed to attending other school types), and owning 500 or more books. The predictive power

of Model Xb is substantially smaller ($R^2=0.4235$) than of the former model, but it is still acceptable, given the low number of participants that are included in this regression analysis.

Assessing target-like meaning of verb phrases

The next dependent variable, target-like meaning of VPs, is another approximation for proficiency in English, though, from a different perspective. What stands out in the following two regression models is that the significant independent variables are not the same anymore. In Model XIa (Table 95), which includes the absolute numbers of VPs with target-like meaning, we find the age of the participants, mode, age of onset, school type, the number of books, and also HISEI to significantly contribute (here, not the group categories ‘low’, ‘mid’, and ‘high’ of the socio-economic status are included, but the numeric HISEI values). In Model XIb (Table 96), which contains the proportions of VPs with target-like meaning, only two significant predictor variables remain, namely HISEI as well as age of onset.

Let us first briefly consider the former model. The same directions for age, mode, and school-type are visible as was demonstrated for formal correctness. This means that increasing age and written mode increase the absolute number of VPs with target-like meaning, whereas attending vocational-track secondary-schools decreases the number of target-like VPs. Concerning the number of books, we observe that all categories which include fewer than 500 books show a negative estimate. Yet, only for two of these (i.e. ‘26-100’ and ‘101-200’), this decreasing effect is statistically significant. Furthermore, having started to acquire German at the age of four has an increasing effect on the frequency of target-like VPs. Age of onset is again puzzling, since age four is the only age that shows a significant effect, i.e. we lack consistency and cannot report a clear pattern for younger versus older age of onset. The other results are in accordance to what was previously shown.

In the corresponding model which includes the proportions of target-like VPs, i.e. Model XIb (Table 96), there are two crucial observations: (i) the socio-economic status remains significant, i.e. with increasing HISEI value, the proportion of VPs with target-like meaning increases. This is definitely striking, because the former analysis based on the written texts only (see again Chapter 6.2.4) also revealed that the socio-economic status had an influence on target-like meaning but not on formal correctness of VPs.

We have now demonstrated that this is true for both the oral and written part of the learner corpus. In addition, there is a significant negative effect of onset of acquiring German at the age of six. This is again difficult to explain, because it seems to be a rather singular effect

that lacks explanatory value. It is even the opposite trend that was observed in the parallel Linear Model XIa. Here, later age of onset exerts a negative effect (which could be argued to represent an expected outcome). Yet, this is only significant for one of the age groups, i.e. no general facilitative or negative effect of age of onset of acquiring German can be confirmed, based on this data set or with this regression model. Again, there is no difference between the written and the spoken production, similar to what was shown for the proportions of formally correct VPs.

In sum, formal correctness can be explained with the independent variables age, type of school, and number of books per household; whereas the socio-economic status of the participants has an impact on the target-like use of VPs. This is a striking finding, because the two categories, which both concern the correctness of the verb phrase, appear to be unrelated. The comparably lower predictive power of the latter two models (Linear Models XIa and XIb) might be attributed to an additional point we mentioned earlier. Formal correctness is rather straightforward to code, which means that it is less complicated to decide between the labels ‘incorrect’ or ‘correct’. Target-like meaning, however, may involve, to a certain degree, some speculation, as we cannot ask the participants what they wanted to express, but we exclusively rely on contextual information and on the overall composition as well as consistency of the stories or recordings. Nevertheless, we demonstrated that it is crucial to distinguish between these two categories, i.e. formal correctness versus target-like meaning, because of the different information that stems from the respective analyses.

Analyzing subject-verb-agreement

Next, we examine the regression models that assess subject-verb-agreement. Based on the former analyses, we only control for proportions and do not include absolute values. First, we consider subject-verb-agreement of lexical verbs, i.e. we investigate if there is a statistically significant effect of any of the background variables that explains the variation in the proportions of missing 3rd person singular {-s} morphemes (Table 97). Interestingly, only one variable is statistically significant, and that is possessing between zero to ten books, when compared to possessing 500 or more books. The proportion of missing 3rd person {-s} morphemes significantly increases (i.e. showing a weaker performance) when owning zero to ten books. On additional variable is noteworthy, albeit it is only marginally significant. With increasing age ($p=.0638$), the proportion of missing 3rd {-s} morphemes decreases, i.e. older age correlates with a better performance. This is potentially interesting as it supports previous analyses; however, here, it can only be regarded as a tendency which lacks statistical power.

Overall, the predictive power of this model is also relatively small ($R^2=0.3506$); in combination with the few significant variables, we cannot present a strong argument.

In general, we argue that subject-verb-agreement with lexical verbs, i.e. adding the third person singular {-s} morpheme, seems to be a common learner problem, irrespective of language background or additional social variables. Age was shown to have at least a marginal effect, though, less pronounced than for formal correctness. Clearly, the variation between the participants is not large enough to show a significant effect that can be attributed to the variables presented in this linear regression model. Most likely, other factors that are not considered here (such as proficiency in the heritage language and the majority language) might be more suitable to explain the variation of the dependent variable. Also, for this model, a total number of 224 individual cases had to be disregarded due to missing information. This number is higher than before, because here, missing information refers to either unknown background variables or no context that required a third person singular {-s} morpheme. Hence, this extremely small number that is left ($n=128$), certainly affects the predictive power of the model.

The comparable regression model which investigates the second category of subject-verb-agreement, Linear Model XIIb (Table 98), is overall not statistically significant ($p=.1347$). This means that the variation in the dependent variable ‘proportions of incorrect SVA of *be*’ cannot be explained based on this model, or differently said, we cannot accept this model with this high probability of making a mistake. One of the main issues is most likely the fairly small number of participants that are included within the model. This number is even lower than before, because there are more students who do not use any forms of *be* in their texts or recordings, which automatically excludes them from the analysis. Furthermore, in the preceding discussion, we presented that the overall frequency of forms of *be* is much smaller than that of lexical verbs that require subject-verb-agreement. Both reasons, as well as the fact that in general, we noticed only little variation across the participants, explain the high p-value and the low predictive power ($R^2=.2428$).

Still, we want to briefly discuss some of the independent variables by investigating their significance levels as well as estimate directions. Three of the explanatory variables nearly reach significance; these are gender ($p=.0567$), age ($p=.06$), and the lowest category of number of books per household ($p=.0502$). This is interesting in several respects. First, gender has so far not come up in any of the previous analyses as having a statistically significant effect. Here, however, we can see that male students have comparably higher proportions of formally incorrect forms of *be* than their female peers. Second, age, as one of the most frequently occurring significant variables demonstrates the same direction as before: with increasing age,

the proportion of incorrect forms of *be* decreases, i.e. the performance improves. Possessing between zero and ten books has also been repeatedly mentioned as exerting a negative influence, which is replicated here: in comparison to owning 500 or more books, the proportions of incorrect forms advances. Yet, as stated in the first comments, this model is overall not statistically significant and needs improvement, for instance by adding more participants or by selecting fewer, different, or additional variables.

We cannot increase the data set; therefore, we continue with a step-wise model selection process (see Levshina 2015: 149-152) and exclude, in a first step, both categories pertaining to the attitudes towards English (i.e. English useful/difficult), and second, we delete the age of onset of acquiring German. This procedure results in Linear Model XIIc (Table 99), which is clearly statistically significant ($p=.02136$), but whose predictive power is even lower than before ($R^2=.2189$). Dropping further variables returns crucially smaller R-squared values. This is the reason, why these steps are disregarded, as they do not result in model improvement. Nevertheless, the two previously described independent variables remain: older age correlates with lower proportions of incorrect uses of *be*, and belonging to male gender enlarges the proportions of formally incorrect uses of *be*.

In conclusion, the three linear models confirm our earlier observations, namely that (i) age has only a small or marginal effect for both suppletive as well as affixal subject-verb-agreement. This is visible in the marginal significant p-value in Linear Model XIIa ($p=.0638$), and the overall low predictive power of all three models. In addition, (ii), before, we proposed that affixal subject-verb-agreement seems to be a general learner problem. This is also established, because there are no additional significant variables, except one of the categories of the number of books per household (i.e. between zero and ten books). Most likely, the variation within this variable is not extreme and therefore, the model displays low predictive power and few significant variables. Across the corpus, students tend to omit the third person singular {-s} morpheme quite frequently, irrespective of language group or any of the other background variables, except a marginal positive effect of age.

The opposite applies to suppletive subject-verb-agreement: (iii) students are overall capable of using correct forms of *be*; only few incorrect forms appear in the texts and recordings. Some of this variation can again be explained with the variable age, i.e. increasing age reduces the proportions of incorrect SVA with *be*. Surprisingly, gender shows a marginal significant effect, in that male gender is associated with higher ratios of incorrect SVA. Again, the low predictive power of the model and the initially insignificant regression model (Linear Model XIIb) also confirm that there is only little variation across the participants. Hence, the

use of *be* is not a problematic area. This is intriguing, because suppletive and affixal subject-verb-agreement are markedly different, but both are equally easy or difficult for the entire student population analyzed here, with no differences between L2 and L3 learners. This further supports the results presented by Ionin and Wexler (2002) (see again Chapter 6.2.2), who reported the exact same finding for second language learners of English (see also García-Mayo & Villarreal Olaizola 2011).

Frequency of forms of be

The final model, Linear Model XIII, includes the dependent variable ‘absolute frequencies of forms of *be*’ (Table 100). With this, we want to assess the statistically significant effect that any of the background variables has on the frequency of occurring forms of *be*. Earlier, one of our arguments was that in the written stories, there were visibly more forms of *be* than in the spoken data. With the following analysis, we want to establish if this reaches statistical significance.

The model returns seven significant explanatory variables. Indeed, mode has a significant effect, exactly as predicted. The frequency of forms of *be* is higher in the written texts than in the oral recordings. The type of school is also among the significant variables. Attending a vocational-track secondary-school decreases the frequency of forms of *be*. Furthermore, for the first time, a comparison between two language groups returns a statistically significant effect. The Russian-German bilinguals use, when compared to the German monolinguals, fewer forms of *be*. In addition, we find a statistically significant effect of the school grades, both for English and German, albeit with opposite directions. A better school grade in English (i.e. a lower grade) decreases the frequencies of *be*, and a better school grade in German increases the use of *be*. This is the identical trend that was observed for the frequency of words per text and recordings, which suggests that these two categories are seemingly related. Moreover, the number of books per household is again among the statistically significant variables: both categories, i.e. ‘zero to ten’ and ‘101 to 200’ significantly decrease the frequency of forms of *be*. Interestingly, the predictive power of this model is moderately high ($R^2=0.4617$).

What we wanted to prove with this regression analysis is that there are more forms of *be* in the written texts than in the spoken data. This, we can clearly demonstrate. All other results are somewhat puzzling, because the informative value of this variable is rather diverse. In a sense, the absolute frequency of forms of *be* is a combined variable, because it includes several types of information: copula uses of *be* are included, as well as auxiliary forms, which are used

for the progressive aspect and passives, and also both simple present and simple past forms are comprised under this label. Using many copula forms might be related to initial stages of learning English, i.e. forming simple, presentational sentences, as in *There is a father and a son*, instead of more diverse vocabulary uses. Auxiliary uses, however, might demonstrate higher proficiency, as they are part of a complex verb phrase. Hence, this variable might not qualify as a clear indicator for proficiency or correct verbal uses, but it was chosen to demonstrate the crucial difference between the written part and the spoken part in terms of frequency of forms of the verb *be* (in addition to the frequency differences of the number of words, demonstrated in Linear Model IXa).

Summary of regression analysis

In conclusion, we can make several remarkable observations based on the preceding regression models. Especially the age of the participants influences the performance in English. This clearly strengthens the overall composition of the learner corpus, as this is the only variable that should, by definition, play a decisive role. This learner corpus consists of participants from two age cohorts that represent two proficiency levels, lower proficiency (12-year-old cohorts) and higher proficiency (16-year-old cohorts). The recurrently significant results substantiate this precondition. Furthermore, another comparably strong predictive value comes from the type of school the participants attend. For the overall frequency measures, i.e. formal correctness and target-like meaning of VPs, it makes a difference whether the students attend a university-bound secondary-school or a vocational-track secondary-school. The former was shown to have a facilitative effect, i.e. substantial better performance of the students.

More surprising is perhaps that the socio-economic status is not among the most relevant variables, as only once, it returned a statistically significant effect, namely for predicting target-like meaning of VPs. With higher HISEI values, the absolute frequency and the ratio of VPs with target-like meaning advances. Yet, in none of the other models, it added significantly to the prediction of the dependent variables. Higher socio-economic status is elsewhere demonstrated as having a huge impact on the performance and success in school (see for example Cenoz 2013; Lechner & Siemund 2014). However, based on the current study, we can only partly confirm this argument. This is even more remarkable given that we identified differences across the learner groups concerning their socio-economic status (i.e. significantly higher attraction of high HISEI values for the German monolinguals). It seems that the socio-

economic status cannot explain the variation found in the English language production, but that the type of school is a better predictor.

In general, subject-verb-agreement shows less explicit results. This is most likely attributed to the overall only small differences across the participants for either SVA with lexical verbs or the verb *be*. Another somewhat less conclusive result stems from the categorical variable ‘age of onset of acquiring German’.⁴⁶ We encountered both contradictory results (compare Linear Model XIa and XIb), and we could only identify individual age categories to add significantly to some of the regression models. With this, we cannot confirm any clear effect of age of onset on the performance in English.

Yet, the single most striking observation to emerge from the data comparison is that only once a statistically significant effect can be related to the language background. For the response variable ‘number of word tokens per text or recording’, we observe that the German monolinguals outperform all bilingual participants. However, for none of the other dependent variables did the three bilingual groups perform differently, when compared to the German monolinguals (except in Linear Model XIII, but we already discussed that this variable, i.e. absolute frequency of forms of *be*, is rather problematic for making one single prediction in terms of proficiency). Due to the lack of sufficient background information of the monolingual Russian, Turkish, and Vietnamese participants, we only performed the regression analysis with the German monolingual and the bilingual participants. There might be other effects visible when the extended data set is used; but for now, we argue that based on the dependent variables investigated here, there are no statistically significant differences between the L2 learners of English, i.e. the German monolinguals, or the L3 learners, i.e. the bilingual heritage speakers, except for overall length differences. With these results it is arguably difficult to claim that we have established a clear advantage for monolinguals over their bilingual peers. We come back to this argument in Chapter 7.9.

Concluding remarks for case study IV

Case study IV compared the written and the oral production of the learners of English. For this, we used a subset of the participants, because not everyone completed both the written and the oral task. We clearly demonstrated that the oral recordings are significantly shorter than the

⁴⁶ For the models previously discussed, we used age of onset as a categorical variable; a different operationalization as a numeric variable did not return significant results for any of the models, which is the reason why they are not included in this study.

written texts. The only other noticeable difference concerns the use of tenses. The spoken picture descriptions are more frequently told in the simple present, and the written picture stories are more often composed in the simple past. Yet, apart from these general frequency differences, the inner constituency of both sections of the learner corpus are comparable. By this, we refer to formal correctness of verb phrases, target-like meaning of verb phrases, and subject-verb-agreement. The latter is noteworthy, because two arguments were put forward. On the one hand, we reported overall high frequencies of non-target-like lexical verbs, i.e. verbs that lacked the obligatory third person singular {-s} morpheme; and on the other hand, there were crucially fewer incorrect forms of *be*. For the suppletive verb *be*, the participants showed generally no difficulties in adhering to the subject-verb-agreement rules.

Whereas in the written texts, we noticed definite differences between the monolingual Russian, Turkish, as well as Vietnamese students and the rest of the participants for the use of the copula *be*, this could not be clearly verified for the spoken part of the corpus due to the low frequency of copula verb uses. In the former analysis, the monolingual Russian, Turkish, and Vietnamese participants, especially the younger cohorts, had more absent forms of the copula verb *be*, most likely due to cross-linguistic influence from their respective native languages. We saw a similar trend in the oral recordings, yet, the differences lack statistical significance.

A close analysis of the background variables revealed that there are significant differences concerning the composition of the groups. The German monolinguals have, for instance, a higher socio-economic status than the other participants of whom we have this information. Furthermore, the Russian-German and the 16-year-old Vietnamese-German bilinguals attend more frequently the university-bound secondary-school type than the other participants.

Due to the lack of complete background variables, the regression analyses were only conducted with the German monolinguals and the bilingual participants. What these regression models demonstrated is that there are largely no differences that can be attributed to being either an L2 or L3 learner of English, but that mainly, the age of the participants and the type of school explain the variation in the language production. To a certain extent, we can also report a statistically significant influence coming from the socio-economic status, though not for every aspect that we investigated, but exclusively for the distinction between target-like and non-target-like use of VPs.

7. Discussion

In this chapter, the main findings of the preceding four case studies are discussed in relation to the central theoretical issues that were introduced before. We consider each key factor individually and interpret how we can relate the theoretical aspects outlined in Chapter 3 and Chapter 4 with the findings of the analysis. First, in Chapter 7.1, we come back to the central point of this study and that is cross-linguistic influence in third or additional language acquisition. Here, we discuss the role of the two previously acquired languages, linguistic typology, and linguistic proximity and take up the arguments of Chapter 3.1 and its subsections. In section 7.2, we comment on the dominant status of one of the two languages, the majority language German, and argue that unbalanced bilingual heritage speakers are a specific type of bilingual language learner. This needs to be acknowledged in research focusing on third and additional language acquisition. Age, another influential factor in language acquisition, is examined in Chapter 7.3. Furthermore, we consider the roles of the socio-economic status (7.4), the type of school (7.5), the influence of the specific task (7.6), age of onset of acquiring German (7.7), and the attitudes towards English (7.8) on the performance of English. Moreover, in the following sections, we comment on bilingual advantages in general, and in particular for unbalanced bilingual heritage speakers (7.9), and we examine the role of metalinguistic awareness (7.10). We then revisit the claims put forward by the Aspect Hypothesis and discuss the findings of the current study in relation to it (7.11). Finally, in Chapter 7.12, we address the particular learning environment of the participants in this study, by focusing on foreign language instruction and by indicating potential cultural differences. Within this chapter, we also introduce the role of further factors and how these could explain the large individual variation across the language learners.

7.1 Cross-linguistic influence in L3 acquisition of bilingual heritage speakers

Let us first come back to the question of which of the previously acquired languages affects the acquisition of the additional language English in the current bilingual heritage speaker context. In Chapter 3.1.2, we introduced the most recent theories and models that discuss cross-linguistic influence in L3 acquisition, which we will now briefly revisit.

The claims supported by Hermas (2014) and Na Ranong and Leung (2009), which favor ‘absolute L1 transfer’, would in principle predict that cross-linguistic influence comes exclusively from the first language, i.e. the native language, and not the second language. In

general, it is unclear whether this model applies in such a heritage speaker scenario, because these bilingual participants do not have a clearly separable L1 versus L2 in their language repertoire. Lorenz et al. (2018: 2) argue, based on a comparable data set of bilingual heritage speakers who also grow up in Germany, that German is not the typical L2 for these adolescents, but that it could be considered a second L1. Earlier, we already discussed that we use ‘majority language’ or ‘dominant language’, when we refer to German, and ‘heritage language’, when we talk about either Russian, Turkish, or Vietnamese. It would perhaps be misleading if we equate the heritage language with the L1 and the majority language with the L2. It must therefore be concluded that this model cannot be applied to the current context.

A similar issue arises from the premises of the ‘L2 Status Factor Model’ (Bardel & Falk 2007; 2012). Bardel and Falk (2007; 2012) argue that CLI comes from the L2 and acts as a filter for the L1 in third language acquisition. It is equally unclear if this model is applicable here, because of the same arguments that were just given, i.e. that the bilinguals of the present study are not classic L2 learners, as alluded to in the ‘L2 Status Factor Model’.

Therefore, we introduced four different transfer scenarios (see again Chapter 5.4), namely that there is no cross-linguistic influence visible in the learners, that cross-linguistic influence comes from the majority language German, the heritage language, or from both the majority and the heritage language. As the discussion of the results (Chapters 6.2 to 6.5) should have demonstrated, we clearly identified cross-linguistic influence, which automatically excludes the first transfer scenario. We presented differences across the eight language learner groups, which we partly explained with influence from the previously acquired native languages.

To give an example, the Russian, Turkish, and Vietnamese monolinguals, most specifically the 12-year-old cohorts, omit statistically significantly more frequently the copula verb *be* in the written text production in comparison to the other learner groups (Chapter 6.2.3). We argue that this is an instance of cross-linguistic influence, because in these three languages, many uses where a form of *be* is required in English, are not expressed with a verbal equivalent in Russian, Turkish, or Vietnamese but appear verbless. Furthermore, we report a small advantage of the Russian and Turkish monolinguals in the target-like use of the progressive aspect, which can be attributed to the fact that in Russian and Turkish, progressive situations are also morphologically marked; hence, these two languages have a grammatical marker for imperfective aspect, which is helpful for the use of the English progressive aspect, so our reasoning. Yet, and this is the most intriguing finding, we could not identify the same performance pattern in the bilingual participants. What we observe instead, is a comparable

English production of the German monolinguals and the Russian-German, Turkish-German, as well as Vietnamese-German bilinguals.

This last finding, namely that this visible advantage of the monolingual Russian and Turkish participants is not present in the bilingual participants, is crucial when we consider the ‘Cumulative Enhancement Model’ (CEM) (Flynn et al. 2004). According to this model, cross-linguistic influence is possible from both languages, but it is never impeding but always facilitative (Flynn et al. 2004). If this model was true, we should find positive transfer from Russian and Turkish in the bilinguals’ English production, noticeable for instance in a more target-like performance in the use of the progressive aspect when compared to their German monolingual peers. Yet, we present an equal performance, i.e. no CLI, which results in the rejection of the ‘Cumulative Enhancement Model’ in this strong form of positive influence only. Furthermore, many other studies discovered counterevidence that clearly argues against exclusive facilitative cross-linguistic influence (see for example Rothman 2011: 111).

Another L3 acquisition model, i.e. the ‘Typological Primacy Model’ (TPM), was put forward by Rothman (2011). This model is based on the initial stages of language learning, and it argues that transfer comes completely from the language that is overall typologically closer to the language that is currently being acquired (Rothman 2011). In the present contexts, we identified German as the language that is typologically closer to English than any of the other languages relevant here. In accordance with this L3 model, we should then present cross-linguistic influence in the English performance of the bilingual speakers to come entirely from German. In fact, what we argue is that there are no differences between the German monolinguals and the bilingual learners which relate to the language background; hence, we could indeed argue for CLI to come from the overall typologically closer language, i.e. German. The results of the current study present strong evidence in favor of Rothman’s (2011) ‘Typological Primacy Model’.

Moreover, we also presented two further models, the ‘Linguistic Proximity Model’ (LPM) (Westergaard et al. 2017) and the ‘Scalpel Model’ (Slabakova 2017). These two models argue that CLI in L3 acquisition is selective, and not wholesale as was proposed by Rothman (2011); transfer may either come from the L1 or the L2, depending on the linguistic similarity for each specific grammatical phenomenon (Westergaard et al. 2017). What this means is that for property A, transfer may come from the L1, because this grammatical structure is similar to the structure in the language currently acquired, and that for property B, CLI may happen from the L2, due to linguistic proximity between the L2 and the L3 in this context. Slabakova (2017)

identified additional influential factors, such as frequency and transparency of the linguistic phenomenon.

As explained, we did not observe differences in the performance of the bilingual participants and the monolingual German students, for none of the different linguistic properties that we investigated. We clearly need to take this with caution, because there were in general only few cases of CLI noticeable among the learners. The use of the copula verb was shown to be a distinct problem for the Russian, Turkish, and Vietnamese monolinguals; though, the same effect was not visible among the bilingual participants. This is accordance to the LPM, because German and English share similar features for this particular grammatical area, which motivates cross-linguistic influence from the German.

In addition, we noticed marginal effects of the L1 on the use of the progressive aspect; this is also not apparent in the heritage speakers. According to the LPM, we would have expected to identify cross-linguistic influence from Russian and Turkish for this grammatical area, due to a more similar grammatical structure in English and Russian as well as Turkish as opposed to English and German. Since we report the opposite, it shows that the bilinguals do not transfer from their heritage language, which could be evidence against the ‘Linguistic Proximity Model’.

However, the fact that there is no cross-linguistic-influence identifiable does not necessarily imply that the LPM is not applicable, but maybe because this grammatical similarity that we as linguistics identify, might not be transparent enough for the young language learners. In addition, the frequency of progressives was relatively low across all participants; it may be possible that a larger data set would detect differences that support the LPM. Also, and we address this in more detail later, it could be related to the largely monolingual German syllabus that we find in German secondary-schools (see Chapters 7.9 and 7.10). Another possible explanation is that the students may not have acquired the necessary grammatical properties in their heritage language (see Puig-Mayenco et al. 2018 and further down in this chapter). Due to the unavailability of production data in the heritage language, we cannot assess this issue at this stage.

Hence, based on the current study, it seems difficult to clearly argue for or against the LPM. We are, however, convinced that this model is extremely plausible. A larger study which examines different grammatical phenomena with clearer contrasts between the respective languages needs to assess whether evidence in favor of the LPM can be found, as several other recent studies have convincingly argued (see for example Flynn & Berkes 2017; Lorenz et al. 2019; Sokolova & Plisov 2019). In general, the LPM presents a modified version of features of

the CEM (in that cross-linguistic influence can come from both previously acquired languages; yet, that transfer must not necessarily be facilitative) and the TPM (that typological similarity is a relevant factor; though not wholesale transfer but selective transfer is decisive).

The last theory about cross-linguistic influence in L3 acquisition that we want to discuss relates to language dominance. Most of the previous theories and models (except the LPM) were based on either balanced bilinguals or learners of a second language in a formal setting, which are, as young adults, acquiring a third language. The following two studies, however, include bilingual language learners which are not balanced bilinguals although they have acquired two languages naturally. In addition, they are still young third language learners.

Hopp (2019) as well as Fallah and Jabbari (2018) argue that CLI comes from the dominant language, which could be either the L1 or the L2. Hopp (2019) demonstrates this with data from a similar setting as the current study, i.e. he investigates primary-school-aged Russian-German heritage speakers who grow up in Germany and acquire English as a foreign language at school, and he compares their performance in English with monolingual German students. Fallah and Jabbari (2018) examine school-aged bilingual speakers who grow up in Iran and study English as their L3. They are either dominant speakers of Mazandarani or dominant speakers of Persian. Both studies report exclusive transfer from the dominant language. Fallah and Jabbari (2018: 209) can clearly demonstrate that typology similarity did not play a role, because none of the two languages is typologically similar to English. Hopp (2019: 580), however, admits that he cannot distinguish between language dominance and typological similarity, because German pertains to both categories, i.e. it is typologically closer to English, and it is the dominant language of the students. This last point applies to the current study as well; we can also not tear apart dominant language status from typological similarity, as these categories are clearly overlapping. In this sense, the results presented here support Hopp's (2019) and Fallah and Jabbari's (2018) findings, i.e. that transfer comes exclusively from the majority language German.

Intriguingly, throughout the four case studies (Chapters 6.2 to 6.5), we identified almost no cross-linguistic influence from any of the background languages. Both the second language learners and third language learners of English exhibit differences; yet, only a small number can be plausibly argued to stem from CLI from either German, Russian, Turkish, or Vietnamese. Main differences, or main effects, are triggered by other variables, namely age and school type, and marginally also the socio-economic background (to be discussed in the following discussion chapters). This may seem rather unexpected at first. Especially, since former studies, based on the exact same data set (see Lechner 2016; Lechner & Siemund

2014a,b; Lorenz 2018, 2019; Lorenz & Siemund *forthc.*; Siemund & Lechner 2015), identified cross-linguistic influence.

How then can we explain the results of the current investigation? They are likely to be related to (i) the groups or number of participants that are included, (ii) the specific grammatical areas that were analyzed, and (iii) the personal characteristics of the participants. Quite clearly, if we only considered a subsample consisting of three language groups, i.e. the German monolinguals, Russian monolinguals, and the Russian-German bilinguals (see Lorenz 2019), the differences across the learners can easily be assigned to differences from the background languages German and Russian. The inclusion of more groups, i.e. the effect of the same variables in a larger context with different groups, however, returns insignificant differences. This is an important caveat, namely that the inclusion of a greater variety of learners, from different language backgrounds, lowers the likelihood of misinterpretation and the erroneous detection of evidence, which, in a larger context, might disappear.

Furthermore, in former studies, only some linguistic variables were considered. However, only if we analyze a range of grammatical variables, will we be able to provide a comprehensive picture. By and large, in the current study, we reported recurrent trends, though, unexpected behavior and surprising findings were also among the results. If we only investigated a small aspect out of all variables, we might come to inaccurate conclusions that miss part of the truth. Therefore, this complex and comprehensive design was chosen, which includes several grammatical features and layers of investigation, to provide a substantially larger comparison than the previous studies.

However, the question why there is so little CLI in the corpus, still remains. Partly, perhaps, because the investigation of tense and aspect is less straightforward than linguistic phenomena which are related to word order, or placement and use of prepositions or articles. Having said this, we acknowledge that some of the coding decisions may heavily depend on the individual coder(s). This was especially emphasized for the category ‘target-like meaning’ (see again Chapter 6.2.4).

A further argument is the specific task. It is difficult to assess the use of tense and aspect with free writing samples. Clearly, we aimed for free and spontaneous choices in order to obtain near natural language use, but we now face the issue of having only little variation, i.e. only few present/past perfect or progressive forms (see also the discussion in Chapter 7.11 which addresses the Aspect Hypothesis). Furthermore, ideally, we would have access to the same participants over a longer period, i.e. a longitudinal design is preferable over a cross-sectional design. We cannot claim with certainty that the observed differences between the younger and

the older cohorts are reflections of two developmental stages, or if these findings are actually based on internal particularities or chance. Though, since age turned out to be a reliable indicator for not just one group or one aspect, but remained stable across the corpus, we are convinced that there are clear age-related differences visible in the current cross-sectional learner corpus (see further explanations in Chapter 7.3).

Another crucial point relates to the social background of the participants. A learner corpus should consist of carefully controlled background variables. For this study, we performed post-hoc tests, which means that we did not pre-select the participants, but that we sampled monolingual and bilingual students and assessed, in a second step their social background. Yet, it would be advisable, especially with a data set of the size presented here, to select the specific participants beforehand. A balanced design between two types of schools (i.e. ‘Gymnasium’ and one other school type), which each includes different groups of participants who belong to three different socio-economic statuses (i.e. low, mid, high) would be potentially more suitable. In addition, balanced groups would be particularly important, which means that we need the same number of participants for each of the groups. Only then, can we assure that the differences can be attributed to the groups and did not occur simply because of frequency differences per group. We address additional points for further research in Chapter 9.

The last major point we need to stress relates to an argument we put forward in Chapter 5.1.3, based on Puig-Mayenco et al. (2018). Puig-Mayenco et al. (2018: 20) state that we need to be aware of the fact that L3 learners may not have acquired all grammatical domains of the L2. In the current study, this is extremely important, because the heritage speakers are more proficient in German and less proficient in the heritage language. Hence, the former argument applies to the grammatical properties of the heritage language. Even more, it is not just something we cannot take for granted, but we are even convinced that the bilingual speakers have not fully acquired their heritage language. This could clearly affect the possibility of cross-linguistic influence: if the Russian-German, Turkish-German, as well as Vietnamese-German bilinguals do not completely master the tense and aspect distinctions in their heritage language, they cannot transfer from this source or just in an unpredictable way.

In conclusion, since we did not identify differences in CLI across the German monolinguals and the three bilingual groups, we can argue for two potential explanations, which most likely even reinforce each other. We are convinced that language dominance as well as typological similarity are the core effects that govern CLI in heritage speakers. Without

presenting direct support, we still want to acknowledge the possibility of linguistic proximity to actually play a more important role than overall typological similarity.

There remain many open questions, which are addressed, to a certain extent, in the following chapters, and also in Chapter 8 and 9, where we discuss limitations and possible extensions of the current project. Although we did not identify differences between the German monolinguals and their bilingual peers that can be assigned to their differing language background, there are remarkable differences between the German monolinguals and the bilingual students. However, a close analysis based on linear regression models revealed that these differences cannot be explained based on the language background of the participants, but that additional variables have a statistically significant effect. Most important are the type of school the students attend, the age, and partly also the socio-economic status. In addition, age of onset of acquiring German returned some statistically significant effects. Moreover, and we come back to this in the following chapters, these are certainly not the only explanations here. A large effect can also be attributed to the learning environment (see Chapter 7.12).

Before we explain each variable in isolation (see Chapters 7.3 to 7.8), we first have a more detailed look at language dominance and evaluate the far-reaching role of German on the performance in English of the unbalanced bilingual heritages speakers.

7.2 Language Dominance

In this section we focus exclusively on the bilingual participants of the current investigation. We emphasized many times that the bilinguals examined in the E-LiPS project are a special type of bilingual speakers, because they are not equally proficient in their two languages. We introduced a detailed description of heritage speakers in Chapter 3.5 and provided a definition of a heritage speaker, which is repeated for the sake of consistency: a heritage speaker can be characterized as a “bilingual who has acquired a family language (the heritage language, HL) and a majority societal language naturalistically in early childhood” (Cabo & Rothman 2012: 450). Although heritage speakers are usually early bilinguals, or even simultaneous bilinguals, the status of their two languages is remarkably different. What is meant by this is that usually, heritage speakers are more proficient in one of their two languages, and that they show limited language skills in their other language (see Montrul 2016: 16-17). More explicitly, the official language of the country of residence is predominantly the majority or dominant language, whereas the family language, or the heritage language, is consistently used in less communication contexts and represents the weaker language. This scenario clearly applies to

the current bilingual heritage speaker population. Their dominant language is German, the official language of the country they live in, and either Russian, Turkish, or Vietnamese, are their minority languages.

Brehmer and Mehlhorn (2017) make an interesting observation among the participants of their study, which is relevant for the current investigation. They analyze the linguistic behavior of 45 Russian-German as well as Polish-German students by investigating the role of the heritage language in their daily lives and as a resource in school (Brehmer & Mehlhorn 2017). Additionally, they interview the parents. Overall, from a longitudinal perspective, they find that German is increasingly being used more often at home than the heritage language, which suggests that German is in a sense substituting the heritage languages Russian and Polish in the family context. Most often, siblings do not talk in Russian or Polish among each other, but they use German as the medium of communication. This goes thus far that the parents even report that they personally notice a loss of competence in their heritage language. If, and this is the argument we want to stress, the heritage languages are less and less frequently used and are being forgotten, the competence will naturally decrease, and these languages will then, in the long run, be less likely to influence the acquisition process of additional languages (the implications of this for the discussion of bilingual advantages is further addressed in Chapter 7.9).

We clearly observe a comparable situation among the heritage speakers relevant here (see again Chapter 6.1.3). Whilst the majority of the parents of the bilingual students use the heritage language to communicate with each other (Table 25), a much lower proportion of the participants uses the heritage language with their parents, and even less frequently with their siblings (Table 26). This is similar to Brehmer and Mehlhorn (2017), i.e. more frequent use of the heritage language among older generations than among the younger ones. Given these numbers, we can assume that the proficiency in German is higher than in the heritage language, although we have no official documentation of the language proficiency in either German or the heritage language.

Even though the bilingual heritage speakers are most likely not equally proficient in German and their heritage language, the latter may still have an influence on further language acquisition. This finds at least support in previous studies based on the same project (see Chapter 5.1.4) and it also relates to a striking claim by Franceschini (2016). She argues that even languages that were acquired in an unfocused way (“unfocused language acquisition”) may have an impact on additional language acquisition (Franceschini 2016: 104-105). Of course, we cannot compare heritage languages to unfocused languages, because heritage

languages were shown to play an active role in the lives of the bilingual students. Yet, heritage languages are also argued to have a different status than the native language of a monolingual child. Thus, if a language that a speaker has barely any competences in can impact the learning of additional languages, we should definitely expect to find at least some influence of the heritage language on the performance in English in this study.

This finding is, as already explained, not in line with Hopp (2019) or Fallah and Jabbari (2018), who claim that it is exclusively the dominant language that influences the acquisition of further languages, because they did not observe any cross-linguistic influence from the minority language. The current context is comparable to the setting in Hopp (2019) and it is also to a certain extent similar to what is described in Fallah and Jabbari (2018), even though the latter study does strictly speaking not investigate bilingual heritage speakers. German is the language that is more frequently used, whereas the heritage language appears in limited contexts only. In addition, no evidence of cross-linguistic influence from the heritage language can be reported, counter to the claims by Franceschini (2016), which supports the argument that German is indeed the dominant language of the bilingual students examined in this study.

Another essential claim that is directly related to this is the role of the teaching style. The bilingual participants attend German secondary-schools, where German is the language of instruction. It is feasible that the largely monolingual teaching style found in German secondary-schools might act as a filter for cross-linguistic influence to come from any other language than from the dominant language German. We come back to the role of language teaching in Chapter 7.9, when we discuss bilingual advantages (see also Hopp et al. 2019).

This, however, is not all there is, because, following Puig-Mayenco et al. (2018), we must admit that we have no information about the actual status of the heritage language. A proficiency test, preferably in both the majority and the heritage language would allow us to really compare the proficiency levels of the two previously acquired languages. We could then also assess whether the bilingual students are able to use tense and aspect target-like in their heritage languages via a comparison with identical tests conducted with the Russian, Turkish, and Vietnamese monolinguals. Due to this limitation of the current investigation, we cannot provide a definite answer to this question.

The most obvious conclusion to emerge from this section is the finding that the observed non-existence of cross-linguistic influence from the heritage language in the production data of the bilingual heritage speakers can be explained with the dominant status of the majority language German and the comparably lower proficiency level in the heritage language. Russian, Turkish, as well as Vietnamese are less often used, mainly in the family contexts, but also

predominantly with the parents and considerably less frequently with their siblings. German, because of the official status in Germany and the role that this language plays in school and during teaching, enjoys a special role in the lives of the heritage speakers which is most likely an important explanation for why we only find cross-linguistic influence from German, but not from the other language available to the bilingual students.

7.3 Age

One of the strongest predictors for the performance in English is the variable ‘age’. The participants of this study are not only separated into eight different language groups, but we also differentiate between two age cohorts, i.e. 12-year-old students and 16-year-old students. We demonstrated that for nearly all analyses, age was a highly significant factor, in that the older cohorts demonstrated a significantly higher performance in English than their younger peers.

Based on what we discussed beforehand, specifically by considering the preconditions of this study, namely to investigate the development of learners of English, this does not come as a surprise. On the contrary, it confirms the validity of the data set and acknowledges that the learner corpus represents two sets of learners at two acquisitional stages, i.e. initial to intermediate learners and more advanced learners, due to four more years of English language instruction.

Nevertheless, it is necessary to analyze this variable a bit more detailed as it yields highly interesting observations. We noticed several irregularities. The English native speaker control groups, for instance, do not show such a developmental process. In fact, the performance between the two cohorts of the English native speakers is largely comparable. Most of the analyses did not return statistically significant differences between the 12-year-old and the 16-year-old students. A small improvement from the younger to the older participants was demonstrated for the proportions of formally correct VPs (see Chapter 6.2.4). Since this was the only significant difference, we can clearly argue that their performance is comparable, because there are almost no proficiency differences between the younger and the older cohorts.

This is certainly intriguing because this shows that as early as age 12, the written proficiency is at a considerably advanced level, which does not significantly increase within the following four years. Yet, these findings cannot be extrapolated to all native speakers, but may only be true for the current population, which is, as previously discussed, a particular native speaker control group. We explained that the English native speakers of the current

investigation grow up in German and attend an international school, which follows a schooling program for native speakers of English, with English being the language of instruction. Given that all students attend the same school, which has, in general, a high reputation and strict conditions of admission, we can assume that we have access to two representative groups. No age differences could in principle mean that we examined groups of learners that do not really demonstrate the level of 12- and 16-year-old students. However, we can exclude this here, and argue for comparable results due to already highly advanced skills of the 12-year-old English native speakers. In fact, writing short picture description story might be a rather simple task for native speakers, as opposed to less proficient learners of English, who had clearly greater difficulties.

A second group of learners that is noteworthy are the Turkish monolinguals. We already emphasized this several times, and we will do so throughout the remainder of this study, that these participants are markedly less proficient in English than any of the other participants. In addition to having access to only a small number of Turkish monolinguals ($n=12$), which makes this group in general less representative, they also do not show a development in English from the younger to the older cohorts. As a matter of fact, the older cohort is even slightly weaker than their younger peers, which is particularly visible in the fewer formally correct VPs and VPs with target-like meaning (see Table 44). Older age should be a predictor for better performance in English. As we cannot show this for the Turkish monolinguals, we need to admit that this learner group should be substituted by other learners in future studies. Both the 12- as well as the 16-year-old Turkish monolingual learners do not have the same level of proficiency as the rest of the participants, which makes a comparison with them insignificant. This observation is not to be understood that Turkish monolingual students are generally weaker in English than the other language groups which are represented here. The exact reason for this finding is not clear but it may have something to do with the type of school the students attend, the test situation, or simply because that by chance, the individual properties of the Turkish monolinguals are strikingly different than the rest of the students.

Another intriguing exception are the 16-year-old Vietnamese monolingual participants. Their performance is considerably more advanced than the performance of the other 16-year-old foreign language learners and we observe a much steeper learning curve for the Vietnamese monolinguals. For a number of comparisons, their performance is even comparable to the that of the English native speakers (see for example correct subject-verb-agreement of the verb *be*, Table 37; or the proportions of the simple past tense uses, Table 87 and Figure 110). This is not likely to be related to being a Vietnamese monolingual speaker, but it rather demonstrates that,

conversely to the Turkish monolinguals, their proficiency levels are much higher than the rest of the older cohorts. This could be, for instance, related to the type of school that these students attend (we take up the influence of the type of school in Chapter 7.5). Since we do not have access to the same students twice, as would be the case in a longitudinal study design, we cannot control that the 16-year-old students perfectly represent the 12-year-old students four years later, but we can only present an approximation. For the Vietnamese monolinguals, we have presumably an unusually large increase of proficiency in English, when compared to the other foreign language learners.

Apart from these apparent irregularities, we reported, for the majority of grammatical categories, a more target-like performance of the 16-year-old participants in comparison to their respective younger peers. Not all observations returned statistically significant results, some remain tendencies that lack statistical power. This was for instance the case for the proportions of formally correct VPs (see again Table 45). There is an increase in the mean proportions from the younger to the older students (except the monolingual Turkish students), but this improvement is only statistically significant for the English native speakers, the Russian-German and Vietnamese-German students, as well as the Vietnamese monolingual participants. In addition, in most linear regression models, age is among the significant factors, demonstrating an enhanced performance with increasing age.

In conclusion, aside from a few remarkable exceptions, we observe a similar development from the younger to the older participants across the entire learner corpus. On the one hand, this highlights the reliability of the learner corpus, as with two age cohorts, two different proficiency levels of English should be displayed, i.e. younger age represents less proficient learners and older age more advanced students. On the other hand, we demonstrated, especially with the regression analysis that included only the monolingual German and the bilingual participants, that there is a comparable improvement from the younger to the older students for both L2 as well as L3 learners of English. Since we cannot report an advantage or a disadvantage for any of the groups, this implies that all students improve equally well (a more thorough discussion of bilingual advantages in Chapter 7.9). Without any doubt, this indicates that foreign language teaching in school fulfils what it promises to do. More years of language instruction in English, result in more target-like performance in both written and spoken language production, irrespective of language background, and even, if we exclude the Turkish monolingual participants here, irrespective of the country.

7.4 Socio-economic status (HISEI)

Although in numerous studies we find a clear indication that the socio-economic status influences the performance in a foreign language and that it affects the acquisition of a foreign language (see for example Cenoz 2013; Hopp 2019; Franceschini 2016; Lechner & Siemund 2014a; see also Chapters 3.6 and 3.7), we cannot present the same clear impact of the socio-economic status on the performance in English in the current study. Here, the socio-economic status is based on the HISEI index and ranges from low (16) to high values (90). Higher values represent a higher social status.

In the current investigation, we only have information about the HISEI index of the German monolinguals and the bilingual students. As discussed in Chapter 6.1.3, for some of these students, we did not obtain the relevant information. The proportion of missing values is particularly high for the Turkish-German bilinguals. In a comparison of the mean HISEI values (see Table 22), the German monolinguals have slightly higher mean values than the Russian-German, Turkish-German, as well as the Vietnamese-German bilinguals. We expressed that we should be careful with the means of the Turkish-German bilinguals, as these numbers are based on a comparably low number of participants (less than half of all Turkish-German bilinguals).

During the case study analyses, we also divided the HISEI values into three groups to create a categorical variable with the values ‘low’, ‘mid’, and ‘high’. In the corresponding association plot, which includes a fourth category for the unknown values (N.A.), we established that especially the 12-year-old German monolinguals are most strongly associated with high HISEI values, whereas the 12-year-old Russian-German and Vietnamese-German students have more frequently low HISEI values (see Figure 108).

Both analyses establish that there are differences concerning the socio-economic status, and that on average, the German monolingual students have higher HISEI values than their bilingual peers. This confirms common statistics of the distribution of the younger population in Germany and their socio-economic status in relation to the being a first, second, or third generation immigrant (see for example Stanat et al. 2016: 463). On a general level, adolescents that come from immigrant families have a lower socio-economic-status than their monolingual German peers. The current data set reflects this situation.

What is interesting now is how the socio-economic status influences the performance in English. As we have no information of the English native speakers, as well as the Russian, Turkish, or Vietnamese monolinguals, we cannot make any claims about their English performance in relation to the socio-economic status. Future studies need to control for this, to

allow for a more detailed analysis. However, we can assess how the socio-economic status affects the oral and written production of the German monolinguals, i.e. the L2 learners of English, in comparison with the bilingual participants, i.e. the L3 learners.

Surprisingly, this independent variable turns out to be only statistically significant in some of the regression models. To be precise, only for one grammatical variable, namely the target-like meaning of verb phrases, can we report a significant influence. The observation remains the same in all four regression models: with increasing socio-economic status, the ratio or the absolute frequency of VPs with target-like meaning increases (see Table 48 and Table 50 for the written performance; see Table 95 and Table 96 for the oral and the written data set). For none of the other variables or analyses does HISEI reach statistical significance. This demonstrates that the socio-economic status is not a robust predictor for the performance of L2 or L3 learners of the additional language English.

This intriguing result finds support in Siemund et al. (manuscript), a study that compares the results of an English C-test of German monolingual secondary-school children with the performance of Russian-German and Turkish-German bilinguals. In this related research, which uses a different type of language assessment, Siemund et al. (manuscript) also report that the socio-economic status is a non-significant predictor variable. They identify, however, a number of highly significant factors, such as the school type, age, and motivation (Siemund et al. manuscript). Especially the reference to type of school is crucial, because one could assume that the type of school and the socio-economic status are related.

For the reduced data set of the current investigation, i.e. the part of the learner corpus which includes the students that participated in the written as well as in the oral part of the study, we correlated the three socio-economic status groups ('low', 'mid', 'high') with the type of school, i.e. 'Gymnasium' versus 'other'. It is remarkable that both associations plots (see Figure 93 and Figure 94) return non-significant results. Clearly, there is no true attraction between high or low socio-economic status and either attending vocational-track secondary-schools or the university-bound secondary-school for the student population examined here.

The results of this section show that the monolingual German and the bilingual participants reflect the situation that we find in Germany in terms of the distribution of the socio-economic status. The German monolinguals have, on average, higher values for HISEI than their bilingual peers. Nevertheless, we cannot confirm that the socio-economic status has a strong impact on the performance in English, because only one variable, i.e. the target-like meaning of verb phrases, is affected by this parameter. Also, the socio-economic status does not correlate with attending a particular school type. Especially this latter point is of interest,

because Siemund et al. (manuscript) reported a statistically significant difference depending on whether a university-bound or a vocational-track secondary school is attended. Since we also observed similar trends in the current study, we discuss the influence of the type of school on the performance in English in the following chapter.

7.5 Type of school

The participants of this study are secondary-school students. We assess the type of school for the children who live in Germany, i.e. for the German monolinguals as well as the bilingual heritage speakers, but no comparable information of the other students is considered. There are a number of different secondary-school types in Germany, though, for this study, we only differentiate between ‘Gymnasium’, i.e. the university-bound secondary-school type, and all other types of school, as we expect the greatest difference to be visible between ‘Gymnasium’ and vocational-track secondary-schools (see Chapter 6.1.3). This was for instance argued for in Lechner and Siemund (2014a: 334).

There is no equal distribution of the students between the two school types (see Table 19). Especially the Vietnamese-German as well as the Russian-German bilinguals attend comparably more frequently the university-bound secondary-school, and the Turkish-German students are more frequently represented in the vocational-track secondary-schools. The German monolinguals are nearly evenly distributed between the two types; though, especially in this group, we find a high number of unknown cases. This overview is intriguing, because we showed that the German monolinguals have comparably higher socio-economic status values, but they do not attend more frequently a ‘Gymnasium’ than their bilingual peers.

The correlation of the written and the oral performance of the students with the type of school they attend yields nearly always the same results. Not every analysis returns a statistically significant difference between the two school types, but for most of the comparisons, we find indeed a clear pattern. The overall frequency, i.e. the numbers of words, verb phrase tokens and types, increase for students who attend a ‘Gymnasium’. In addition, for subject-verb-agreement, we observe a statistically significant improvement, which means that fewer 3rd person singular {-s} morphemes are missing when the students attend the university-bound secondary school. There are also more formally correct verb phrases in the texts of the students who attend a ‘Gymnasium’ than in the texts of the other children. The results of the progressive aspect are equally convincing: we find more formally incorrect progressives among the students who attend the vocational-track secondary-schools. The same trend is also visible

in the analysis where we compared the spoken and the written data (see Chapter 6.5), i.e. we demonstrate an enhanced performance triggered by the school type ‘Gymnasium’.

Without having explicit information about the types of schools the Turkish monolinguals or the 16-year-old Vietnamese monolinguals attend, it is plausible that their comparably low or advanced performance in both tasks can be attributed to the type of school they attend. We have just demonstrated that the type of school plays a decisive role in the English performance of secondary-school students, and we are convinced that this is not only true for the German context, but that it can be extended to other countries as well. Therefore, in future research, this variable needs to be assessed for all students who participate in the study.

In addition to the type of school, we also included the school grades of the children in the analyses. We explained that in Germany, school grades range from 1 (the best possible grade) to 6 (which counts as fail). We take this variable as an approximation for the proficiency in the respective school subject, here English and German are included. Nevertheless, we are aware that this measure might be problematic, because it may not be possible to compare a grade 2, obtained in a vocational-track secondary-school, to a grade 2 in a ‘Gymnasium’. This is perhaps the reason why the influence of this variable is by no means strong or even consistent.

There are only two instances where the school grades in English or German appear as significant independent variables. In the analysis of subject-verb-agreement of lexical verbs, the English school grade has a significant effect. With increasing school grade (the higher the school grade, the lower the performance), the ratio of missing third person singular {-s} morphemes increases (see Table 41). This is in line with what we expected, a better school grade results in a more target-like performance. Somewhat surprising is the influence of the German school grade on the frequency of word tokens and word types in the combined written and oral data set. We consistently argued that the number of words that were written or uttered reflects the proficiency of the students, i.e. more words equals a generally better performance. The outcome in Table 90, however, shows the opposite: the higher the school grade in German, the more words are produced in English. Hence, a student with a better school grade in German used fewer words in English than a student has a weaker performance in the school subject German.

There could be various reasons for this. It is possible, that this measure is imprecise and does not represent what we want to depict, due to the fact that we have two different types of schools but the same measure for school grades. The same could apply to the age of the participants; a grade 2 for a 12-year-old student might in fact demonstrate something different than a grade 2 for a 16-year-old student. Or, the proficiency in German might not be a clear

predictor for the proficiency in English. Based on the current data set, we cannot assess this, but we assume that the school grades do not exert a strong influence on the performance in English, which could be related to it being an imprecise measure. A possible further analysis step could be to separate the learner corpus into two parts, one includes all students that attend a ‘Gymnasium’, and the second contains all students that attend vocational-track secondary-schools. The same analyses could be repeated, including the school grades for English and German, because then, they should present a more reliable measure. In addition, an equivalent procedure could be done for the two age cohorts; a separate analysis might provide a clearer understanding of the influence of the grades of the school subjects German and English.

In conclusion, next to the influence of age, especially the type of school has an impact on the English performance of the students in this study. Whilst we could not detect a statistically significant influence of the socio-economic status, the type of school turns out to be an important predictor for both the written and the oral production. This may be explained by the fact that not the socio-economic status determines the type of school a student attends, but that their actual school performance results in the choice of the school after primary education. In most parts of Germany, after the first four years of school education, the parents need to decide whether their child should attend the vocational-track secondary-school type or the university-bound secondary-school type. This decision is based on a recommendation by the teacher who considers the overall performance and school grades of each child. With the results presented in this study, which show that the socio-economic status is not statistically significantly associated with the type of school, and that the socio-economic status is not a strong predictor for the performance in English, but that the type of school clearly has an impact, we can imply that the recommendations given by the teachers seem to really correlate with the performance of the students. Hence, the teaching conditions as well as the ability of the students explain advantages or disadvantages in the English performance.

7.6 Task performance: written versus spoken

In the current study, we employed two different tasks; first, the students had to write sentences on a picture story, and second, they were asked to orally retell another pictures sequence. A large part of the analysis (Chapter 6.5) dealt with the close examination of the spoken versus written output, to investigate whether there are crucial differences between the written or oral performance of the students.

Overall, we reported that the oral recordings are shorter than the written texts. There are significantly more word tokens per written story than per spoken story. This is in fact not surprising, and can easily be explained: for the written task, the students had a time limit of 30 minutes. This allowed them to carefully look at the picture sequence and to think about how to write the story and which words to use. For the oral task, they were also given some time beforehand, but clearly, they must have felt more pressured, because the interviewer was already present. Then, they were recorded while describing the pictures and telling the story. This is of course a rather frightening task and the stress level is probably much higher than for writing a short text. In addition, writing sentences or even small stories is not an unusual task in the foreign language classroom. Yet, to be recorded while speaking in a foreign language is not something that happens during many classroom sessions (if at all).

Moreover, the stories itself could have triggered these frequency differences. We cannot assess this, because we did not alternate the picture sequences, but the same two sequences were used for the entire student population. It is feasible that the students perhaps knew more vocabulary for the first picture sequence or that they liked the content better, which could explain why they had more to write for the first picture story than to say for the second. In a follow up study, a possible methodological change could be to randomly assign the students to two groups and present each group the reverse order for the written and the oral task.

Intriguingly, however, we do not report grammatical differences between the written texts and the oral recordings apart from the apparent trend of more simple present tense uses and less past tense uses in the spoken stories than in the written stories (see Figure 83). In the regression analyses, however, the independent variable ‘mode’ does not return a statistically significant effect for any of the other variables that we investigated, such as proportions of formally correct VPs, or VPs with target-like meaning, or subject-verb-agreement. This demonstrates that apart from length and simple present versus simple past uses, both sections of the learner corpus are comparable and that the variation found between the spoken and the written stories can only partly be attributed to the two different tasks. A logical extension to strengthen this claim would be to include other types of tasks, not only production but possibly also grammaticality judgment tasks or reading as well as listening comprehension tasks. A systematic comparison of a variety of language skills might identify differences in the use of tense and aspect that can be explained with the specific task that is examined.

7.7 Age of onset of acquiring German

We explained that there are numerous types of bilinguals and that not only children who acquire two languages from birth onwards are considered bilinguals but that a later age of onset of the second language is also possible. We differentiated for instance between simultaneous and sequential bilinguals, and between early or late bilinguals (see Chapters 3.4 and 3.5). This applies for heritage speakers as well; some start to acquire two languages, the heritage language and the official language of the country of residence, simultaneously, others have a later age of onset of the second language. Being either an early or a late bilingual might have an influence on the acquisition of and performance in another foreign language; therefore, this variable was included in the analysis.

In Chapter 6.1.3, we established that the distribution of the bilingual participants of the current study was slightly uneven (see Table 18 and Figure 16). Quite a large number of the bilinguals was already born in Germany ($n=30$), and approximately the double started to acquire German at the age of three ($n=62$). There are nearly the same numbers of students who started to acquire the official language of the country of residence at the age of four, six, or seven and older ($n_4=6$, $n_6=7$, $n_{7+}=8$) and only one student who started to learn German at the age of five. In general, the majority can be considered early bilinguals (up to the age of three). Furthermore, we reported that there are comparably more Turkish-German bilinguals who were already born in Germany, and that especially the Vietnamese-German bilinguals are more often represented in the group of students who started to acquire German at the age of three. Especially the 16-year-old Russian-German bilinguals are more frequently among those who started to learn German at the age of six or older.

A similar comparison based on the reduced data set reveals that the association of the different bilingual groups and the age of onset of acquiring German is non-significant, although we observe a few interesting trends (see Figure 97). The younger cohorts were born comparably more often in Germany, for instance, and the Vietnamese-German bilinguals frequently started to acquire German at the age of three. By and large, however, we cannot observe a clear pattern and it seems as if none of the learner groups is particularly strongly associated to any of the categories of age of onset of acquiring German.

With this mixed picture, it does not come as a big surprise that the results present an equally diversified picture. The independent variable ‘age of onset’ is included in the linear regression analysis and for some of the models, we obtain a significant factor. We used this variable in most regression analysis as a categorical variable and compared the reference level

‘birth’ to all later ages of onset. Intriguingly, once, there is a difference between onset of German at the age of five when compared to birth, in that there are more past tense forms used for onset of acquiring German at the age of five (see Table 58). This cannot be representative at all, because there is in fact only one student that indicated to start acquiring German at the age of five. This happened to be a 16-year-old Vietnamese-German bilingual. Since we also demonstrated that older age is a strong indicator for the performance in English, we might see a connection here, and we refrain from attributing this to the age of onset of acquiring German.

Some additional regression models display that onset of German at the age of six has an improving effect. This is visible in comparably more verb phrase types per written text (Table 36), and also in a higher number of word tokens, VP types, and VP tokens (see Table 90, Table 91, and Table 92). In addition, there is also a significant influence on the proportions of target-like verb phrases; the proportion is smaller for onset of acquiring German at the age of six (Table 96). This is slightly puzzling, also because none of the other ages of onset return a significant output when compared to ‘birth’. When we look closer into who belongs to the group ‘age of onset: six’, we notice that six out of the seven students belong to the older cohort. Again, this might correlate with older age and higher frequency of word and VP tokens, and it may not be directly related to the age of onset of acquiring German but rather to the (older) age of the participants.

In general, we never obtained significant comparisons for all ages of onset, but only selected, single significant factors. This result finds support in Lechner and Siemund (2014a: 336), who also did not identify a significant impact of the age of onset on the performance in English. With this, we can conclude, especially given the previous chapters, that age of onset of acquiring German does not exert a strong influence on the performance in English. In other contexts, this might be relevant; however, in a heritage speaker context this may not be the case.

Again, we could attribute this to the school context; all heritage speakers, no matter when they started to acquire German, attend German secondary-schools and must therefore have a certain level of German. Later age of onset of acquiring German could in principle imply that these children have higher proficiency levels in their heritage language. Having a higher proficiency in the heritage language may also be useful for the proficiency in English, because the metalinguistic awareness might be enlarged (see the discussion in Chapter 7.10). Yet, based on the current data set, we cannot prove this, and it remains pure speculation. This needs to be addressed in future studies, where both the language skills in German and the heritage language are tested, and which are in addition correlated to the age of onset of acquiring German. This might then allow to investigate if there is an effect of the age of onset of acquiring German on

the performance in English (see also Chapter 9). Another possible extension would be to use a slightly different categorization and only distinguish between early and late bilinguals and to run the analysis again, instead of the individual years.

7.8 Attitudes towards English

Within this study, we controlled for two different attitudes towards English. We assessed whether English is regarded as useful, and whether it is perceived as a difficult language. The discussion in Chapter 6.1.3 showed that the majority of the participants regards English as a useful language. Intriguingly, the monolingual Turkish participants are outliers in this respect. Admittedly, these participants may not be representative, due to the low numbers per cohort ($n_{12}=7$, $n_{16}=5$), but eight out of the twelve students, which is the majority, answered to consider English not as a useful language. Thinking that English is not useful might lower the motivation to study this language and may, therefore, correlate with lower proficiency. This is interesting in two respects: (i) we repeatedly demonstrated that the English performance of the Turkish monolinguals is comparably lower than that of the other learner groups. The seemingly lower motivation to learn English might be an explanation for this. However, (ii) we also presented a compelling result concerning the proportions of target-like meaning of verb phrases (see Chapter 6.2.4). Students with the opinion that English is not a useful language have significantly higher proportions of target-like meaning of VPs (see Table 48). In fact, this outcome is the exact opposite to what we had expected. These findings, though, must be interpreted with caution, because as previously described, only a limited number of participants belongs to this group and a considerable proportion are the Turkish monolinguals. This makes it even more remarkable, because this regression model presents a correlation between better performance and the opinion that English is not useful. Whilst this is rather intriguing, it remains that the only significant effect that was found was between the performance in English and the attitude ‘useful’ which by and large implies that this particular attitude does not influence the overall performance in English. Especially formal correctness was not affected by considering English as useful or not, a variable that was presented as more reliable than target-like meaning of VPs.

When we examine the second variable, we observe that in general, a higher number of participants has the opinion that English is not difficult, namely 75.98 %; yet, there are also some students who feel that this language is difficult to learn (Table 27 and Table 28). We notice a similar trend across the learner groups and the difference across the learner groups was shown to not be statistically significant.

In case study IV, we used the reduced data set, which includes only those students that participated in both the oral and the written task. Here, we show a slightly different picture. For this analysis (see Chapter 6.5), we examined the background variables again, but only of the German monolinguals and the three bilingual groups. One association plot (see Figure 98) shows a remarkable outcome: here, we perceive that the Turkish-German bilinguals are overrepresented in the category ‘difficult: yes’. This means that there are comparably more Turkish-German bilinguals that find studying English difficult, in comparison to the groups of the monolingual German, Russian-German, or Vietnamese-German students. We also reported a seemingly lower performance of the Turkish-German bilinguals, as well as higher proportions of Turkish-German bilinguals who attend the vocational-track secondary-school type. This may be related: students who attend a vocational-track secondary-school show generally comparably lower performance in school than students who attend a university-bound secondary school, and this may be reflected in perceiving English as a difficult language to study. However, in the regression models, the attitude itself was not among the significant factors.

In sum, we can argue that the two variables included in this study pertaining to attitudes towards English have a rather low impact and explanatory value. This does of course not imply that attitudes do not influence the performance in English. We are certain that attitudes may either enhance or impede the acquisition of a foreign language (see also Chapter 7.12); however, the two specific variables may not be the most relevant here. A different elicitation method might be useful, or a more detailed battery of questions that represents several additional layers of attitudes could return more meaningful results, which should be included in future studies.

7.9 Bilingual advantage

One of the research questions of the current study addresses the controversy of a bilingual advantage. Bilinguals have access to two languages, which makes their linguistic repertoire greater than that of a monolingual person. Following de Swaan (2002: Chapter 2), languages can be understood as collective goods; the more languages a person speaks, the higher is the cultural capital of this person, which can be understood as a communicative advantage (see also Siemund & Mueller 2019). We certainly do not want to question this advantage, but in the current discussion, we concentrate on a different type of bilingual cognitive advantage. In addition to being able to communicate with more people, this enlarged repertoire could potentially be helpful in further language acquisition, and there are numerous studies and

theories that demonstrate exactly this (Cenoz 2013; Cenoz & Valencia 1994; Jessner 2008; Maluch et al. 2015; Sanz 2000; see especially Chapter 3.7).

The outcome of the present study, however, cannot validate that the bilingual participants outperform the monolingual participants in terms of a better performance in the oral or written task. Yet, judging from the overall number of words that were spoken and written, we could perhaps conversely argue that the monolingual German participants have an advantage over their bilingual peers, because the former produced significantly more words in the written and oral picture descriptions (see Table 90). These differences, however, are the only meaningful significant differences between the monolinguals and the bilinguals in this study. In all other analyses (i.e. formal correctness and target-like meaning of lexical verbs, the use of the progressive aspect, and subject-verb-agreement), the language background was not a decisive factor.

Concerning the use of the copula verb *be*, we could, however, argue for a bilingual advantage, because there is no negative transfer visible in the bilingual participants, whereas we find a clear indication for negative cross-linguistic influence in the monolingual Russian, Turkish, and Vietnamese students, stemming from their native languages. The bilinguals profit from German, if we may want to say this, and do not show any negative CLI from their heritage language. However, we need to insist that the current findings do not support a general bilingual advantage in the acquisition of the additional language English on a grammatical level, at least not for the use of tense and aspect by the population of bilingual heritage speakers examined in this project.

A relevant argument at this point is that we need to distinguish different types of bilinguals. A number of studies convincingly demonstrate that balanced bilinguals clearly outperform unbalanced bilinguals in additional language acquisition (see for example Agustín-Llach 2017; Sanz 2000; for a discussion see also Lorenz & Siemund *forthc.*). In the current examination, however, we analyze the performance of unbalanced bilinguals, who were described as markedly different types of bilinguals than balanced bilinguals. It is intriguing that in such unbalanced bilingual contexts, we do not necessarily find an advantage of bilinguals over monolinguals in foreign language production.

Instead, it seems that certain additional conditions need to be met, in order for heritage speakers to have an advantage over their monolingual peers. Blanco-Elorrieta and Pylkkänen (2018: 1121-1122) express that benefits are restricted to particular conditions; they especially stress that advantages are greatest when bilinguals frequently use their two languages. In the current heritage speaker context, we previously discussed that the bilinguals mostly use German

and less frequently their heritage language. This may impede the development of advantages for these speakers. Moreover, Cenoz (2013: 76) explicitly relates advantages of bilinguals to their enhanced experience as language learners; due to a wider variety of language strategies, that they are able to apply these to the acquisition of additional languages. We may argue, however, this might actually apply less to heritage speakers and more to language learners who have acquired their second language as a foreign language in a tutored setting.

There are other conditions that recent research identified as crucial parameters for advantages. Most importantly, the proficiency levels in both languages as well as the language use at home were demonstrated to have an impact on whether a bilingual advantage is visible in the foreign language production or not (Maluch et al. 2016; see also Hopp et al. 2019). In addition, Maluch et al. (2016: 116) argue that bilingual advantages of heritage speakers who grow up in Germany decrease over time; in their longitudinal study, they found clear advantages of the bilinguals in school year six; yet, the same could not be replicated in school year eight.

In Hopp et al. (2019), we find much younger participants than in Maluch et al. (2016). They also investigate bilingual heritage speakers who grow up in Germany, but they are still in primary education (school year three and four) (Hopp et al. 2019: 102). They tested receptive and productive skills in English and report clear benefits for the bilingual participants over their monolingual German peers, when controlling for background variables (Hopp et al. 2019: 105). They agree with Maluch et al. (2016) as well as Maluch and Kempert (2017) and demonstrate that the proficiency in the L1 is a decisive factor for foreign language learning (Hopp et al. 2019: 106). These findings support Blanco-Elorrieta and Pykkänen's (2018) argument that frequent use of both languages, as well as high proficiency in the two languages, is important. It appears crucial to encourage heritage speakers to use their minority language as well, and to potentially also foster heritage language education to decrease the dominance difference between German and the heritage language (see again Chapter 7.2).

Intriguingly, Hopp et al. (2019: 107) also identified an increasing effect of the productive vocabulary in English with greater knowledge in German, and they observed that the development from school year three to school year four was greater for the monolinguals than for the bilinguals. These differences can most likely be explained with the foreign language instruction we find in German schools. Hopp et al. (2019: 107) state that

the increasing effect of German may also indicate that foreign language instruction does not specifically refer to the L1 lexicon or the metalinguistic awareness among the bilingual students, so that initial linguistic resources and bilingual advantages of the bilingual students attrite in the course of foreign language acquisition.

This observation, i.e. that initially, there is an advantage, but that throughout schooling, this benefit decreases, finds support in Siemund and Lechner (2015: 11). In their study, they also argue that the advantage of the younger bilinguals over the monolingual students disappears and that, among the older cohorts, no bilingual advantage in the performance in English is observable. In addition, Agustín-Llach (2017: 11) is equally convinced that the English language classroom has a major impact on the learner's performance in English and that possible bilingual advantages decline throughout foreign language education.

This argument is highly relevant for the current study. The participants in Hopp et al. (2019) are considerably younger than the present cohorts and this could explain why no difference between the monolinguals and the bilinguals is visible here, i.e. that there is no advantage of the heritage speakers in the foreign language English in the current data set. We can clearly not assess whether there was an advantage earlier. Future studies which follow a longitudinal design that include young learners and investigate their performance over an extended period of time, would be needed to prove this claim.

Nevertheless, there is a clear pedagogical significance that can be derived from the previous findings. In order for bilingualism to be beneficial, especially in heritage speaker contexts as discussed in this project, there needs to be additional support in the foreign language classroom. Hopp et al. (2019: 1018) remark that the course material that is used for foreign language teaching in German schools is largely designed for monolingual German students, but that the needs of the bilingual students are not addressed by these. Multilingual approaches should be incorporated to raise awareness and to foster transfer (see for example Meißner 2007).

A similar approach can be found in Cummins (2013), who claims that it is "reasonable to argue that learning efficiencies can be achieved if teachers explicitly draw student's attention to similarities and differences between their languages and reinforce effective learning strategies in a coordinated way across languages" (2013: 298). Students may simply not be aware of their potential resources, especially if the proficiency in the heritage language is comparably low. A systematic inclusion could direct the attention of the students not only to German (which is of course useful, especially given that English and German share numerous grammatical features) but also to their heritage language. The activation of prior language knowledge, hence, the use of the entire linguistic repertoire which would be both the heritage and the majority language, could significantly improve the language skills of the bilinguals (Cenoz & Gorter 2017: 9).

Furthermore, Melo-Pfeifer (2018: 207) stresses that languages are not separate entities, but that they are connected and should be integrated in a dynamic manner, especially in the

foreign language classroom: “pedagogical approaches that actively engage with linguistic and cultural diversity do not dismiss the value of language learning as a discipline at school, but instead aspire to bringing languages at school and lived multilingualism closer together.” Hence, the value of the English language classroom is not to be deemphasized, but it could instead be filled with additional resources.

Having said this, we may think back to our initial claims, namely that the availability of languages may positively affect the acquisition of further languages. The activation of all languages may allow the students to access them easier and to use their full potential. We have seen that especially in heritage speaker contexts, the heritage languages do not play a major role in the secondary-school environment. It seems logical that less frequently activated and less prominent languages do not function as the source for cross-linguistic influence. If, however, students are aware of their potential, they may rely on this additional source as well.

One point that has so far not played a role is the question of why we actually want to strengthen that bilinguals or multilinguals have an advantage over monolinguals, especially here in this heritage speaker context in Germany. Why should bilingual heritage speaker be better than their monolingual peers when acquiring a foreign language? Does it not suffice to show that they do not have a disadvantage and that their performance in the English language classroom is comparable? The political discourse clearly asks for evidence underlining the positive influence of multilinguals. But should it not rather be viewed from a different perspective? In general, multilingualism is currently a hotly debated topic in Germany and also outside of this country. Franceschini for instance claims that “[m]odern societies struggle with managing issues emergent from the realities of multiple languages which cross institutions and the lives of many individuals” (2009b: 62). She therefore proposes a set of goals for multilingualism, more precisely she formulates what didactics has to achieve in the long run:

1. Entwicklung und Erhalt der Zwei-, beziehungsweise Mehrsprachigkeit von Migranten (-kindern);
2. Entwicklung und Erhalt der Erst-, beziehungsweise Mehrsprachigkeit von Sprachminderheiten
3. Entwicklung von Fremdsprachenkenntnissen in monolingual Aufwachsenden;
4. Entwicklung von Fremdsprachenkenntnissen (oder Zweit- und Drittsprachenkenntnissen) in allen Gruppen;
5. Lebenslanges Lernen

(Franceschini 2009b: 63)⁴⁷

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1. Development and maintenance of the bilingualism or multilingualism of immigrants (immigrant children)
 2. Development and maintenance of the first language or heritage languages of minorities
 3. Development of foreign language competences in monolinguals
 4. Development of foreign language competences (or second and third language competences) in all groups
 5. Lifelong learning (my translation, EL)

As can be seen in these objectives, they do not only include multilinguals, but in fact, they enclose the group of monolinguals and specifically make reference to all groups of learners. It is not only for multilinguals to adhere to certain rules and to get specific training, but this rule applies to everyone. Multilingualism does not seem to be favorable *per se*, although children, who acquire several languages during childhood have additional resources available, which they could use to communicate with a larger number of people, as we explained in the beginning. This is of course a clear advantage over someone, who can only talk to others who share his or her mother tongue. Nevertheless, it does not seem to be the case that being a bilingual makes you automatically a better foreign language learner. This claim seems to be too simple and idealized. As we have just seen, there are numerous factors that influence the performance in a foreign language (such as age or type of school), but being bilingual does not automatically lead to an advantage in the foreign language classroom. Monolingual German students are also foreign language learner, as are their bilingual peers, and raising the metalinguistic awareness of all students could be beneficial for the entire student population. All students need to be supported in the best possible way for them to reach their full potential. Metalinguistic awareness might play a decisive role in this contexts. We take up this thought and come back to the concept of metalinguistic awareness in the following chapter.

7.10 Metalinguistic awareness

This section is related to the preceding chapter where we addressed bilingual advantages. As was apparent from this discussion, we did not identify an advantage of the bilingual participants over their monolingual peers in their performance in English. We now want to investigate bi- or multilingual advantages from a slightly different perspective. This time we do not consider the linguistic level, i.e. enhanced performance in a foreign language, but we come back to the assumption that bi- or multilingual people have higher metalinguistic awareness than monolinguals (see for example Bialystok 2001; Sanz 2012). Metalinguistic awareness was defined as the ability to think in an abstract manner about language, to selectively pay attention to form and meaning, and to classify words (see for example Jessner 2006; 2007) On a theoretical level, it seems plausible that the more languages you know, the more linguistic or grammatical categories you have encountered, which you can compare with each other. This could in turn be helpful in further language acquisition, and in fact, this has been demonstrated quite a lot (see Chapter 3.6). Since we did not encounter this last point, i.e. the bilingual

participants were not presented as performing better in English than their monolingual peers, it is worth looking into possible implications that we can draw from this.

We need to admit that we did not test the metalinguistic awareness of the participants. The current analysis exclusively relies on written and spoken production data in English. However, the performance in a foreign language might allow to draw conclusions about the level of metalinguistic awareness. Given the results of the present study, it seems that metalinguistic awareness may either not be heightened in bilinguals, or, and this we also addressed in the previous section, that it might not be something that develops automatically, but that additional training or guiding is necessary.

Concerning the former, this seems not plausible, as there are numerous studies that confirm a positive correlation between metalinguistic awareness and proficiency enhancement in a foreign language. Lasagabaster (2001) is one example, where heightened metalinguistic awareness is demonstrated for bilinguals, when compared to monolingual peers. Intriguingly, Lasagabaster (2001: 418) presents that bilinguals outperform monolinguals, and that balanced bilinguals outperform unbalanced bilinguals. What we can take from this is that the effect of enhanced metalinguistic awareness might be stronger in balanced than in unbalanced bilinguals. This is not surprising but may actually point towards the availability of more structural comparisons due to higher proficiency in two languages as opposed to high proficiency in one language and more limited skills in another, which would in turn allow for fewer comparison only (see also Lasagabaster 2001: 418). Since the bilingual participants of the current study are unbalanced rather than balanced bilinguals, we could expect to find a smaller difference between monolinguals and bilinguals.

When we consider the latter assumption, namely that enhanced metalinguistic awareness may not happen automatically, we should go back to Bono (2001). She argues that metalinguistic awareness develops during foreign language acquisition, when the attention of the learners is explicitly drawn to similarities and differences between the languages (Bono 2001: 49). We already discussed that the foreign language classroom in Germany is dominated by a monolingual German syllabus. In this sense, it is also not unforeseen that the heritage speakers of the current study may not show higher metalinguistic awareness, because presumably, they are only pointed to similarities and differences between German and English and the reference to their heritage language is not included in the foreign language classroom. Hence, if raising metalinguistic awareness requires explicit mentioning, it should be incorporated into the foreign language classroom in order to develop.

Crucially, Spellerberg (2016: 36) even reports a negative correlation between metalinguistic awareness and bilingualism in heritage speaker contexts. More importantly, she found that metalinguistic awareness correlates with the socio-economic status of the participants; lower socio-economic status results in lower metalinguistic awareness scores, and vice versa, students with higher socio-economic status scores were argued to have higher metalinguistic awareness (Spellerberg 2016: 36). This could be another reason why there is no enhanced metalinguistic awareness visible in the current bilingual cohorts, because the socio-economic status of the German monolinguals was demonstrated to be significantly higher than that of the bilingual heritage speakers.

This last finding, i.e. that monolinguals may actually show enhanced metalinguistic awareness in comparison to their monolingual peers, can also be addressed with the concept of a “flexible speaker” (Franceschini 2016: 106). We explained earlier that not only bi- or multilinguals can be multicompetent or flexible speakers, but that being able to use one language flexibly in various communicative contexts, which means to be a multi-competent language user, is something that could equally apply to monolinguals (Franceschini 2016: 109). In addition, the monolingual learners may also show higher metalinguistic awareness themselves, simply because they are foreign language learners which makes them increasingly bilingual (see also Hopp et al. 2019: 107). And again, because of the fact that English is taught from a monolingual German perspective, it is not surprising that the monolingual German as well as the bilingual heritage speakers have similar metalinguistic awareness levels.

In fact, we did not test the metalinguistic awareness of the students. We simply assumed that higher metalinguistic awareness is also visible in a better performance in English. It may actually be wrong to expect an advanced level of English because of heightened metalinguistic awareness. In order to test for this, we would need a test instrument that assesses metalinguistic awareness (see for example Rahbari et al. 2018: 16), which was not the aim of the current study. It is also possible that the same principle as for bilingual advantages applies here as well, because these two concepts are arguably interrelated: in order to have higher metalinguistic awareness and to gain linguistic advantages, similarities and differences need to be made explicit to the learners. The students’ attention needs to be drawn to all their potential language resources to be efficiently used in further language acquisition.

In the next chapter we turn our attention to another topic and revisit the claims made by the Aspect Hypothesis by evaluating whether the findings presented in Chapter 6 are in accordance to the AH.

7.11 Aspect Hypothesis

As Bardovi-Harlig (2000: 201) rightly points out, retelling (or for that matter also rewriting) stories has a great advantage, in that it triggers even learners that would normally not produce many words and sentence to actually write or say something. However, and this is crucial for this study, free production data may not be ideal to test the Aspect Hypothesis, for two simple reasons: (i) students are, without strict guidelines, free to write as much (or as little) as they want, which necessarily results in large differences in text length, and (ii) only specific types of verbs will appear frequently, while others are used infrequently, due to the content of the story that is provoked, for example by a picture sequence (Bardovi-Harlig 2000: 201). Bardovi-Harlig (2000: 201) therefore suggests using more controlled settings to elicit comparable data.

In order to partly address the former problem, we asked the children to produce at least two sentences per picture. Nevertheless, the results show that there is tremendous variation across all students, because some students wrote particularly short and only few sentences, for instance, whereas others produced long, complex sentences. The mean sentences per group, however, demonstrate that the majority adhered to writing two sentences per picture. Maybe, we would have to be even more specific by asking them to write a minimum number of words, in order to make sure that we have enough production data from everyone.

The second point is more difficult to assess, because here, we face the problem of free writing (or at least nearly free, partly guided writing) versus tightly controlled experimental settings. The former is clearly preferred in learner corpus research because it reflects actual language use more adequately (see again Chapter 5.1.2). However, the interpretation could then be more difficult, as we cannot control, or only to a limited extent, the words, phrases, or structures that the students produce. Therefore, Bardovi-Harlig (2000: 202) proposes to use cloze passages, because everything is pre-defined, and a predictable outcome is to be expected.

The aim of this study, however, was not to use controlled, experimental data but to compare free written and spoken language use based on two picture stories. As a consequence, we had to closely analyze all occurring verbal structures and compare them in relation to each individual performance and within the specific context in which they appear. Hence, choosing either the simple present or the simple past, or even simple aspect versus progressive aspect, is not always just right or wrong, or target-like versus non-target-like, but could simply represent a pattern that can be observed.⁴⁸ Therefore, all verb phrases that are acceptable were coded as

⁴⁸ It goes without saying that there are of course verb phrases which were easily identifiable as non-target-like English uses.

‘target-like’, even if other structures or tense uses would have been possible as well, or might actually be preferred, because they would demonstrate greater variation and higher proficiency. Interestingly, the analysis yields crucial patterns that are discussed in what follows, with reference to the Aspect Hypothesis.

For ease of understanding, we once again repeat the principles of the Aspect Hypothesis (Bardovi-Harlig 2000: 227; see also Chapter 4.7):

- 1) Learners first use (perfective) past marking on achievements and accomplishments, eventually extending use to activities and statives.
- 2) In languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfective past marking begins with statives, extending next to activities, then to accomplishments, and finally to achievements.
- 3) In languages that have progressive aspect, progressive marking begins with activities, then extends to accomplishments or achievements.
- 4) Progressive markings are not incorrectly overextended to statives.

In addition to these principles, we argued that the Aspect Hypothesis cannot be considered as an absolute universal but that the principles depend on the L1 of the learners (Fuchs & Werner 2018a: 149; Fuchs & Werner 2018b: 212-213). Earlier, the Aspect Hypothesis was claimed to be equally applicable for all L2 learners, which turned out to be too optimistic and in fact incorrect (see for example Shirai 2013: 40). We should therefore expect to find differences across the different language groups.

Furthermore, the Aspect Hypothesis makes claims about the use of past tenses, which are acquired after present tense uses. This is already indicative, because we demonstrated that the Turkish monolingual groups performed markedly different than all other learners. We proposed that their proficiency levels are noticeably lower than that of the other language groups. This clearly finds support in the extremely low proportions of past tense uses. No past tense forms were identified in the written texts, and only a total number of three simple past tense verbs appeared in the oral recordings. These numbers are the lowest when compared to the other seven learner groups (even when accounting for the different numbers of students per language group). One additional group shows also low proportions of simple past forms and that is the younger cohort of the Vietnamese monolinguals participants.

Whereas we expect the L1 to influence the use of tense and aspect, we still argue that these findings are not likely to be traced back to the respective native languages. Two arguments need to be considered here. On the one hand, Turkish and Vietnamese are two languages that show opposing systems of marking tense and aspect distinctions (see again Chapters 4.5 and

4.6); while the former uses morphological marking, the latter relies exclusively on optional, additional tense and aspect markers. Hence, with these two differing systems, we would not expect to find the same behavioral pattern in English. On the other hand, the 16-year-old Vietnamese monolinguals perform extremely different than their younger peers. This supports that not using past tenses is here, in the current study, not related to the background languages but exclusively to the proficiency in English. We thus demonstrate that especially the Turkish monolingual groups are generally less proficient in English than all other foreign language learners represented in this study; and that, in addition, the 16-year-old Vietnamese monolinguals are at a considerably more advanced level in English than their 16-year-old peers, because they show a comparably greater developmental process. Thus, based on these two findings, we cannot demonstrate L1 differences but present that the proficiency in English correlates to a certain extent to the proportions of past tense uses.

To go one step further, we analyzed the *aktionsart* of all simple past tense forms. According to the Aspect Hypothesis, learners use past tense marking first on achievement and accomplishment verbs, and later, on activity and stative verbs. Overall, we reported that all four types appear in the simple past. To some extent, this is triggered by the storylines. Specific verbs occur, because these actions are depicted in the pictures. Nevertheless, we notice all four lexical aspects to be represented. A considerable high number of stative verbs seems at first intriguing, especially as these were argued to appear last. However, a closer analysis reveals that most stative verbs are forms of *be*, which is, when following the order of acquisition of grammatical morphemes (see Chapter 4.8.2), not surprising anymore, because past tense forms of the copula verb *be* are among the earliest grammatical morphemes to be acquired (see again Bardovi-Harlig 2013: 6; Luk 2013: 442). In this sense, the claims of the Aspect Hypothesis are slightly misleading, because the simple past of *be*, clearly a stative verb, is among the earliest to be acquired.

The last two principles of the Aspect Hypothesis pertain to the use of the progressive aspect. Most importantly, activity contexts appear first, and a second crucial observation is that stative contexts are said to not be incorrectly used with the progressive aspect. Earlier, we presented differing arguments. Shirai (2013: 39-40), for instance, stated that this last claim is only true for L1 learners of English but not for L2 learners, because the latter frequently use the progressive aspect with stative verbs. This is in line with other studies which also showed an overuse of progressives with stative verbs for L2 learners of English (see for example Ranta 2006; Van Rooy 2006). Bardovi-Harlig (2000: 239-240), however, proposed that even L2 learners would not overextend the progressive to stative verbs. Fuchs and Werner (2018b: 212-

213) present evidence in accordance to Bardovi-Harlig's (2000) claims, because they argue, based on their findings of a learner corpus study, that progressives were only rarely used with stative verbs by initial/intermediate learners of English. In addition, they also disclose that the influence of the L1 was generally rather small (Fuchs & Werner 2018b: 215).

When we now look at the findings discussed in Chapter 6.3, we can report nearly the same results as Fuchs and Werner (2018b), namely that there is no considerably strong overuse of stative progressives (albeit we find some stative verbs used in the progressive aspect, but these numbers are extremely low) by any of the L2 or L3 learners of English. In addition, Fuchs and Werner (2018b: 214) reveal a statistically significantly higher rate of non-target-like progressives by L2 learners of English whose L1 is a non-progressive language. We demonstrate a comparable tendency, namely that there are slightly more target-like progressives visible in the Russian and Turkish monolingual groups as opposed to the German monolinguals or the bilingual groups (see Table 51 and Figure 44).

In conclusion, we argue that we can present some evidence in accordance to the Aspect Hypothesis which seems to mainly hold for all foreign language learners presented here, i.e. both L2 and L3 learners of English, with some differences that can be explained with influence from the L1. The last point is visible in the analysis of the progressive aspect, because we noticed a slight advantage for the Russian and Turkish learners of English, as opposed to the other groups, which can be explained with facilitative cross-linguistic influence from Russian and Turkish, because these two languages morphologically mark progressive aspect (i.e. imperfective aspect) on verbs. As discussed before (see Chapter 7.1), there is no cross-linguistic influence visible in the L3 learners of English that could be explained with influence from the heritage language, which means that we identified a comparable performance of the bilingual participants and the German monolingual groups. However, in order to give a more elaborate answer, we would need a different type of production data (see Chapter 9).

7.12 Learning environment and individual variation

The last points we need to mention in the discussion relate to the effects of the learning environment on the foreign language learners and to individual motivational differences among learners in general, and more specifically among the current participants. Up until now, we discussed numerous variables, such as age, previously acquired language(s), and socio-economic status, but we have barely addressed the specific context in which all participants of the current study acquire English as an additional language.

Let us first consider an important claim, made by Bardovi-Harlig (1992), concerning the role of the influence of instruction on learners of foreign languages in a classroom setting. According to Bardovi-Harlig (1992: 272), classroom instruction exerts a considerable influence on the outcome of form-function mapping of tense and aspect production in a foreign language. Though, this is not the only influence, and she even doubts that it is the main factor that determines the acquisition of tense and aspect and how form and meaning are acquired (Bardovi-Harlig 1992: 272). She supports this claim with evidence from other research based on language learning settings in both formal and informal settings, and with both children and adults, and she comes to the conclusion that similar acquisitional patterns appear in all settings, which clearly shows that formal instruction is not the only influential factor but that there is reason to believe that apart from language instruction, we find something unique to language learners in general (Bardovi-Harlig 1992: 272-273). With this idea, she refers to the *teachability hypothesis* based on Pienemann (1989). This hypothesis describes “that the teachability of language is constrained by what the learner is ready to acquire and predicts that instruction can only prompt language acquisition” (Bardovi-Harlig 1992: 273). We can understand from this that classroom instruction is an important variable, because it provides the setting for the students, the necessary stimulus for acquiring and mastering a foreign language. Though, learners need to be “ready to acquire”, meaning that they have to reach certain stages in order to understand and use structures that would otherwise be learned within the natural language acquisition setting (Bardovi-Harlig 1992: 273).

The question that naturally arises is how we can relate this to the current setting. All participants in this study are learners of English in a secondary-school setting. Via an instructor, they receive a limited amount of target-language input, usually a few hours per week. Such a setting is of course in stark contrast to acquiring a language in “the host environment with access to the target-language community” (Bardovi-Harlig 1992: 272). We have previously seen that classroom input may be one source of input of English, and additional sources could be TV, radio, and also social media (Siemund 2018: 154; see again Chapter 3.8). Yet, our participants are very young, namely age 12 and age 16, and they are most likely comparable to the participants in Spellerberg (2016). Spellerberg (2016: 26) reported that the secondary-school-aged children that participated in her study and that grow up in Denmark barely used English outside of the classroom. This is in opposition to participants who attend universities and are in their late teens or twenties. These would be more likely to have additional contact with English, outside of the foreign language classroom, via media sources such as the internet (see for instance Erling 2002). However, the main contact with English that the participants of this study

have is via instruction at school and therefore, this plays an important role. We clearly need to keep this in mind, because school instruction may be different to learning a foreign language naturally in the target-language surroundings.

Furthermore, the students come from a variety of different schools. Hence, we add another dimension, not just formal language instruction in general but individual teaching plans and syllabi. However, not just the schools or their curricula differ, but we also find several different cultural backgrounds. Ha (2011: 24) mentions that foreign language learners acquire the foreign language in their own specific cultural settings and this clearly impacts the way a language is used. In addition, Ha (2011: 24) also points to individual writing cultures that vary across different communities and that learners typically produce texts in accordance to very specific cultural surroundings, limited to their country or region.

We must admit that this point is relevant for the current study: we examine learners of English that come from four different speech communities with their own cultural framework, namely Germany, Russia, Turkey, and Vietnam. Both the European and the Asian context are present here. In Ha (2011) we get a brief idea of how the cultural background, in this case the Vietnamese background, influences students' writings. Hence, we are convinced that the participants of this study are also influenced by their cultural settings. Yet, we are unable to assess this further within the limits of this study, or to even factor out this variable. We merely point out that part of the differences we found could be due to these cultural differences.

Moreover, the results discussed in Chapter 6 demonstrate that we face a large amount of individual variation that cannot be explained with the additional background variables considered. There are numerous further influencing factors that cannot be analyzed here, based on the current data set or with the limited information retrieved from the personal background questionnaires. Among these are, and we are aware that this enumeration is by no means complete, (i) general motivation of learning a foreign language, (ii) sympathy towards the teacher, (iii) individual form of the day of the students, (iv) interest in the particular picture stories, (v) language learning aptitude, (vi) personality, and (vii) peer pressure. When considering this list, it is quite striking that some of the points are extremely personal and may not even be apparent to the learners themselves. This means that it is likely that there is always a certain percentage that we cannot explain, due to such personal features. This nicely shows that we are not confronted with homogeneous groups of learners, but that we find diversity among the participants. This is, as we understand it, a perfect demonstration of the heterogeneous (bilingual) student population that we can find in foreign language classrooms today (see also Duarte & Gogolin 2013).

This issue is also addressed, for instance, in Zafar and Meenakshi (2012: 644), who summarize that the development of foreign language learning and the differences found across (second) language learners heavily depends on personal factors that are in general difficult to capture. Therefore, we are certain that a fixed proportion of the variation found in our learner corpus cannot be explained. This is due to the role of the teacher as well as the specificity of formal language instruction, and an infinite number of personal characteristics of each individual participant. Nevertheless, as Bardovi-Harlig (1992: 272) explained, it is unlikely that acquisition is exclusively shaped by language instruction. We may add that it is unlikely that personal characteristics are entirely responsible for the outcome of additional language acquisition, because we have seen, here in this investigation and in many other previously conducted studies, that language background, socio-economic status, age, and also metalinguistic awareness, significantly shape the performance in a foreign language.

Furthermore, as Bardovi-Harlig (2000: 203-204) rightfully points out, the fewer participants per group, the more individual variation within each group. Therefore, large samples of participants are preferred (Bardovi-Harlig 2000: 204). In general, the current data set is not small, as we have in total 249 participants for the written task, plus 167 of these also completed the oral task. However, since they are subdivided into smaller language and age groups, there are only few participants left in each group (see again Chapter 6.1.2).

With this section, we now mentioned a limitation of the current study. The next section, Chapter 8, goes even further and discusses (additional) limitations that were identified based on the current learner corpus. Moreover, it provides some suggestions for additional research, which are extended in Chapter 9. There are several further starting points or viewpoints one could take when analyzing third language acquisition and when comparing L2 learners with L3 learners.

8. Limitations

The current study provides a detailed description of the performance of monolingual and bilingual learners of English. It adds considerably to the understanding of how third language acquisition works in unbalanced bilingual heritage speaker contexts. Yet, there are several shortcomings that limit the results of this research to a certain extent. These are briefly discussed in the following paragraphs.

Albeit the number of participants of this study is moderately high ($n=249$), this number should be improved to arrive at more solid findings. This is particularly important, because we consider eight different groups, subdivided into two age cohorts, which results in fairly small numbers of students per group. In addition, the participants are not evenly spread across the 16 groups, i.e. some groups include only ten or fewer participants, others up to 26. This partly explains why some of the analyses lack statistical power. A larger data set could potentially support the tendencies identified in the former analyses and enhance the argumentation.

In addition, numerous different interviewers were involved in the data collection process. It is unrealistic that there were truly identical test situations for each participant, especially against the background of cultural differences in the various examination contexts. Future studies should include fewer interviewers to establish greater internal consistency and to reduce the effect of interviewer variation. It is possible that some of the results are masked by dissimilar test situations. In order to administer this, an additional variable could also be added that controls for the individual interviewer and might account for this additional influence.

Furthermore, we faced several methodological issues: some students used highly complex sentences and varied between tenses and grammatical structures. Others entirely relied on simple, extremely short sentences, repeated the same words and verbs over and over, and did not change tense or aspect. This repetition of verbs is partly covered in the difference between VP tokens and VP types. However, if a student used many complex tenses and structures, the likelihood that he or she makes a grammatical or spelling mistake is much higher than for a student who only used short subject-verb-object-structures. Hence, to account for this complexity difference, we would, in a follow up study, have to add an additional variable or measure that encompasses the complexity available per text as a separate explanatory variable in the linear regression analysis.

The most severe limitation is that we have no information about the proficiency levels of the students, neither for their previously acquired language(s) nor the foreign language

English. This is crucial, because former studies demonstrated that the proficiency of the previously acquired languages could have a significant impact on the performance in English (see for example Hopp et al. 2019; Maluch et al. 2015; Maluch & Kempert 2017). We assume that the proficiency in German is higher than in the heritage language, because all bilingual participants of this study attend a German secondary-school; yet, it is quite likely that the heritage speakers as well as the monolingual German speakers represent various levels of proficiency in German. It would have to be assessed how these differences influence the performance in English. Also, the level of the heritage language potentially impacts the acquisition of the additional language. Based on Şahingöz' (2014) findings, we are aware that higher proficiency in the heritage language could potentially have a positive effect on further language acquisition (see also Hopp et al. 2019). Yet, within this study, we cannot support or reject this claim, because we have no information about the heritage language proficiency of the participants.

Besides, having access to the proficiency levels in English, based on a comprehensive independent test that all students would have to take prior to participating in this study, would be ideal. Such tests could be C-tests, or cloze-tests, or other comparable proficiency tests (see for example Brehmer & Mehlhorn 2015; Gogolin et al. 2017; Maluch et al. 2016). For this study we exclusively relied on the school grades, at least for the monolingual German and the bilingual participants. We already discussed that this measure is potentially problematic, because the values of school grades in Germany depend heavily on the school type (i.e. university-bound versus vocational-track secondary-schools). Also, we lack the corresponding information of the other monolingual control groups. With this, we could have compared the performance in the two tasks, and we would be able to account for proficiency differences, which might explain some of the contrast. We clearly observed that the Turkish monolinguals and the 16-year-old Vietnamese monolinguals had outstanding performance patterns (see Case Studies I to IV). This discrepancy could be attributed to lower levels of English of the Turkish monolinguals and higher proficiency of the Vietnamese monolinguals, which we are unable to prove without a standardized proficiency test. Ideally, all students would have comparable proficiency values per age cohort.

Moreover, the bilingual participants of this study were argued to be dominant in the majority language and less proficient in their heritage language. This finds support in the literature (see especially Montrul 2016); nevertheless, we should include a better measure of this variable within this research. We obtained some information about the use of the two languages, the majority and the heritage language, but not everyone gave an answer to these

questions in the background questionnaires. Therefore, we were unable to use this variable in the analysis. More complex information beyond the use of the heritage language with family or with friends, for example by assessing whether they take or took formal heritage language courses, or whether they regularly read or write in their heritage language, could potentially be relevant for assessing the dominant status of a language. We are convinced that the heritage speakers of this study are dominant in German, but a reliable measure is needed to produce a more solid proof.

Lastly, as was repeatedly shown to be a severe issue in the analysis, we find considerable gaps in the social background variables, which are caused by incomplete questionnaires. Since the data sample would have been otherwise too small, we decided to include every student in the general analysis, even if some or all background variables were missing. Also, specific variables are markedly underrepresented in several language groups, not just for individual students. A complete data set could be potentially more informative and would significantly enhance the statistical analysis. We demonstrated only moderate to low predictive power of the regression analyses, which is likely to be caused by the inconsistency of the dummy variable N.A. or by the large number of participants that had to be excluded within the models where we regarded complete data sets only.

Some of these limitations could be incorporated in further studies. These and additional extensions of the current project are the topics of the following chapter.

9. Outlook

Based on the previously discussed findings and results, this study offers several additional extensions that were not possible to be included here. In Chapter 5.3, we explained that the data were also coded for adverbial uses, which were not incorporated into the analysis. When we discussed tense and aspect (see Chapter 4), we recognized that apart from verbal morphology, adverbials can also be used to create coherence and to express tense and aspect. A systematic examination of adverb and adverbial uses, in combination with sentence connectors and additional structuring elements, might also add considerable to the understanding of expressing time and inner constituency of described situations in these texts and oral recordings.

In addition, as was discussed within the analysis of the use of the progressive aspect, further research needs to consider potential progressive contexts and to calculate the ratio of present versus absent progressive forms. For this study, we only provided insights into the use or misuse of progressives, but we neglected to report how many potential progressive situations were realized as simple or as progressive forms. Hence, the category absent should include potential contexts in addition to required contexts. This might provide an even more detailed picture of the use of the progressive aspect.

We already acknowledged that the learner corpus should be extended; more informants are desirable to arrive at even more meaningful result. In addition, we illustrated that it is likely that bilingual advantages prevail in the initial phases of formal language acquisition but diminish with increasing proficiency (see again Hopp et al. 2019). Hence, a duplication of this study with younger participants might be able to support these claims. Moreover, we used a cross-sectional design; to truly account for developmental differences, the study could be repeated with a longitudinal data set which involves much younger participants, i.e. comparable to the age cohorts investigated in Hopp (2019) and Hopp et al. (2019), up to the final years of high school. Such a detailed documentation would be able to capture not only the bilingual development in the foreign language English but also the corresponding monolingual development and might be able to pin down until when advantages of bilinguals in foreign language learning are present and why they decrease.

Another potential extension of the learner corpus is the following: in addition to information about the proficiency in both the majority language German and the heritage language Russian, Turkish, or Vietnamese, it would be equally interesting to compare not only the performance in English, but to have access to the same two tasks completed in all languages available to the language learners. Then, instead of relying on CIA (Contrastive Interlanguage

Analysis), we could follow a different approach, namely the Integrated Contrastive Model (Gilquin & Granger 2015: 426). As was explained in Chapter 5.1.2, the Contrastive Interlanguage Analysis compares different learner populations with various native languages and tries to recognize patterns of non-target-like language use that can be explained with cross-linguistic influence from their native language(s). With the Integrated Contrastive Model (ICM), however, we would be able to not just compare the interlanguages, but a corpus-based analysis of the native language(s) would be included (Gilquin & Granger 2015: 426). An advantage would be that we could then compare the features of the native language(s), for instance the use of the heritage language Russian, with the features found in the foreign language English. With bilingual corpus data, we would be able, on a more informed basis, to substantiate our claims about cross-linguistic influence coming from either of the two languages. At the same time, the performance in the heritage language could be assessed to demonstrate whether the use of tense and aspect is fully developed and available in the heritage language of the bilingual participants.

Moreover, in Chapter 7.10, we discussed metalinguistic awareness and came to the conclusion that based on the design of the current study, it is in principle not possible to make any direct claims about the level of metalinguistic awareness of the participants. In order to arrive at more solid findings, additional test instruments, such as individual interviews with each participant about their phonological awareness as well as semi-structured interviews that ask about their language biographies (see Rahbari et al. 2018: 16) could be employed in addition to the language specific tasks.

Another possible analysis step is to account for the individual variation of the students within the regression models. For the current analysis, we relied on linear regression models, which are based on group membership. Yet, we observed, particularly in the boxplots and the usually high standard deviations, that there are not only differences across the groups but that there is also considerable intragroup variation. To enhance the analysis, we would have to build mixed-effects models that include random effects and fixed effects (see for example Gelman & Hill 2007). In addition, as previously explained, the current data set includes a high proportion of gaps within the necessary background variables. This also impedes the regression analysis. Such large amounts of missing data are impossible to impute with statistical imputation methods (see for example Little & Rubin 2002). These two model improvement steps are therefore left for future research. With more elaborate statistical analyses we might be able to explain even more of the perceived variation, both within and across the learners.

As a last suggestion for future research, we want to stress that the type of task can alter the outcome. We illustrated that the students rarely used other tenses than the simple present and the simple past. We affirmed that part of this might be attributed to the specific tasks the students had to perform. They were free to choose verbs and verb forms and had no obligation to vary. Another setting, perhaps an experimental task battery that consists of a grammaticality judgment task, a sentence completion task, as well as a free writing task similar to what was used in the current study, could yield different results. In addition, a follow-up study should not only rely on written and spoken data but reading abilities and listening comprehension skills could be included in the research design. It is feasible that advantages of bilinguals might be more pronounced in different tasks or might even prevail throughout older age when other language skills are tested.

10. Concluding remarks

The aim of this study was to provide evidence that monolingual learners of English show differences from bilingual learners of English in their foreign language performance. This assumption stems from former research that found profound differences between second and third language acquisition (see for example De Angelis 2007; Siemund 2019a). We discussed that in second language acquisition, especially during the initial stages of language learning, grammatical properties from the L1 are transferred to the L2. This could either have a facilitative or non-facilitative effect. In third language acquisition, however, there are two languages available that could potentially be sources for cross-linguistic influence. Therefore, we raised the question which of the two previously acquired languages of bilingual heritage speakers plays a significant role in additional language acquisition, the heritage language, the majority language, or potentially even both.

We introduced numerous studies investigating cross-linguistic influence in third language acquisition and discussed key models that argued for contradictory transfer scenarios. ‘Absolute L1 transfer’ (see Hermas 2014; Na Ranong & Leung 2009) predicts that the L1 is the only language that influences third or additional language acquisition. Opposite to this are the findings presented in the ‘L2 Status Factor Model’ (Bardel & Falk 2007). Here, the authors argue for exclusive cross-linguistic influence from the second language. The ‘Cumulative Enhancement Model’ (Flynn et al. 2004) predicts facilitative influence from both the L1 and the L2 and excludes non-facilitative effects of any of the previously acquired languages. Another dimension is added in the ‘Typological Primacy Model’ (Rothman 2011). Here, we find that the language that is overall typologically closer to the one currently acquired is the one that is transferred. In the ‘Linguistic Proximity Model’, Westergaard et al. (2017) argue against wholesale transfer but illustrate that transfer is selective and may come from any of the previously acquired languages. The decisive factor is linguistic proximity, which works on a property-by-property basis. Lastly, we briefly introduced the ‘Scalpel Model’ (Slabakova 2017), which could be understood as an extension of the ‘Linguistic Proximity Model’ because it adds further determining factors, such as frequency of the phenomenon under investigation.

The current findings are based on a study that includes secondary-school students at the age of 12 and 16, who have diverse language backgrounds. In total, eight language groups are represented: monolingual German, Russian, Turkish, and Vietnamese participants, Russian-German, Turkish-German, as well as Vietnamese-German bilinguals, and an English native speaker control group.

The tasks of the participants were to write a text based on a picture story and to orally tell a second story to a different picture sequence. These texts and oral recordings make up the learner corpus that was used to answer the research questions. For the analysis, all verb phrases were coded for formal correctness and target-like use, as well as classified for tense and aspect. At first, we compared the performance of the individual language groups and age cohorts, and in a second step, we included additional social background variables, such as socio-economic status, type of school, age of onset of acquiring German, and attitudes towards learning English.

The results clearly show that (i) there is merely a marginal difference between the monolingual and the bilingual learners of English. Nevertheless, this still suggests that we need to differentiate between second language acquisition and third language acquisition. This, however, is not the only contrast. In addition, we need to draw a further distinction between balanced bilinguals and unbalanced bilingual heritage speakers. The bilinguals of the latter group, which are examined here, have also previously acquired two languages; yet, the status of these two languages is markedly different. There is the majority language, here German, which is arguably the language they are most familiar with, because it is not only the official language of the country they currently live in, but also the language of instruction in school. Furthermore, they are speakers of a heritage language, here either Russian, Turkish, or Vietnamese, which is used to a lesser extent and in more limited contexts (mainly within their family members at home), plus, it is less often supported by additional formal heritage language training (see for example Montrul 2016). Therefore, the majority language has a dominant status and plays an essential role in the lives of heritage speakers. This is usually visible in the limited language skills in the heritage language and the generally higher proficiency in the majority language. With this typology, we present a remarkable difference between unbalanced bilingual heritage speakers and balanced bilinguals, because the latter are characterized by (nearly) equal language competences in their L1 and L2. Building up on these clear dissimilarities, the current study cannot provide any indication for how L3 acquisition works for balanced bilinguals, but it provides further insights into the acquisition of English by unbalanced bilingual heritage speakers who grow up in Germany.

Due to the formerly mentioned minor differences between L2 and L3 learners of English, we argue for cross-linguistic influence to come mainly from the majority language German. This supports findings from other studies that investigated L3 acquisition of bilingual heritage speakers (see for example Hopp 2019) and that controlled for language dominance (see Fallah & Jabbari 2018).

Furthermore, we argue that not only the dominant status but also the overall typological similarity between German and English, as opposed to Russian, Turkish, or Vietnamese, has an impact on cross-linguistic influence coming from German. We agree with Rothman (2011) and acknowledge that the greater typological distance between Russian, Turkish, Vietnamese and English impedes cross-linguistic influence from these three languages. Whereas there are observable differences in the English language production of the monolingual Russian, Turkish, and Vietnamese learners, the same patterns cannot be identified in the texts or oral recordings of the bilingual groups.

In addition to typological distance, another noteworthy argument is the largely monolingual teaching style found in German secondary-schools, which also might act as a filter for cross-linguistic influence to come from any other language than from German (see also Hopp et al. 2019). Moreover, the analysis of the current study does not allow for either supporting or contradicting the claims made by the ‘Linguistic Proximity Model’ (Westergaard et al. 2017), simply because the differences across all learners of English were relatively small. Further studies that investigate and compare different grammatical features need to demonstrate whether cross-linguistic influence is also dependent on the similarity between individual linguistic properties, or whether overall typological similarity and language dominance exert a larger influence. What was not possible to determine within the limitations of this study is whether the heritage speakers have fully acquired the properties of their heritage language. This would be a prerequisite for transferring grammatical knowledge to the currently acquired language.

(ii) The answer whether bilinguals have an advantage over monolinguals or not is not simply yes or no, but requires a more detailed analysis. First, here again, we need to narrow it down to bilingual heritage speakers. Based on the findings of the current study, there are no clear advantages or disadvantages for the bilingual heritage speakers in the English language production, when compared to their monolingual peers. Following Hopp et al. (2019: 107), a possible explanation could be that advantages of bilinguals in foreign language acquisition become smaller with increasing proficiency. Hopp et al.’s (2019) study was based on younger students (school grade 3 and 4), which could explain why they found bilingual advantages, whereas we could not demonstrate the same with considerably older and more advanced students.

(iii) There are, however, (dis)advantages for some of the participants; yet, these rather relate to additional social variables and cannot clearly be attributed to belonging to a particular language group. Not surprisingly, the age of the participants is a strong predictor for

proficiency: with increasing age, the numbers and ratios of mistakes decrease significantly. This, however, was true for the monolingual Germans as well as the Russian-German, Turkish-German, and Vietnamese-German bilinguals and must therefore be understood as a comparable language development. Most importantly, the type of school the participants attend affects the performance in English. Attending a university-bound secondary-school (i.e. ‘Gymnasium’) significantly enhances the performance in English. Also, the socio-economic status shows to have an impact on target-like uses of verb phrases. The higher the socio-economic status, the more target-like verb phrases can be found. The only variable that is influenced by the language background is the overall length of the written texts and oral recordings. If producing longer texts and longer oral recordings is understood as an advantage, then we must acknowledge that the German monolinguals have a modest advantage over their bilingual peers. Yet, since this was the only significant influence, we can clearly not argue for a general advantage in English.

(iv) Overall, only little cross-linguistic influence was visible throughout the corpus. Several explanations can be given. It is likely that the students have already (largely) overcome this stage and can already use target-like tenses and aspectual distinctions. This is especially relevant for the use of the progressive aspect. There were, for example, many formally incorrect progressives but only few cases of non-target-like used progressive forms, and basically no overuses of stative progressives, which was hypothesized to be a difficulty for Turkish learners of English. However, we presented only little tense variation and few uses of progressives. Hence, it might also be the case that the students are not advanced enough to use other tenses than the simple present and the simple past. This could find support in the generally low numbers of tenses such as the present perfect or the past perfect. The students mainly used the simple present or the simple past and only occasionally, progressive forms appeared. This could be furthermore related to the type of task, because the students had a free choice and were not forced to use specific constructions. With this, they could decide to avoid certain (unfamiliar or difficult) grammatical structures and they could choose to rely on simple, and easy formulations (i.e. avoidance strategy, see for example Kleinmann 1977; van Paten & Benati 2010). Hence, we cannot make any assumptions about their potential skills in English, but we are left with analyzing what they produced during these tasks. Another set of tasks that specifically triggers or forces students to use specific tenses or aspectual distinctions might return varying results.

(v) Another noteworthy finding, which also pertains to the specific tasks that were employed in the current study, is that there are clearly frequency differences between the written and the oral task; yet, formal correctness or target-like meaning of the verb phrases does not differ. This is interesting, because for both tasks, i.e. writing and speech, the same level of

grammatical correctness can be attributed. That there are more words in the writings as opposed to the oral recordings could also be related to the stress-level of the participants. They had 30 minutes for the written task and could take as much time within this half-hour as they wanted, to think on their own and to write in their own pace, with individual breaks. For the oral part, they were not given a specific time limit, but they must have felt supervised with the presence of the interviewer while they looked at the pictures. Also, it is not very common to be recorded and this could result in the urge to finish as early as possible. Nevertheless, we can demonstrate that their general performance in both writing and speech is comparable. It remains to be left for further research if such a similar performance can also be confirmed in listening comprehension or reading tasks.

(vi) The last argument relates to the specific language acquisition situation. The point was stressed that children with a bilingual background who grow up in Germany could profit from their heritage language if this would be included in foreign language teaching. Although we find numerous languages represented in the foreign language classroom in Germany, these additional resources are largely not acknowledged, and a predominantly monolingual German syllabus is used. Bilingualism could in principle be advantageous, but specific conditions need to prevail (see also Hopp et al. 2019; Meißner 2007).

In conclusion, there are only marginal differences between the L2 and L3 learners of English in the current study. These differences are unlikely to be related to differences in cross-linguistic influences. Therefore, it is argued that there is only cross-linguistic influence from German visible in the English performance of the bilingual participants. This can be explained with the dominant status of the majority language German and the presumably lower proficiency in the heritage language, as well as the typological similarity between German and English, as opposed to Russian, Turkish, or Vietnamese and English. There are no general advantages or disadvantages in the English production of the bilingual heritage speakers, which demonstrates that being a heritage speaker does not automatically enhance foreign language acquisition.

11. References

- Aarts, B., Close, J. & Wallis, S. 2010. Recent Changes in the Use of the Progressive Construction in English. In *Distinctions in English Grammar. Offered to Renaat Declerck*, B. Cappelle & N. Wada (eds), 148–168. Tokyo: Kaitakusha.
- Abushihab, I. 2014. An Analysis of Grammatical Errors in Writing Made by Turkish Learners of English as a Foreign Language. *International Journal of Linguistics* 6(4): 213–223.
- Agustín-Llach, M.D.P. 2017. The impact of bilingualism on the acquisition of an additional language: Evidence from lexical knowledge, lexical fluency, and (lexical) cross-linguistic influence. *International Journal of Bilingualism*. Published online 6 August 2017. 1–13. DOI: 10.1177/1367006917728818.
- Andersen, R.W. & Shirai, Y. 1994. Discourse motivations for some cognitive acquisition principles. *Studies in Second Language Acquisition* 16(2): 133–156.
- Andersen, R.W. (1991). Developmental sequences: The emergence of aspect marking in second language acquisition. In *Cross Currents in Second Language Acquisition and Linguistic Theories*, T. Huebner & C.A. Ferguson (eds), 305–324. Amsterdam: John Benjamins.
- Anthony, L. 2016. AntConc (Version 3.4.4.0) [Computer Software]. Tokyo, Japan: Waseda University. Available at <<http://www.antlab.sci.waseda.ac.jp/>>.
- Aronin, L. & Hufeisen, B. 2009. On the genesis and development of L3 research, multilingualism and multiple language acquisition. In *The Exploration of Multilingualism*, L. Aronin & B. Hufeisen (eds), 1–9. Amsterdam, Philadelphia: John Benjamins.
- Aronin, L. & Jessner, U. 2015. Understanding current multilingualism: what can the butterfly tell us? In *The Multilingual Challenge. Cross-disciplinary Perspective*, U. Jessner & C. Kramsch (eds), 271–292. Berlin, Boston: Mouton de Gruyter.
- Axelsson, M.W. & Hahn, A. 2001. The Use of the Progressive in Swedish and German Advanced Learner English. A Corpus-based Study. *ICAME Journal* 25: 5–30.
- Baker, C. 2011. *Foundations of Bilingual Education and Bilingualism*. 5th Edition. Bristol, Buffalo, Toronto: Multilingual Matters.
- Bao, Z. & Lye, H.M. 2005. Systemic transfer, topic prominence, and the bare conditional in Singapore English. *Journal of Pidgin and Creole Languages* 20(2): 269–291.
- Bao, Z. 2005. The aspectual system of Singapore English and the systemic substratist explanation. *Journal of Linguistics* 41(2): 237–267.
- Bao, Z. 2012. Substratum transfer targets grammatical system. *Journal of Linguistics* 48(2): 479–482.
- Barac, R. & Bialystok, E. 2011. Cognitive development of bilingual children. *Language Teaching* 44(1): 36–54.
- Barac, R., Bialystok, E., Castro, D.C. & Sanchez, M. 2014. The Cognitive Development of Young Dual Language Learners: A Critical Review. *Early Childhood Research Quarterly* 29(4): 699–714.
- Bardel, C. & Falk, Y. 2007. The role of the second language in third language acquisition: the case of Germanic syntax. *Second Language Research* 23(4): 459–484.

- Bardel, C. & Falk, Y. 2012. The L2 status factor and the declarative/procedural distinction. In *Third Language Acquisition in Adulthood*, J. Cabrelli Amaro, S. Flynn & J. Rothman (eds), 61–78. Amsterdam: John Benjamins.
- Bardovi-Harlig, K. 1992. The relationship of form and meaning: A cross-sectional study of tense and aspect in the interlanguage of learners of English as a second language. *Applied Psycholinguistics* 13(3): 253–278.
- Bardovi-Harlig, K. 2000. *Tense and Aspect in Second Language Acquisition: Form, Meaning, and Use*. Oxford: Blackwell.
- Bardovi-Harlig, K. 2013. Acquisition of tense and aspect. In *The Routledge Encyclopedia of Second Language Acquisition*, P. Robinson (ed), 6–8. New York, London: Routledge.
- Bauer, L., Lieber, R. & Plag, I. 2013. *The Oxford Reference Guide to English Morphology*. Oxford: Oxford University Press.
- Baugh, A.C. & Cable, T. 2002. *A history of the English Language*. 5th Edition. London: Routledge.
- Bayram, F., Miller, D., Rothman, J. & Serratrice, L. 2018. Studies in bilingualism: 25 years in the making. In *Bilingual Cognition and Language. The state of the science across its subfield*, D. Miller, F. Bayram, J. Rothman & L. Serratrice (eds), 1–12. Amsterdam: John Benjamins.
- Bergmann, A. 2017. Curricula für mehrsprachige Klassen: Bildungspolitische Rahmenbedingungen und didaktische Prinzipien. Conference *Biliteralität zwischen Mündlichkeit und Schriftlichkeit*, 24.03. –25.03.2017, Universität Hamburg.
- Berns, M. 1995. English in Europe: whose language, which culture? *International Journal of Applied Linguistics* 5(1): 21–32.
- Berthele, R. & Vanhove J. 2017. What would disprove interdependence? Lessons learned from a study on biliteracy in Portuguese heritage language speakers in Switzerland. *International Journal of Bilingual Education and Bilingualism*. <https://doi.org/10.1080/13670050.2017.1385590>.
- Bialystok, E. 2001. *Bilingualism in development: Language, literacy, and cognition*. Cambridge: Cambridge University Press.
- Bialystok, E. 2007. Language acquisition and bilingualism: Consequences for a multilingual society. *Applied Psycholinguistics* 28(3): 393–397.
- Bialystok, E. 2018. Bilingualism and executive function. What's the connection? In *Bilingual Cognition and Language. The state of the science across its subfield*, D. Miller, F. Bayram, J. Rothman & L. Serratrice (eds), 283–305. Amsterdam: John Benjamins.
- Bialystok, E., Craik, F.I.M. & Luk, G. 2012. Bilingualism: Consequences for Mind and Brain. *Trends in Cognitive Sciences* 16(4): 240–250.
- Biber, D., Johansson, S., Leech, G., Conrad, S. & Finegan, E. 2000. *Longman Grammar of Spoken and Written English*. Harlow, GB: Longman.
- Bickel, B. & Nichols, J. 2013a. Inflectional Synthesis of the Verb. In *The World Atlas of Language Structures Online*, M.S. Dryer & M. Haspelmath (eds). Leipzig: Max Planck Institute for Evolutionary Anthropology. <<http://wals.info/chapter/22>> Accessed on 2016-08-15.
- Bickel, B. & Nichols, J. 2013b. Fusion of Selected Inflectional Formatives. In *The World Atlas of Language Structures Online*, M.S. Dryer & M. Haspelmath (eds). Leipzig: Max

- Planck Institute for Evolutionary Anthropology. <<http://wals.info/chapter/20>> Accessed on 2016-08-16.
- Blanco-Elorrieta, E. & Pykkänen, L. 2018. Ecological Validity in Bilingualism Research and the Bilingual Advantage. *Trends in Cognitive Sciences* 22(12): 1117–1126.
- Bland, S.K. 1988. The Present Progressive in Discourse: Grammar Versus Usage Revisited. *TESOL Quarterly* 22(1): 53–68.
- Bloomfield, L. 1984. *Language*. Chicago, London: The University of Chicago Press.
- Bolton, K. & Kachru, B.B. (eds). 2006. *World Englishes. Critical Concepts in Linguistics*. Volume III. London, New York: Routledge.
- Bonnet, A. & Siemund, P. (eds) 2018. *Foreign Language Education in Multilingual Classrooms*. Amsterdam: John Benjamins.
- Bono, M. 2011. Crosslinguistic Interaction and Metalinguistic Awareness in Third Language Acquisition. In *New trends in Crosslinguistic Influence and Multilingualism Research*, G. De Angelis & J.-M. Dewaele (eds), 25–52. Clevedon: Multilingual Matters.
- Böttger, H. 2010. *English lernen in der Grundschule*. 2nd Edition. Bad Heilbrunn: Verlag Julius Klinkhardt.
- Brehmer, B. & Mehlhorn, G. 2015. Russisch als Herkunftssprache in Deutschland. Ein holistischer Ansatz zur Erforschung des Potenzials von Herkunftssprachen. *Zeitschrift für Fremdsprachenforschung* 26(1): 85–123.
- Brehmer, B. & Mehlhorn, G. 2017. Biliteralität in russisch- und polnischen Familien in Deutschland: Ein Vergleich. Conference *Biliteralität zwischen Mündlichkeit und Schriftlichkeit*, 24.03.-25.03.2017, Universität Hamburg.
- Brown, R. 1973. *A first language: The early stages*. Cambridge, MA: Harvard University Press.
- Bundesamt für Migration und Flüchtlinge. 2007. *Migrationsbericht 2006*. Berlin: Bundesministerium des Inneren.
- Burwitz-Melzer, E., Mehlhorn, G., Riemer, C., Bausch, K.-R. & Krumm, H.-J. (eds). 2016. *Handbuch Fremdsprachenunterricht*. Tübingen: Narr Francke Attempto Verlag GmbH.
- Butler, Y.G. & Hakuta, K. 2006. Bilingualism and Second Language Acquisition. In *The Handbook of Bilingualism*, T.K. Bhatia & W.C. Ritchie (eds), 114–145. Malden, MA: Blackwell.
- Cabo, D.P.Y. & Rothman, J. 2012. The (Il)logical Problem of Heritage Speaker Bilingualism and Incomplete Acquisition. *Applied Linguistics* 33(4): 450–455.
- Çakır, İ. 2011. Problems in Teaching Tenses to Turkish Learners. *Theory and Practice in Language Studies* 1(2): 123–127.
- Cenoz, J. & Gorter, D. 2017. Minority languages and sustainable translanguaging: threat or opportunity? *Journal of Multilingual and Multicultural Development*. DOI: 10.1080/01434632.2017.1284855.
- Cenoz, J. & Valencia, J. 1994. Additive trilingualism: Evidence from the Basque Country. *Applied Psycholinguistics* 15(2): 195–207.
- Cenoz, J. 2001. The effect of linguistic distance, L2 status and age on cross-linguistic influence in third language acquisition. In *Cross-linguistic Influence in Third Language Acquisition. Psycholinguistic Perspective*, J. Cenoz, B. Hufeisen & U. Jessner (eds), 8–20. Clevedon: Multilingual Matters.

- Cenoz, J. 2003. The additive effect of bilingualism on third language acquisition: A review. *International Journal of Bilingualism* 7(1): 71–87.
- Cenoz, J. 2013. The Influence of bilingualism on third language acquisition: Focus on multilingualism. *Language Teaching* 46(1): 71–86.
- Cenoz, J., Hufeisen, B. & Jessner, U. 2001. *Cross-linguistic Influence in Third Language Acquisition. Psycholinguistic Perspective*. Clevedon: Multilingual Matters.
- Chambers, W.W. & Wilkie, J.R. 2014. *A Short History of the German Language*. New York: Routledge.
- Cinque, G. 2001. A note on mood, modality, tense and aspect affixes in Turkish. In *The Verb in Turkish*, E.E. Taylan (ed), 47–60. Amsterdam, Philadelphia: John Benjamins.
- Clark, E.V. 2009. *First Language Acquisition*. 2nd Edition. Cambridge: Cambridge University Press.
- Cohen, C. 2013. Effect of degree of bilingualism on metalinguistic awareness in English-French bilingual children. Poster presentation at *The International Workshop for Bilingualism and Cognitive Control*, May 2013, Krakow, Poland. Available online at <<https://hal.archives-ouvertes.fr/hal-01079079>>.
- Collins, P. & Peters, P. 2004. Australian English: morphology and syntax. In *A Handbook of Varieties of English. Volume 2: Morphology and Syntax*, B. Kortmann, K. Burridge, R. Mesthrie, E.W. Schneider & C. Upton (eds), 593–610. Berlin, New York: Mouton de Gruyter.
- Comrie, B. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Comrie, B. 1985. *Tense*. Cambridge: Cambridge University Press.
- Comrie, B. 2011. Russian. In *The world's major languages*, B. Comrie (ed), 329–347. London: Routledge.
- Cook, V. 1999. Going beyond the native speaker in language teaching. *TESOL Quarterly* 33(2): 185–209.
- Cook, V. 2016a. *Second Language Learning and Language Teaching*. London, New York: Routledge.
- Cook, V. 2016b. Transfer and the relationship between the languages of multi-competence. In *Crosslinguistic Influence in Second Language Acquisition*, R. Alonso Alonso (ed), 24–37. Bristol: Multilingual Matters.
- Cook, V. 2016c. Premises of multi-competence. In *The Cambridge Handbook of Linguistic Multi-competence*, V. Cook & Li Wei (eds), 1–25. Cambridge: Cambridge University Press.
- Coughlan, P. & Duff, P. 1994. Same task, different activities: Analysis of a SLA task from an Activity Theory Perspective. In *Vygotskian approaches to second language research*, J.P. Lantolf & G. Appel (eds), 173–193. Norwood, NJ: Ablex Publishing Corporation.
- Crossley, S.A. & McNamara, D.S. 2012. Predicting second language writing proficiency: the roles of cohesion and linguistic sophistication. *Journal of Research in Reading* 35(2): 115–135.
- Crystal, D. 2012. *English as a Global Language. Second Edition*. Cambridge: Cambridge University Press.

- Cummins, J. 2007. Rethinking monolingual instructional strategies in multilingual classrooms. *Canadian Journal of Applied Linguistics* 10(2): 221–240.
- Cummins, J. 2013. Implications for language teaching policy and practice. In *Multilingualism and Language Diversity in Urban Areas: Acquisition – Identities – Space – Education*, P. Siemund, I. Gogolin, M.E. Schulz & J. Davydova (eds), 289–304. Amsterdam: John Benjamins.
- Davies, M. 2004-. *BYU-BNC. (Based on the British National Corpus from Oxford University Press)*. Available online at <<https://corpus.byu.edu/bnc/>>.
- Davies, M. 2008-. *The Corpus of Contemporary American English (COCA): 560 million words, 1990-present*. Available online at <<https://corpus.byu.edu/coca/>>.
- De Angelis, G. 2007. *Third or Additional Language Acquisition*. Clevedon: Multilingual Matters.
- De Swaan, A. 2002. *Words of the World: The Global Language System*. Cambridge: Polity Press.
- Demirciogly, J. 2010. Zur Vorverlegung des Fremdsprachenunterrichts am Beispiel des Englischunterrichts in der Grundschule: Evaluative Argumente. *Bildung und Erziehung* 63(4): 489–504.
- Deshors, S.H. & Götz, S. 2017. Common ground across globalized English varieties: A multivariate exploration of mental predicates in World Englishes. *Corpus Linguistics and Linguistic Theory*. DOI: <https://doi.org/10.1515/cllt-2016-0052>.
- DESI-Konsortium (ed). 2008. *Unterricht und Kompetenzerwerb in Deutsch und Englisch. DESI-Ergebnisse Band 2*. Weinheim: Beltz Pädagogik.
- Dewaele J.M. 1998. Lexical Inventions: French Interlanguage as L2 versus L3. *Applied Linguistics* 19(4): 471–490.
- Die Beauftragte der Bundesregierung für Migration, Flüchtlinge und Integration (ed). 2012. 9. *Bericht der Beauftragten der Bundesregierung für Migration, Flüchtlinge und Integration über die Lage der Ausländerinnen und Ausländer in Deutschland*. Available at <<https://www.bundesregierung.de/resource/blob/975292/732994/29f4015417300767b4e594e5ce87d413/2012-12-18-9-lagebericht-download-data.pdf?download=1>> Accessed on 2018-11-19.
- Dose-Heidelmayer, S. & Götz, S. 2016. The progressive in spoken learner language: A corpus-based analysis of use and misuse. *International Review of Applied Linguistics* 54(3), 229–256.
- Dryer, M.S. & Haspelmath, M. (eds.). 2013. *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. <<http://wals.info>> Accessed on 2019-01-13.
- Dryer, M.S. 2013a. Position of Tense-Aspect Affixes. In *The World Atlas of Language Structures Online*, M.S. Dryer & M. Haspelmath (eds). Leipzig: Max Planck Institute for Evolutionary Anthropology. <<http://wals.info/chapter/69>> Accessed on 2016-08-15.
- Dryer, M.S. 2013b. Prefixing vs. Suffixing in Inflectional Morphology. In *The World Atlas of Language Structures Online*, M.S. Dryer & M. Haspelmath (eds). Leipzig: Max Planck Institute for Evolutionary Anthropology. <<http://wals.info/chapter/26>> Accessed on 2019-01-02.

- Duarte, J. & Gogolin, I. (eds). 2013. *Linguistic Superdiversity in Urban Areas. Research Approaches*. Amsterdam, Philadelphia: John Benjamins.
- Duarte, J. 2011. *Bilingual Language Proficiency. A Comparative Study*. Münster et al.: Waxmann.
- Duarte, J. 2018. Translanguaging in the context of mainstream multilingual education. *International Journal of Multilingualism*. DOI: 10.1080/14790718.2018.1512607.
- Ehmke, T. & Siegle, T. 2005. ISEI, ISCED, HOMEPOS, ESCS. Indikatoren der sozialen Herkunft bei der Qualifizierung von sozialen Disparitäten. *Zeitschrift für Erziehungswissenschaft* 8(4): 521–539.
- Ellis, R. 1994. *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Ellis, R. 2015. *Understanding Second Language Acquisition*. 2nd Edition. Oxford: Oxford University Press.
- Engel, D.M. & Ritz, M.E.A. 2000. The use of the present perfect in Australian English. *Australian Journal of Linguistics* 20(2): 119–140.
- Erling, E.J. 2002. ‘I learn English since ten years’: The global English debate and the German university classroom. *English Today* 18(2): 8–13
- Falk, Y. & Bardel, C. 2011. Object pronouns in German L3 syntax: Evidence for the L2 status factor. *Second Language Research* 27(1): 59–82.
- Fallah, N. & Jabbari, A.A. 2018. L3 acquisition of English attributive adjectives. Dominant language of communication matters for syntactic cross-linguistic influence. *Linguistic Approaches to Bilingualism* 8(2): 193–216.
- Fallah, N., Jabbari, A.A. & Fazilatfar, A.M. 2016. Source(s) of syntactic cross-linguistic influence (CLI): The case of L3 acquisition of English possessives by Mazandarani-Persian bilinguals. *Second Language Research* 32(2): 225–245.
- Filppula, M., Klemola, J., Mauranten A. & Vetchinnikova, S. 2017. Changing English: global and local perspectives. In *Changing English. Global and Local Perspectives*, M. Filppula, J. Klemola, A. Mauranten & S. Vetchinnikova (eds), xi–xiii. Berlin: De Gruyter.
- Flashner, V.E. 1989. Transfer of aspect in the English oral narratives of native Russian speakers. In *Transfer in Language Production*, H.W. Dechert & M. Raupach (eds), 71–97. Norwood, NJ: Ablex.
- Flynn, S. & Berkes, É. 2017. Toward a new understanding of syntactic CLI. Evidence from L2 and L3 acquisition. In *L3 Syntactic Transfer: Models, new developments and implications*, T. Angelovska & A. Hahn (eds), 35–61. Amsterdam: John Benjamins.
- Flynn, S., Foley, C. & Vinnitskaya, I. 2004. The cumulative-enhancement model for language acquisition: comparing adult’s and children’s patterns of development in first, second and third language acquisition of relative clauses. *International Journal of Multilingualism* 1(1): 3–16.
- Foot, R. 2009. Transfer in L3 Acquisition: The Role of Typology. In *Third Language Acquisition and Universal Grammar*, Y.-k.I. Leung (ed), 89–114. Clevedon: Multilingual Matters.
- Franceschini, R. 2009a. The genesis and development of research in multilingualism: Perspectives for future research. In *The Exploration of Multilingualism*, L. Aronin & B. Hufeisen (eds), 27–62. Amsterdam: John Benjamins.

- Franceschini, R. 2009b. Mehrsprachigkeit als Ziel. Didaktische Herausforderungen und Forschungsperspektiven. *Forum Sprache* 1(1): 62–67.
- Franceschini, R. 2016. Multilingualism research. In *The Cambridge Handbook of Linguistic Multi-competence*, V. Cook & Li Wei (eds), 97–124. Cambridge: Cambridge University Press.
- Fuchs, R. & Werner, V. 2018a. Tense and aspect in Second Language Acquisition and learner corpus research: Introduction to the special issue. *International Journal of Learner Corpus Research* 4(2), 143–263.
- Fuchs, R. & Werner, V. 2018b. The use of stative progressives by school-age learners of English and the importance of the variable context. Myth vs (corpus) reality. *International Journal of Learner Corpus Research* 4(2), 195–224.
- Gabrys-Barker, D. 2012. *Cross-linguistic Influences in Multilingual Language Acquisition*. Berlin, Heidelberg: Springer.
- Gagarina, N., Klop, D., Kunnari, S., Tantele, K., Välimaa, T., Balčiūnienė, I., Bohnacker, U., & Walters, J. 2012. MAIN: Multilingual Assessment Instrument for Narratives. *ZAS Papers in Linguistics* 56. Berlin: Zentrum für Allgemeine Sprachwissenschaft.
- García Mayo, M. P., Lázaro Ibarrola, A. & Liceras, J. 2005. Placeholders in the English interlanguage of bilingual (Basque-Spanish) children. *Language Learning* 55(3): 445–489.
- García Mayo, M.P. & Villarreal Olaizola, I. 2011. The development of suppletive and affixal tense and agreement morphemes in the L3 of Basque-Spanish biliguals. *Second Language Research* 27(1): 129–149
- Gass, S.M. & Mackey, A. (eds). 2012. *The Routledge Handbook of Second Language Acquisition*. New York: Routledge.
- Gass, S.M. & Selinker, L. 2008. *Second Language Acquisition. An Introductory Course*. 3rd Edition. New York, London: Routledge.
- Gast, V. 2006. The scope and limits of corpus linguistics – Empiricism in the description and analysis of English – Introduction. *Zeitschrift für Anglistik und Amerikanistik* 54(2): 113–120.
- Gast, V. 2013. Contrastive Linguistics. In *Theories and Methods of Linguistics*. [Wörterbücher zur Sprach- und Kommunikationswissenschaft (WSK) Online (*Dictionaries of Linguistics and Communication Science Online*)]. Berlin/Boston: De Gruyter. Available at <http://www.personal.uni-jena.de/~mu65qev/papdf/contr_ling_meth.pdf>. Accessed on 2018-04-09.
- Gelman, A. & Hill, J. 2007. *Data analysis using regression and multilevel/hierarchical models*. Cambridge: Cambridge University Press.
- Ghezlou, M., Koosha, M. & Lotfi, A.R. 2018. Acquisition of Adjective Placement by L3 Learners of English: Evidence for the L2 Status Factor. *International Journal of Applied Linguistics & English Literature* 7(2): 175–184.
- Gilquin, G. & Granger, S. 2015. Learner Language. In *The Cambridge Handbook of English Corpus Linguistics*, D. Biber & R. Reppen (eds), 418–435. Cambridge: Cambridge University Press.

- Göbel, K. & Vieluf, S. 2014. The effects of language transfer as a resource in instruction. In *Plurilingual Education. Policies – practices – language development*, P. Grommes & A. Hu (eds), 181–196. Amsterdam: John Benjamins.
- Gogolin, I. & Neuman, U. (eds). 2009. *Streitfall Zweisprachigkeit. The Bilingualism Controversy*. Wiesbaden: VS-Verlag.
- Gogolin, I., Klinger, T., Lagemann, M. & Schnoor, B. 2017. MEZ Arbeitspapiere. Indikationen, Konzeption und Untersuchungsdesign des Projekts Mehrsprachigkeitsentwicklung im Zeitverlauf (MEZ). In collaboration with Christoph Gabriel, Michel Knigge, Marion Krause, Peter Siemund.
- Gogolin, I., Siemund, P., Schulz, M. & Davydova, J. 2013. Multilingualism, language contact, and urban areas. An introduction. In *Multilingualism and Language Contact in Urban Areas. Acquisition – Identities – Space – Education*, P. Siemund & I. Gogolin (eds.), 1–15. Amsterdam: John Benjamins.
- Göksel, A. & Kerslake, C. 2005. *Turkish: A Comprehensive Grammar*. London, New York: Routledge.
- González Alonso, J. & Rothman, J. 2017. Coming of age in L3 initial stages transfer models: Deriving developmental predictions and looking towards the future. *International Journal of Bilingualism* 21(6): 683–697.
- Granger, S. 2008. Learner Corpora in Foreign Language Education. In *Encyclopedia of Language and Education, 2nd Edition, Volume 4: Second and Foreign Language Education*. N. Van Deusen-Scholl & N.H. Hornberger (eds), 337–351. New York: Springer.
- Granger, S. 2015. Contrastive interlanguage analysis. A reappraisal. *International Journal of Learner Corpus Research* 1(1): 7–24.
- Granger, S. 2017. Learner Corpora in Foreign Language Education. In *Language and Technology. Encyclopedia of Language and Education*. 3rd Edition, S. Thorne & S. May (eds), 1–14. Cham: Springer. DOI 10.1007/978-3-319-02328-1_33-2.
- Granger, S., Gilquin, G. & Meunier, F. 2015. Introduction: Learner corpus research – past, present and future. In *The Cambridge Handbook of Learner Corpus Research*, S. Granger, G. Gilquin & F. Meunier (eds), 1–5. Cambridge: Cambridge University Press.
- Greenberg, J.H. 1960. A quantitative approach to the morphological typology of language. *International Journal of American Linguistics* 26(3): 178–194.
- Grosjean, F. & Byers-Heinlein, K. 2018. Bilingual adults and children: a short introduction. In *The Listening Bilingual. Speech perception, comprehension, and bilingualism*, F. Grosjean & K. Byers-Heinlein (eds), 4–24. Hoboken, NJ: Wiley Blackwell.
- Ha, P.L. 2011. The Writing and Culture Nexus: Writers' Comparisons of Vietnamese and English Academic Writing. In *Voices, Identities, Negotiations and Conflicts. Writing Academic English Across Cultures*, P.L. Ha & B. Baurain (eds), 23–40. Bingley, UK: Emerald.
- Håkansson, G., Pienemann, M. & Sayheli, S. 2002. Transfer and typological proximity in the context of second language processing. *Second Language Research* 18(1): 21–41.
- Halliday, M.A.K. 1975. *Learning how to mean: explorations in the development of language*. London: Edward Arnold.

- Hammarberg, B. 2010. The languages of the multilingual: some conceptual and terminological issues. *IRAL – International Review of Applied Linguistics in Language Teaching* 48(2-3): 91–104.
- Hammarberg, B. 2014. Problems in Defining the Concepts of L1, L2 and L3. In *Teaching and Learning in Multilingual Contexts. Sociolinguistic and Educational Perspectives*, A. Otwinowska & G. De Angelis (eds), 3–18. Bristol, Buffalo & Toronto: Multilingual Matters.
- Hammarberg, B. 2018. L3, the tertiary language. In *Foreign Language Education in Multilingual Classrooms*, A. Bonnet & P. Siemund (eds), 127–150. Amsterdam: John Benjamins.
- Hanske, T. 2013. Serial verbs and change of location constructions in Vietnamese. In *Linguistics of Vietnamese. An International Survey*, D. Hole & E. Löbel (eds), 185–214. Berlin: De Gruyter.
- Hentschel, E. (ed). 2010. *Deutsche Grammatik*. Berlin: De Gruyter.
- Hermas, A. 2014. Multilingual transfer: L1 morphosyntax in L3 English. *International Journal of Language Studies* 8(2): 1–24.
- Hermas, A. 2015. The categorization of the relative complementizer phrase in third-language English: A feature re-assembly account. *International Journal of Bilingualism* 19(5): 587–607.
- Hirtle, W.H. & Bégin, C. 1991. Can the Progressive Express a State? *Langues et Linguistique* 17: 99–137.
- Hoff, E. & Tian, C. 2005. Socioeconomic status and cultural influences of language. *Journal of Communication Disorders* 38(4): 271–278.
- Hoffmann, C. 2000. The spread of English and the growth of multilingualism with English in Europe. In *English in Europe. The Acquisition of a Third Language*, J. Cenoz & U. Jessner (eds), 1–21. Clevedon: Multilingual Matters.
- Hoffmann, C. 2001. Towards a description of trilingual competence. *International Journal of Bilingualism* 5(1): 1–17.
- Hoffmann, C. 2014. *An Introduction to Bilingualism*. New York: Routledge.
- Hogg, R. & Denison, D. 2008. *A History of the English Language*. Cambridge: Cambridge University Press.
- Hopp, H. 2019. Cross-linguistic influence in the child third language acquisition of grammar: Sentence comprehension and production among Turkish-German and German learners of English. *International Journal of Bilingualism* 23(2): 567–583.
- Hopp, H., Kieseier, T., Vogelbacher, M. & Thoma, D. 2018. L1 effects in the early L3 acquisition of vocabulary and grammar. In *Foreign Languages in Multilingual Classrooms*, A. Bonnet and P. Siemund (eds), 305–330. Amsterdam: John Benjamins.
- Hopp, H., Vogelbacher, M., Kieseier, T. & Toma, D. 2019. Bilingual advantages in early foreign language learning: Effects of the minority and the majority language. *Learning and Instruction* 61: 99–110.
- Huddleston, R.D. & Pullum, G.K. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

- Hundt, M. 2004. Animacy, Agentivity, and the Spread of the Progressive in Modern English. *English Language and Linguistics* 8(1): 47–69.
- Iggesen, O.A. 2013. Asymmetrical Case-Marking. In *The World Atlas of Language Structures Online*, M.S. Dryer & M. Haspelmath (eds). Leipzig: Max Planck Institute for Evolutionary Anthropology. <<http://wals.info/chapter/50>> Accessed on 2016-08-16.
- Ionin, T. & Wexler, K. 2002. Why is ‘is’ easier than ‘-s’?: acquisition of tense/agreement morphology by child second language learners of English. *Second Language Research* 18(2): 95–136.
- Jarvis, S. & Pavlenko, A. 2008. *Crosslinguistic influence in language and cognition*. London: Routledge.
- Jarvis, S. 2000. Methodological rigor in the study of transfer: Identifying L1 influence in the interlanguage lexicon. *Language Learning* 50(2): 245–309.
- Jarvis, S. 2002. Short texts, best-fitting curves and new measures of lexical diversity. *Language Testing* 19(1): 57–84.
- Jaszczolt, K. 2011. Contrastive analysis. In *Pragmatics in Practice*, J.-O. Östman & J. Verschueren (eds), 111–117. Amsterdam: John Benjamins.
- Jendraschek, G. 2011. A Fresh Look at the Tense-aspect System of Turkish. *Language Research* 47(2): 245–270.
- Jenkins, J. 2006. Current Perspectives on Teaching World Englishes and English as a Lingua Franca. *TESOL Quarterly* 40(1): 157–181.
- Jessner, U. 1999. Metalinguistic Awareness in Multilinguals: Cognitive Aspects of Third Language Learning. *Language Awareness* 8(3): 201–209.
- Jessner, U. 2006. *Linguistic Awareness in Multilinguals: English as a Third Language*. Edinburgh: EUP.
- Jessner, U. 2008. A DST Model of Multilingualism and the Role of Metalinguistic Awareness. *The Modern Language Journal* 92(2): 270–283.
- Jessner, U., Megens, M. & Graus, S. 2016. Crosslinguistic influence in third language acquisition. In *Crosslinguistic Influence in Second Language Acquisition*, R. Alonso Alonso (ed), 193–214. Bristol: Multilingual Matters.
- Kellerman, E. & Sharwood Smith, M. (eds). 1986. *Crosslinguistic Influence in Second Language Acquisition*. New York: Pergamon Press.
- Klein, E.C. 1995. Second versus Third Language Acquisition: Is There a Difference? *Language Learning* 45(3): 419–465.
- Klein, W. 1994. *Time in Language*. London: Routledge.
- Kleinmann, H.H. 1977. Avoidance behavior in adult second language acquisition. *Language Learning* 27(1): 93–107.
- Klieme, E., Artelt, C., Hartig, J., Jude, N., Köller, O., Prenzel, M., Schneider, W., Stanat, P. (eds). 2010. *PISA 2009. Bilanz nach einem Jahrzehnt*. Münster: Waxmann.
- König, E. & Gast, V. 2012. *Understanding English-German Contrasts*. 3rd Edition. Berlin: Erich Schmidt Verlag.
- König, E. 1994. English. In *The Germanic Languages*, E. König & J. van der Auwera (eds), 532–565. London, New York: Routledge.

- Kornfilt, J. 2011. Turkish and the Turkic Languages. In *The world's major languages*, B. Comrie (ed), 619–644. London: Routledge.
- Kortmann, B. 2005. *English Linguistics: Essentials*. Berlin: Cornelsen.
- Kranich, S. 2010. *The Progressive in Modern English. A Corpus-Based Study of Grammaticalization and Related Changes*. Amsterdam, New York: Rodopi.
- Krashen, S.D. 1977. Some issues relating to the Monitor Model. In *On TESOL '77*, H. Brown, C. Yorio & R. Crymes (eds) 144–158. Washington, DC: TESOL.
- Krashen, S.D. 1981. *Second Language Acquisition and Second Language Learning*. Oxford: Pergamon Press.
- Kupisch, T., Snape, N. & Stangen, I. 2013. Foreign language acquisition in heritage speakers. The acquisition of articles in L3-English by German-Turkish bilinguals. In *Linguistic Superdiversity in Urban Areas*, J. Duarte & I. Gogolin (eds), 99–121. Amsterdam: John Benjamins.
- Larsen-Freeman, D. 2006. The Emergence of Complexity, Fluency, and Accuracy in the Oral and Written Production of Five Chinese Learners of English. *Applied Linguistics* 27(4): 590–619.
- Lasagabaster, D. 2001. Bilingualism, Immersion Programmes and Language Learning in the Basque Country. *Journal of Multilingual and Multicultural Development* 22(5): 401–245.
- Lechner, S. & Siemund, P. 2014a. The role of language external factors in the acquisition of English as an additional language by bilingual children in Germany. In *Language Contacts at the Crossroads of Disciplines*, H. Paulasto, L. Meriläinen, H. Riionheimo, & M. Kok (eds), 319–345. Cambridge: Cambridge Scholars Publishing.
- Lechner, S. & Siemund, P. 2014b. Double threshold in bi- and multilingual contexts: preconditions for higher academic attainment in English as an additional language. *Frontiers in Psychology* 5(546): 1–8. DOI: 10.3389/fpsyg.2014.00546.
- Lechner, S. 2013. *E-LiPS: Fox and Chicken Instrument [Based on three chicks and one bird]*. Hamburg: LiMA, University Hamburg.
- Lechner, S. 2016. Literale Fähigkeiten als Ressource beim Erwerb von Fremdsprachen in mehrsprachigen Kontexten. In *Mehrsprachigkeit als Ressource in der Schriftlichkeit*, P. Rosenberg & C. Schröder (eds), 113–131. Berlin: De Gruyter.
- Lehmann, R. & Lenkeit, J. 2008. *ELEMENT. Erhebung zum Lese- und Mathematikverständnis. Entwicklungen in den Jahrgangsstufen 4 bis 6 in Berlin. Abschlussbericht über die Untersuchungen 2003, 2004 und 2005 an Berliner Grundschulen und grundständigen Gymnasien*. Berlin: Humboldt Universität Berlin.
- Lehmann, V. 2013. *Linguistik des Russischen. Grundlagen der formal-funktionalen Beschreibung*. München: Verlag Otto Sagner.
- Levshina, N. 2015. *How to do Linguistics with R. Data exploration and statistical analysis*. Amsterdam: John Benjamins.
- Lewis, G.L. 1967. *Turkish Grammar*. Oxford: Oxford University Press.
- Li, P. & Shirai, Y. 2000. *The Acquisition of Lexical and Grammatical Aspect*. Berlin: Mouton de Gruyter.

- Li, W. 2008. Research Perspectives on Bilingualism and Multilingualism. In *Research Methods in Bilingualism and Multilingualism*, W. Li & M.G. Moyer (eds), 3–17. Malden, USA: Blackwell.
- LiMA, Linguistic Diversity Management in Urban Areas-LiPS, LiMA Panel Study. 2009-2013. *Projektkoordination LiPS: Prof. Dr. Dr. H. C. Ingrid Gogolin*; ©LiMA-LiPS 2013. Hamburg: LiMA.
- Little, R.J.A. & Rubin, D.B. 2002. *Statistical Analysis with Missing Data*. New York: John Wiley and Sons.
- Lloyd-Smith, A., Gyllstad, H. & Kupisch, T. 2018. Transfer into L3 English. Global Accent in German-dominant heritage speakers of Turkish. *Linguistic Approaches to Bilingualism* 2(7): 131–162.
- Lloyd-Smith, A., Gyllstad, H., Kupisch, T. & Quaglia, S. 2018. Heritage language proficiency does not predict syntactic CLI into L3 English. *International Journal of Bilingual Education and Bilingualism*. DOI: 10.1080/13670050.2018.1472208.
- Lorenz, E. & Siemund, P. 2019. Differences in the acquisition and production of English as a foreign language. A study based on bilingual and monolingual students. In *International Research on Multilingualism: Breaking with the monolingual perspective*, E. Vetter & U. Jessner (eds). Dordrecht: Springer Nature Switzerland AG.
- Lorenz, E. & Siemund, P. forthc. The Acquisition of English as an Additional Language by Multilingual Heritage Speakers. In *Die Auswirkungen der Migration auf Sprach- und Kulturräume. The Impact of Migration on Language Culture Areas*, U. Hoinkes & M. Meyer (eds). Kiel: Kieler Forschungen zur Sprachwissenschaft.
- Lorenz, E. 2018. “One day a father and his son going fishing on the Lake.” – A study on the use of the progressive aspect of monolingual and bilingual learners of English. In *Foreign Languages in Multilingual Classrooms*, A. Bonnet and P. Siemund (eds), 331–357. Amsterdam: John Benjamins.
- Lorenz, E. 2019. Analysis of verb phrases and the progressive aspect in a learner corpus of L2 and L3 learners of English. In *Widening the Scope of Learner Corpus Research. Selected Papers from the 4th Learner Corpus Research Conference*, A. Abel, A. Glaznieks, V. Lyding & L. Nicholas (eds). Louvain-la-Neuve: Presses Universitaires de Louvain. [Corpora and Language in Use].
- Lorenz, E., Bonnie, R.J., Feindt, K., Rahbari, S. & Siemund, P. 2018. Cross-linguistic influence in unbalanced bilingual heritage speakers on subsequent language acquisition: Evidence from pronominal object placement in ditransitive clauses. *International Journal of Bilingualism*. Published online 13 August 2018. DOI: 10.1177/1367006918791296.
- Lozano, C. 2003. *Universal Grammar and Focus constraints: the acquisition of pronouns and word order in non-native Spanish*. PhD dissertation. University of Essex (UK). Available at < <http://digibug.ugr.es/bitstream/handle/10481/22164/PhD%20dissertation%20-%20Cristobal%20Lozano.pdf?sequence=1&isAllowed=y>>.
- Luk, Z.P. & Shirai, Y. 2009. Is the Acquisition Order of Grammatical Morphemes Impervious to L1 Knowledge? Evidence From the Acquisition of Plural –s, Articles, and Possessive ‘s. *Language Learning* 59(4): 721–754.
- Luk, Z.P. 2013. Morpheme acquisition orders. In *The Routledge Encyclopedia of Second Language Acquisition*, P. Robinson (ed), 441–443. New York, London: Routledge.

- Lust, B.C. & Foley, C. (eds). 2004. *First Language Acquisition: The Essential Readings*. Malden, MA: Blackwell.
- Macnamara, J. 1967. The Bilingual's Linguistic Performance – A Psychological Overview. *Journal of Social Issues* 23(2): 58–77.
- Macnamara, J. 1971. The cognitive strategies of language learning. *Conference on Child Language*, preprints of papers presented at the Conference, Chicago, Illinois, November 22–24, 1971. 471–484.
- MacSwan, J. (2017). A multilingual perspective on translanguaging. *American Educational Research Journal*: 54(1), 167–201.
- Mair, C. 2013. The World System of Englishes. Accounting for the transnational importance of mobile and mediated vernaculars. *English World-Wide* 34(3): 253–278.
- Mair, C. 2017. Crisis of the “Outer Circle”? – Globalisation, the weak nation state, and the need for new taxonomies in World Englishes research. In *Changing English. Global and Local Perspectives*, M. Filppula, J. Klemola, A. Mauranen & S. Vetchinnikova (eds), 5–24. Berlin: De Gruyter.
- Malakoff, M.E. 1992. Translation Ability: A Natural Bilingual and Metalinguistic Skill. In *Cognitive Processing in Bilinguals*, R.J. Harris (ed), 515–530. Amsterdam: North-Holland.
- Maluch, J., Neumann, M. & Kempert, S. 2013. Differential growth patterns in English as a foreign language of bilingual and monolingual children in a tracked school system. Paper Presentation at *LiMA Final Conference: Multilingual Individuals and Multilingual Societies 2 (MIMS 2)*, October 11th 2013.
- Maluch, J.T. & Kempert, S. 2017. Bilingual profiles and third language learning: the effects of the manner of learning, sequence of bilingual acquisition, and language use practices. *International Journal of Bilingual Education and Bilingualism*. DOI: 10.1080/13670050.2017.1322036.
- Maluch, J.T., Kempert, S., Neumann, M. & Stanat, P. 2015. The effect of speaking a minority language at home on foreign language learning. *Learning and Instruction* 36: 76–85.
- Maluch, J.T., Neumann, M. & Kempert, S. 2016. Bilingualism as a resource for foreign language learning of language minority students? Empirical evidence from a longitudinal study during primary and secondary school in Germany. *Learning and Individual Differences* 51: 111–118.
- Mauranen, A. 2017. A glimpse of ELF. In *Changing English. Global and Local Perspectives*, M. Filppula, J. Klemola, A. Mauranen & S. Vetchinnikova (eds), 223–253. Berlin: De Gruyter.
- McCarthy, K.M., Mahon, M., Rosen, S. & Evans, B.G. 2014. Speech Perception and Production by Sequential Bilingual Children: A Longitudinal Study of Voice Onset Time Acquisition. *Child Development* 85(5): 1965–1980.
- McEnery, T. & Hardie, A. 2012. *Corpus Linguistics: Method, theory and practice*. Cambridge: Cambridge University Press.
- McKay, S.L. & Brown, J.D. 2016. *Teaching and Assessing EIL in local contexts around the world*. New York: Routledge.
- Meisel, J.M. 2011. *First and Second Language Acquisition: Parallels and Differences*. Cambridge: Cambridge University Press.

- Meisel, J.M. 2014. Heritage language learners: incomplete acquisition of grammar in early childhood. In *Perspectives in the Study of Spanish Language Variation. Papers in Honor of Carmen Silva-Corvalán*, A. Enrique-Arias, M.J. Gutiérrez, A. Landa, F. Ocampo (eds), 435–464. Santiago de Compostela: Verba/Anexa.
- Meißner, F.-J. 2007. Grundlagen der Mehrsprachigkeitsdidaktik. In *Kommunikative Kompetenz und Mehrsprachigkeit. Diskussionsgrundlagen und unterrichtspraktische Aspekte*, E. Werlen & R. Weskamp (eds), 81–101. Baltmannsweiler: Schneider Hohengehren.
- Melo-Pfeifer, S. 2018. The multilingual turn in foreign language education. Facts and fallacies. In *Foreign Languages in Multilingual Classrooms*, A. Bonnet and P. Siemund (eds), 191–212. Amsterdam: John Benjamins.
- Meriläinen, L., Paulasto, H. & Rautioaho, P. 2017. Extended uses of the progressive form in Inner, Outer and Expanding Circle Englishes. In *Changing English. Global and Local Perspectives*, M. Filppula, J. Klemola, A. Mauranen & S. Vetchinnikova (eds), 191–215. Berlin: De Gruyter.
- Meyer, B. 2008. *Nutzung der Mehrsprachigkeit von Menschen mit Migrationshintergrund: Berufsfelder mit besonderem Potential. Expertise für das Bundesamt für Migration und Flüchtlinge*. Universität Hamburg.
- Miller, G.D. 2012. *External Influences on English: From Its Beginnings to the Renaissance*. Oxford: Oxford University Press.
- Milton, J. 2009. *Measuring Second Language Vocabulary Acquisition*. Bristol: Multilingual Matters.
- Monk, B. & Burak, A. 2001. Russian speakers. In *Learner English. A teacher's guide to interference and other problems*. 2nd Edition. M. Swan & B. Smith (eds), 145–161. Cambridge: Cambridge University Press.
- Montrul, S. 2016. *The Acquisition of Heritage Languages*. Cambridge: Cambridge University Press.
- Na Ranong, S. & Leung, Y.-k.I. 2009. Null Objects in L1 Thai-L2 English-L3 Chinese: An Empiricist Take on a Theoretical Problem. In *Third Language Acquisition and Universal Grammar*, Y.-k.I. Leung (ed), 162–191. Bristol: Multilingual Matters.
- Ngô, B.N. 2001. The Vietnamese language learning framework. Part one: Linguistics. *Journal of Southeast Asian Language and Teaching* 10: 1–23.
- Nguyễn, Đ.-H. 1997. *Vietnamese*. Amsterdam, Philadelphia: John Benjamins.
- Nguyễn, Đ.-H. 2011. Vietnamese. In *The world's major languages*, B. Comrie (ed), 777–796. London: Routledge.
- Odlin, T. 1989. *Language Transfer. Cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.
- Odlin, T. 2013. Crosslinguistic Influence in Second Language Acquisition. In *The Encyclopedia of Applied Linguistics*, C.A. Chapelle (ed). Chichester, West Sussex, UK: Wiley-Blackwell. DOI: 10.1002/9781405198431.wbeal0292.
- Odlin, T. 2016. Was there really ever a contrastive analysis hypothesis? In *Crosslinguistic Influence in Second Language Acquisition*, R. Alonso Alonso (ed), 1–23. Bristol: Multilingual Matters.
- OECD. 2010. *PISA 2009 at a glance*. OECD: OECD Publishing. Available at < <http://dx.doi.org/10.1787/9789264095298-en>>.

- Ohser, E. (e.o. plauen). 2003. *Vater und Sohn. Sämtliche Streiche und Abenteuer* (Schmuckausgabe). Konstanz: Südverlag.
- Pallotti, G. 2010. Doing interlanguage analysis in school contexts. In *Communicative proficiency and linguistic development: intersections between SLA and language testing research*, I. Bartning, M. Martin, & I. Vedder (eds), 159–190. Amsterdam: Eurosla.
- Parodi, T. 2010. Language acquisition. In *The Routledge Linguistics Encyclopedia*. 3rd Edition, K. Malmkjaer (ed), 287–297. London, New York: Routledge.
- Pavlenko, A. 2002. Poststructuralist approaches to the study of social factors in second language learning and use. In *Portraits of the L2 user*, V. Cook (ed), 257–302. Clevedon, UK: Multilingual Matters.
- Pavlenko, A. 2003. “I feel clumsy speaking Russian”: L2 influence on L1 in narratives of Russian L2 users of English. In *Effects of the Second Language on the First*, V. Cook (ed), 32–61. Clevedon, UK: Multilingual Matters.
- Peukert, H. 2015. Transfer effects in multilingual language development. In *Transfer Effects in Multilingual Language Development*, H. Peukert (ed), 1–17. Amsterdam: John Benjamins.
- Pienemann, M. 1989. Is language teachable? Psycholinguistic experiments and hypotheses. *Applied Linguistics* 10(1): 52–79.
- Pinto, M.A., Titone, T. & Trusso, F. 1999. *Metalinguistic Awareness. Theory, development and measurement instruments*. Roma: Istituti Editoriali e Poligrafici Internazionali.
- Pohlan, J. & Albrecht M. 2015. *Sozialmonitoring Integrierte Stadtteilentwicklung. Bericht 2014. Hamburg. Deine Perlen*. Freie und Hansestadt Hamburg.
- Puig-Mayenco, E., Gonzáles Alonso, J. & Rothman, J. 2018. A systematic review of transfer studies in third language acquisition. *Second Language Research*. Published online 22 November 2018. DOI: 10.1177/0267658318809147.
- Quirk, R., Greenbaum, S., Leech, G. & Svartvik, J. 1985. *A Comprehensive Grammar of the English Language*. London, New York: Longman.
- R Development Core Team. 2016. *R: A Language and Environment for Statistical Computing*. <<http://www.R-project.org>>. 01 July 2016.
- Radden, G. & Dirven, R. 2007. *Cognitive English Grammar*. Amsterdam, Philadelphia: John Benjamins.
- Rahbari, S., Gabriel, C., Krause, M., Siemund, P., Bonnie, R.J., Dittmers (geb. Pron), T., Feindt, K., Lorenz, E., Topal, S. (2018). *Die linguistische Vertiefungsstudie des Projekts Mehrsprachigkeitsentwicklung im Zeitverlauf (MEZ)*. Hamburg: Universität Hamburg, 210 S. - (MEZ Arbeitspapiere; 2) - URN: urn:nbn:de:0111-pedocs-155694.
- Ranta, E. 2006. The ‘attractive’ progressive: Why use the -ing form in English as a Lingua Franca? *Nordic Journal of English Studies* 5(2): 95–116.
- Rautonaho, P. 2014. *Variation in the Progressive. A Corpus-based Study into World Englishes*. Tampere: Tampere University Press.
- Reiss, K., Sälzer, C., Schiepe-Tiska, A., Klieme, E. & Köller, O. (eds). 2016. *PISA 2015. Eine Studie zwischen Kontinuität und Innovation*. Münster, New York: Waxmann.

- Richards, J.C. & Sampson, G.P. 2014. The Study of Learner English. In *Error Analysis: Perspectives on Second Language Acquisition*, Richards, J.C. (ed), 3–18. New York, Routledge.
- Ringbom, H. 1987. *The role of the first language in foreign language learning*. Clevedon: Multilingual Matters.
- Romaine, S. 1995. *Bilingualism*. 2nd Edition. Oxford: Blackwell.
- Rothman, J. & Cabrelli Amaro, J. 2010. What variables condition syntactic transfer? A look at the L3 initial state. *Second Language Research* 26(2): 189–218.
- Rothman, J. 2011. L3 syntactic transfer selectivity and typological determinacy: The typological primacy model. *Second Language Research* 27(1): 107–127.
- Rothman, J. 2013. Cognitive economy, non-redundancy and typological primacy in L3 acquisition: Evidence from initial stages of L3 Romance. In *Romance Languages and Linguistic Theory 2011. Selected papers from 'Going Romance' Utrecht 2011*, S. Baauw, F. Drijkoningen, L. Meroni & M. Pinto (eds), 217–248. Amsterdam: John Benjamins.
- Rothman, J. 2015. Linguistic and cognitive motivations for the Typological Primacy Model (TPM) or third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism: Language and Cognition* 18(2): 179–190.
- Rothstein, S. 2004. *Structuring Events. A Study in the Semantics of Lexical Aspect*. Oxford: Blackwell Publishing Ltd.
- Rubin, D.B. 2004. *Multiple Imputation for Nonresponse in Surveys*. New York: Wiley.
- Şahingöz, Y. 2014. *Schulische Mehrsprachigkeit bei türkisch-deutsch bilingualen Schülern: Eine Analyse von transferinduzierten Wortstellungsmustern*. PhD Dissertation. Universität Hamburg. Available online: <<http://ediss.sub.uni-hamburg.de/volltexte/2018/9128/>>.
- Sanz, C. 2000. Bilingual education enhances third language acquisition. Evidence from Catalonia. *Applied Psycholinguistics* 21(1): 23–44.
- Sanz, C. 2012. Multilingualism and metalinguistic awareness. In *The Encyclopedia of Applied Linguistics*, C.A. Chapelle (ed), 3933–3942. Oxford: Wiley-Blackwell.
- Sato, C.J. 1990. *The Syntax of Conversation in Interlanguage Development*. Tübingen: Gunter Narr Verlag.
- Schlepppegrell, M.J. & Go, A.L. 2007. Analyzing the Writing of English Learners: A functional approach. *Language Arts* 84(6): 529–538.
- Schneider, E.W. 2014. New reflections on the evolutionary dynamics of world Englishes. *World Englishes* 33(1): 9–32.
- Schwartz, B.D. & Sprouse, R.A. 1994. Word order and nominative case in nonnative language acquisition: a longitudinal study of (L1 Turkish) German Interlanguage. In *Language acquisition studies in generative grammar*, T. Hoekstra & B.D. Schwartz (eds), 317–365. Amsterdam: John Benjamins.
- Schwartz, B.D. & Sprouse, R.A. 1996. L2 cognitive states and the full transfer/full access model. *Second Language Research* 12(1): 40–72.
- Seidl, J. 2006. *English G 21 – Ausgabe A/Band 1: 5. Schuljahr – Workbook mit Audio-Materialien*. H. Schwarz & J. Rademacher (eds). Berlin: Cornelsen Verlag.

- Seidlhofer, B. 2004. Research Perspectives on teaching English as a lingua franca. *Annual Review of Applied Linguistics* 24: 209–239.
- Sharwood Smith, M. & Kellerman, E. 1986. Crosslinguistic Influence in Second Language Acquisition: An Introduction. In *Crosslinguistic Influence in Second Language Acquisition*, E. Kellerman & M. Sharwood Smith (eds), 1–9. New York: Pergamon Press.
- Shirai, Y. 2009. Temporality in first and second language acquisition. In *The expression of time*, W. Klein & P. Li (eds), 167 – 194. Berlin: Mouton de Gruyter.
- Shirai, Y. 2013. Aspect Hypothesis (AH). In *The Routledge Encyclopedia of Second Language Acquisition*, P. Robinson (ed), 39–41. New York, London: Routledge.
- Siemund, P. & Lechner, S. 2015. Transfer effects in the acquisition of English as an additional language by bilingual children in Germany. In *Transfer Effects in Multilingual Language Development*, H. Peukert (ed), 147–160. Amsterdam: John Benjamins.
- Siemund, P. & Mueller, J.T. 2019. Are multilinguals the better academic ELF users? Evidence from a questionnaire study measuring self-assessed proficiencies. In *Language Change: The Impact of English as a Lingua Franca*, A. Mauranen & S. Vetchinnikova (eds). Cambridge: Cambridge University Press.
- Siemund, P. 2004. Analytische und synthetische Tendenzen in der Entwicklung des Englischen. In *Die europäischen Sprachen auf dem Wege zum analytischen Sprachtyp*, U. Hinrichs (ed.), 169–195. Wiesbaden: Harrassowitz, 169–195.
- Siemund, P. 2013. *Varieties of English. A typological approach*. Cambridge: Cambridge University Press.
- Siemund, P. 2018. Modeling World Englishes from a cross-linguistic perspective. In *Modeling World Englishes. Assessing the interplay of emancipation and globalization of ESL varieties*, S.C. Deshors (ed), 133–162. Amsterdam: John Benjamins.
- Siemund, P. 2019a. Englisch als weitere Sprache im Kontext herkunftsbedingter Mehrsprachigkeit. In *Sprachentwicklung im Kontext von Mehrsprachigkeit – Hypothesen, Methoden, Forschungsperspektiven*, J. Duarte, I. Gogolin, T. Klinger, B. Schnoor & M. Trebbels (eds). Wiesbaden: Springer VS.
- Siemund, P. 2019b. Regional varieties of English: non-standard grammatical features. In *Oxford Handbook of English Grammar*, B. Aarts, J. Bowie & G. Popova (eds), 605 – 629. Oxford: Oxford University Press.
- Siemund, P., Davydova J. & Maier, G. 2012. *The Amazing World of Englishes. A Practical Introduction*. Berlin: De Gruyter Mouton.
- Siemund, P., Schackow, U., Rahbari, S. (manuscript). The influence of the reading skills of bilingual heritage speakers on the acquisition of English as an additional language. University of Hamburg.
- Siemund, P., Schröter, S. & Rahbari, S. 2018. Learning English demonstrative pronouns on bilingual substrate: Evidence from German heritage speakers of Russian, Turkish, and Vietnamese. In *Foreign Languages in Multilingual Classrooms. Hamburg Studies on Linguistic Diversity*, A. Bonnet & P. Siemund (eds), 381–405. Amsterdam: John Benjamins.
- Simons, G.F. & Fennig, C.D. (eds.). 2018. *Ethnologue: Languages of the World, Twenty-first edition*. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>.

- Slabakova, R. 2016. *Second Language Acquisition*. Oxford: Oxford University Press.
- Slabakova, R. 2017. The scalpel model of third language acquisition. *International Journal of Bilingualism* 21(6): 651–665.
- Smith, C.S. 1983. A theory of aspectual choice. *Language* 59(3): 479–501.
- Sokolova, M. & Plisov, E. 2019. Cross-linguistic transfer classroom L3 acquisition in university setting. *Vestnik of Minin University* 7(1): 1–18. DOI: [org/10.26795/2307-1281-2019-7-1-6](https://doi.org/10.26795/2307-1281-2019-7-1-6).
- Sonnenhauser, B. 2004. Aspect in Russian and Turkish. Semantics and pragmatics of a grammatical category. *Turkic Languages* 8(2): 245–270.
- Spellerberg, S.M. 2016. Metalinguistic awareness and academic achievement in a linguistically diverse school setting: a study of lower secondary pupils in Denmark. *International Journal of Multilingualism* 13(1): 19–39.
- Stanat, P., Böhme, K., Schipolowski, S. & Haag, N. (eds). 2016. *IQB-Bildungstrend 2016. Sprachliche Kompetenzen am Ende der 9. Jahrgangsstufe im zweiten Ländervergleich*. Münster, New York: Waxmann.
- Stanat, P., Rauch, D., Segeritz, M. 2010. Schülerinnen und Schüler mit Migrationshintergrund. In *PISA 2009. Bilanz nach einem Jahrzehnt*, E. Klieme, C. Artelt, J. Hartig, N. Jude, O. Köller, M. Prenzel, W. Schneider & P. Stanat (eds), 277–300. Münster: Waxmann.
- Statistisches Amt für Hamburg und Schleswig-Holstein (Statistik Nord). 2016. Bevölkerung mit Migrationshintergrund in den Hamburger Stadtteilen Ende 2015. Available at <https://www.statistik-nord.de/fileadmin/Dokumente/Statistik_informiert_SPEZIAL/SI_SPEZIAL_I_2016_komplett.pdf>.
- Stavans, A. & Hoffmann, C. 2015. *Multilingualism*. Cambridge: Cambridge University Press.
- Swain, M., Lapkin, S., Rowen, N. & Hart, D. 1990. The role of mother tongue literacy in third language learning. *Language, Culture and Curriculum* 3(1): 65–81.
- Swan, M. 2001. German speakers. In *Learner English. A teacher's guide to interference and other problems*. 2nd Edition. M. Swan & B. Smith (eds), 37–51. Cambridge: Cambridge University Press.
- Swan, M. 2005. *Practical English Usage. Third Edition*. Oxford: Oxford University Press.
- Taylan, E.E. (ed). 2001a. *The Verb in Turkish*. Amsterdam, Philadelphia: John Benjamins.
- Taylan, E.E. 2001b. Introduction. In *The Verb in Turkish*, E.E. Taylan (ed.), vii–xvii. Amsterdam, Philadelphia: John Benjamins.
- Taylan, E.E. 2001c. On the relation between temporal/aspectual adverbs and the verb form in Turkish. In *The Verb in Turkish*, E.E. Taylan (ed.), 97–128. Amsterdam, Philadelphia: John Benjamins.
- Thompson, I. 2001. Turkish speakers. In *Learner English. A teacher's guide to interference and other problems*. 2nd Edition. M. Swan & B. Smith (eds), 214–227. Cambridge: Cambridge University Press.
- Thompson, L.C. 1965. *A Vietnamese Grammar*. Seattle: University of Washington Press.
- Titone, D., Gullifer, J., Subramaniapillai, S., Rajah, N. & Baum, S. 2017. History-Inspired Reflections On The Bilingual Advantages Hypothesis. In *Growing Old with Two Languages: Effects of Bilingualism on Cognitive Aging*, M. Sullivan & E. Bialystok (eds), 265–295. Amsterdam: John Benjamins.

- Van Gelderen, E. 2006. *A History of the English Language*. Amsterdam, Philadelphia: John Benjamins.
- Van Patten, B. & Benati, A.G. 2010. *Key Terms in Second Language Acquisition*. London, New York: Continuum.
- Van Rooy, B. 2006. The extension of the progressive aspect in Black South African English. *World Englishes* 25(1): 37–64.
- Van Rooy, B. 2014. Progressive aspect and stative verbs in Outer Circle varieties. *World Englishes* 33(2), 157–172.
- Velupillai, V. 2013. *An Introduction to Linguistic Typology*. Amsterdam: John Benjamins.
- Vendler, Z. 1957. Verbs and Times. *Philosophical Review* 66(2): 143–160.
- Vermeer, A. 2000. Coming to grips with lexical richness in spontaneous speech data. *Language Testing* 17(1): 65–83.
- Wade, T.L.B. 2011. *A comprehensive Russian Grammar*. Oxford: Blackwell.
- Watson, I. 1991. Phonological processing in two languages. In *Language Processing in Bilingual Children*, E. Bialystok (ed), 25–48. Cambridge: Cambridge University Press.
- Westergaard, M., Mitrofanova, N., Mykhaylyk, R. & Rodina, Y. 2017. Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism* 21(6): 666–682.
- Wulff, S. 2017. What learner corpus research can contribute to multilingualism research. *International Journal of Bilingualism* 21(6): 734–753.
- Yu, G. 2009. Lexical Diversity in Writing and Speaking Task Performances. *Applied Linguistics* 31(2): 236–259.
- Zafar, S. & Meenakshi, K. 2012. Individual Learner Differences and Second Language Acquisition: A Review. *Journal of Language Teaching and Research* 3(4): 639–646.

Appendix I: Supplementary Tables

ID	Language Group	Age	Gender	School-type	School grade GER	School grade ENG	SES-father	SES-mother	HISEI
142087	GER mono	12	male	Gymnasium	3	2	N.A.	69	69
142089	GER mono	12	female	Gymnasium	2	2	N.A.	69	69
142124	GER mono	12	male	N.A.	2	1	N.A.	N.A.	N.A.
142130	GER mono	12	male	Gymnasium	1	1	65	54	65
142131	GER mono	12	male	other	2	2	23	85	85
142214	GER mono	12	male	Gymnasium	2	2	65	65	65
142277	GER mono	12	male	N.A.	1	1	N.A.	N.A.	N.A.
142341	GER mono	12	female	N.A.	3	2	N.A.	N.A.	N.A.
142387	GER mono	12	female	other	2	2	51	N.A.	51
142404	GER mono	12	female	N.A.	N.A.	N.A.	51	59	59
142451	GER mono	12	female	other	3	2	29	N.A.	29
142455	GER mono	12	female	other	3	3	50	25	50
142599	GER mono	12	female	Gymnasium	2	4	33	66	66
142622	GER mono	12	N.A.	N.A.	2	2	N.A.	N.A.	N.A.
142623	GER mono	12	female	other	2	2	39	50	50
242303	GER mono	12	male	Gymnasium	2	3	85	51	85
EG1201	GER mono	12	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EG1202	GER mono	12	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EG1203	GER mono	12	female	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EG1204	GER mono	12	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
142625	GER mono	16	female	N.A.	2	2	N.A.	N.A.	N.A.
143009	GER mono	16	male	Gymnasium	3	3	49	51	51
143032	GER mono	16	female	Gymnasium	3	4	88	51	88
143034	GER mono	16	male	other	2	3	30	16	30
143113	GER mono	16	male	other	3	3	56	39	56
143131	GER mono	16	male	N.A.	N.A.	N.A.	45	19	45
143327	GER mono	16	female	other	2	1	33	29	33
143387	GER mono	16	male	Gymnasium	2	2	65	52	65
143396	GER mono	16	male	N.A.	2	1	71	69	71
143400	GER mono	16	male	other	2	2	33	56	56
143403	GER mono	16	N.A.	Gymnasium	3	3	N.A.	N.A.	N.A.
143411	GER mono	16	female	Gymnasium	2	2	69	77	77
143458	GER mono	16	male	Gymnasium	2	1	53	49	53
143558	GER mono	16	male	Gymnasium	2	3	69	66	69
143565	GER mono	16	female	other	2	4	32	16	32
143577	GER mono	16	N.A.	N.A.	3	3	N.A.	N.A.	N.A.
143581	GER mono	16	female	other	2	2	30	N.A.	30
EG1601	GER mono	16	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EG1602	GER mono	16	female	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EG1603	GER mono	16	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 65: Background information German monolinguals I

ID	ENG useful	ENG difficult	No. of books
142087	yes	no	500+
142089	yes	no	500+
142124	yes	yes	N.A.
142130	yes	no	500+
142131	yes	no	101-200
142214	yes	no	101-200
142277	yes	no	N.A.
142341	yes	no	N.A.
142387	yes	no	201-500
142404	yes	no	N.A.
142451	no	yes	26-100

142455	no	yes	26-100
142599	yes	no	500+
142622	yes	no	N.A.
142623	yes	no	26-100
242303	yes	no	201-500
EG1201	yes	no	N.A.
EG1202	no	no	N.A.
EG1203	yes	no	N.A.
EG1204	yes	yes	N.A.
142625	yes	no	N.A.
143009	yes	no	500+
143032	yes	no	500+
143034	yes	no	101-200
143113	yes	no	201-500
143131	yes	no	101-200
143327	yes	no	26-100
143387	yes	no	500+
143396	yes	no	500+
143400	yes	no	101-200
143403	yes	no	N.A.
143411	yes	no	500+
143458	yes	no	500+
143558	yes	no	101-200
143565	yes	yes	26-100
143577	yes	no	N.A.
143581	yes	yes	201-500
EG1601	yes	no	N.A.
EG1602	yes	no	N.A.
EG1603	yes	no	N.A.

Table 66: Background information German monolinguals II

ID	Language Group	Age	Onset-German	Gender	School-type	School grade GER	School grade ENG	SES-father	SES-mother	HISEI
112025	RUS-GER	12	three	male	Gymnasium	3	3	N.A.	45	45
112044	RUS-GER	12	four	female	Gymnasium	4	4	N.A.	51	51
112100	RUS-GER	12	three	male	other	3	3	53	65	65
112107	RUS-GER	12	birth	female	Gymnasium	2	2	39	54	54
112160	RUS-GER	12	three	female	Gymnasium	3	3	23	24	24
112169	RUS-GER	12	three	female	Gymnasium	2	2	34	45	45
112177	RUS-GER	12	three	female	Gymnasium	3	3	53	43	53
112179	RUS-GER	12	birth	male	Gymnasium	3	3	N.A.	N.A.	N.A.
112188	RUS-GER	12	three	female	Gymnasium	3	3	30	N.A.	30
112189	RUS-GER	12	four	male	other	3	2	83	53	83
112191	RUS-GER	12	birth	female	Gymnasium	3	3	24	43	43
112192	RUS-GER	12	N.A.	female	N.A.	4	4	38	25	38
112193	RUS-GER	12	birth	female	other	3	3	N.A.	16	16
112196	RUS-GER	12	birth	male	other	N.A.	N.A.	N.A.	N.A.	N.A.
112213	RUS-GER	12	three	male	Gymnasium	2	2	34	N.A.	34
113006	RUS-GER	16	seven+	male	Gymnasium	2	1	56	56	56
113026	RUS-GER	16	seven+	female	Gymnasium	3	4	N.A.	45	45
113066	RUS-GER	16	three	female	Gymnasium	3	2	30	30	30
113089	RUS-GER	16	three	female	other	3	3	38	51	51
113090	RUS-GER	16	six	female	Gymnasium	2	2	67	25	67
113153	RUS-GER	16	four	male	Gymnasium	4	4	71	71	71
113156	RUS-GER	16	birth	female	other	3	4	30	16	30
113161	RUS-GER	16	seven+	female	Gymnasium	3	2	51	88	88
113162	RUS-GER	16	seven+	female	N.A.	3	3	34	30	34
113168	RUS-GER	16	four	female	Gymnasium	2	3	N.A.	N.A.	N.A.
113177	RUS-GER	16	three	female	Gymnasium	N.A.	3	N.A.	32	32
113180	RUS-GER	16	N.A.	female	Gymnasium	3	4	N.A.	N.A.	N.A.
113183	RUS-GER	16	N.A.	female	other	2	2	N.A.	N.A.	N.A.

113184	RUS-GER	16	birth	female	Gymnasium	2	2	49	N.A.	49
113186	RUS-GER	16	three	female	Gymnasium	2	2	57	45	57
113189	RUS-GER	16	N.A.	male	Gymnasium	2	2	N.A.	N.A.	N.A.
113191	RUS-GER	16	birth	male	Gymnasium	3	3	30	25	30
113193	RUS-GER	16	birth	male	Gymnasium	4	4	71	53	71
113194	RUS-GER	16	six	female	Gymnasium	3	4	N.A.	34	34
113209	RUS-GER	16	three	female	N.A.	N.A.	N.A.	30	53	53
113212	RUS-GER	16	six	female	N.A.	3	3	23	30	30
113213	RUS-GER	16	three	female	Gymnasium	4	3	34	53	53
ER1601	RUS-GER	16	N.A.	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 67: Background information Russian-German bilinguals I

ID	ENG useful	ENG difficult	Language of parents	Language with mother	Language with father	Language with sibling(s)	No. of books
112025	yes	no	HL	mostly HL	HL	mostly German	201-500
112044	yes	no	HL	HL	HL	N.A.	500+
112100	yes	no	HL	mostly German	HL	German	500+
112107	yes	no	German	mostly HL	mostly German	German	500+
112160	yes	no	HL	mostly HL	HL	German	0-10
112169	yes	yes	HL	mostly German	HL	German	11-25
112177	yes	no	HL	HL	HL	N.A.	101-200
112179	yes	no	HL	mostly HL	HL	N.A.	11-25
112188	yes	no	mostly HL	mostly HL	HL	German	101-200
112189	yes	no	HL	mostly HL	HL	German	101-200
112191	yes	yes	HL	German	HL	German	101-200
112192	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
112193	yes	no	HL	mostly HL	HL	German	101-200
112196	no	yes	HL	HL	HL	N.A.	500+
112213	yes	no	HL	HL	HL	German	26-100
113006	yes	no	German	HL	German	HL	201-500
113026	yes	no	HL	mostly HL	HL	mostly German	201-500
113066	yes	no	HL	HL	HL	HL	201-500
113089	yes	yes	mostly HL	mostly German	mostly HL	mostly German	201-500
113090	yes	no	HL	HL	HL	HL	201-500
113153	yes	no	HL	HL	HL	N.A.	101-200
113156	yes	no	HL	German	German	German	500+
113161	yes	no	HL	HL	HL	HL	201-500
113162	yes	N.A.	HL	mostly HL	HL	N.A.	26-100
113168	yes	no	HL	HL	HL	N.A.	500+
113177	yes	no	HL	N.A.	N.A.	German	101-200
113180	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
113183	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
113184	yes	no	HL	HL	HL	N.A.	26-100
113186	yes	no	HL	mostly HL	mostly HL	German	500+
113189	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
113191	yes	no	HL	German	HL	German	101-200
113193	yes	no	HL	mostly HL	mostly HL	mostly German	500+
113194	yes	no	HL	HL	HL	mostly HL	26-100
113209	yes	no	HL	mostly German	HL	German	26-100
113212	yes	no	HL	mostly HL	HL	German	0-10
113213	yes	yes	HL	HL	mostly HL	HL	500+
ER1601	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.

Table 68: Background information Russian-German bilinguals II

ID	Language Group	Age	Onset-German	Gender	School-type	School grade GER	School grade ENG	SES-father	SES-mother	HISEI
132001	VIET-GER	12	three	male	Gymnasium	2	2	30	N.A.	30
132004	VIET-GER	12	three	female	Gymnasium	2	1	45	43	45
132009	VIET-GER	12	three	female	Gymnasium	2	1	34	16	34

132010	VIET-GER	12	three	female	Gymnasium	2	1	34	29	34
132015	VIET-GER	12	three	male	Gymnasium	3	4	26	34	34
132026	VIET-GER	12	five	male	other	3	2	34	N.A.	34
132033	VIET-GER	12	three	male	Gymnasium	1	2	30	40	40
132035	VIET-GER	12	three	female	Gymnasium	4	4	68	43	68
132044	VIET-GER	12	three	male	Gymnasium	2	2	49	34	49
132053	VIET-GER	12	birth	female	Gymnasium	2	1	43	52	52
132054	VIET-GER	12	birth	male	Gymnasium	3	4	34	16	34
132062	VIET-GER	12	three	female	Gymnasium	3	3	49	49	49
132069	VIET-GER	12	three	female	Gymnasium	3	2	23	16	23
132094	VIET-GER	12	birth	female	Gymnasium	2	2	45	16	45
132096	VIET-GER	12	three	female	Gymnasium	4	3	16	16	16
132099	VIET-GER	12	three	female	Gymnasium	2	1	30	N.A.	30
132124	VIET-GER	12	three	female	other	1	1	44	16	44
132135	VIET-GER	12	three	male	Gymnasium	2	2	30	24	30
132139	VIET-GER	12	three	male	other	3	2	24	23	24
132145	VIET-GER	12	three	male	Gymnasium	2	2	30	16	30
132147	VIET-GER	12	three	male	Gymnasium	4	3	30	16	30
EV1202	VIET-GER	12	birth	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
EV1203	VIET-GER	12	birth	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
EV1204	VIET-GER	12	birth	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
EV1205	VIET-GER	12	three	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
EV1206	VIET-GER	12	N.A.	female	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
133003	VIET-GER	16	three	male	other	3	3	71	51	71
133007	VIET-GER	16	three	female	Gymnasium	2	1	30	N.A.	30
133008	VIET-GER	16	three	male	other	3	3	31	30	31
133011	VIET-GER	16	three	male	other	N.A.	N.A.	34	N.A.	34
133013	VIET-GER	16	birth	male	N.A.	3	3	44	44	44
133032	VIET-GER	16	three	male	other	3	3	37	30	37
133044	VIET-GER	16	six	female	Gymnasium	3	1	43	N.A.	43
133052	VIET-GER	16	three	female	Gymnasium	3	2	49	43	49
133053	VIET-GER	16	three	male	Gymnasium	2	2	16	N.A.	16
133054	VIET-GER	16	three	male	N.A.	4	3	43	44	44
133069	VIET-GER	16	three	female	Gymnasium	3	2	N.A.	49	49
133084	VIET-GER	16	three	female	N.A.	3	2	N.A.	43	43
133088	VIET-GER	16	three	male	Gymnasium	2	2	N.A.	30	30
133098	VIET-GER	16	three	female	Gymnasium	4	2	67	N.A.	67
133099	VIET-GER	16	three	male	Gymnasium	3	3	45	45	45
133130	VIET-GER	16	seven+	male	other	N.A.	N.A.	49	N.A.	49
133142	VIET-GER	16	three	female	N.A.	1	1	N.A.	43	43
133149	VIET-GER	16	four	female	Gymnasium	3	2	43	43	43
133150	VIET-GER	16	three	male	other	3	4	34	29	34
EV1601	VIET-GER	16	birth	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
EV1602	VIET-GER	16	seven+	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
EV1603	VIET-GER	16	birth	male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 69: Background information Vietnamese-German bilinguals I

ID	ENG useful	ENG difficult	Language of parents	Language with mother	Language with father	Language with sibling(s)	No. of books
132001	yes	yes	HL	mostly HL	HL	mostly German	26-100
132004	yes	no	HL	mostly HL	mostly HL	German	101-200
132009	yes	no	HL	HL	HL	German	101-200
132010	yes	no	HL	HL	mostly German	N.A.	0-10
132015	yes	no	HL	HL	HL	mostly German	0-10
132026	yes	no	HL	mostly HL	mostly HL	German	11-25
132033	yes	no	HL	mostly German	HL	German	26-100
132035	yes	no	HL	HL	HL	mostly German	0-10
132044	yes	no	HL	HL	mostly HL	German	101-200
132053	yes	no	HL	German	mostly HL	German	26-100
132054	yes	no	HL	HL	HL	mostly German	0-10
132062	yes	N.A.	HL	mostly HL	HL	German	101-200
132069	yes	no	HL	HL	HL	German	11-25

132094	yes	no	HL	mostly HL	mostly HL	mostly German	11-25
132096	yes	no	HL	HL	HL	German	101-200
132099	yes	no	HL	HL	HL	mostly German	26-100
132124	no	no	HL	HL	HL	German	101-200
132135	yes	yes	HL	mostly HL	mostly HL	German	26-100
132139	yes	no	HL	HL	mostly HL	German	0-10
132145	yes	no	HL	HL	mostly HL	mostly German	26-100
132147	yes	no	mostly HL	N.A.	N.A.	mostly German	11-25
EV1202	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
EV1203	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
EV1204	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
EV1205	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
EV1206	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
133003	yes	no	mostly HL	mostly HL	mostly HL	German	201-500
133007	yes	no	HL	mostly HL	mostly HL	German	101-200
133008	yes	no	HL	mostly HL	mostly HL	German	0-10
133011	yes	no	HL	HL	HL	German	11-25
133013	yes	N.A.	HL	HL	HL	German	101-200
133032	yes	yes	HL	HL	mostly HL	mostly HL	11-25
133044	yes	no	German	mostly HL	German	N.A.	201-500
133052	yes	no	HL	HL	HL	mostly German	201-500
133053	yes	no	HL	HL	HL	HL	101-200
133054	yes	yes	HL	HL	mostly German	German	201-500
133069	yes	yes	HL	HL	HL	mostly German	101-200
133084	yes	no	HL	mostly HL	mostly HL	N.A.	26-100
133088	yes	no	HL	mostly HL	mostly HL	German	0-10
133098	yes	yes	HL	HL	HL	German	201-500
133099	yes	no	HL	HL	HL	German	101-200
133130	yes	yes	German	HL	German	mostly HL	201-500
133142	yes	no	HL	HL	HL	German	101-200
133149	yes	yes	HL	HL	mostly HL	German	26-100
133150	yes	no	HL	HL	HL	mostly German	0-10
EV1601	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
EV1602	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
EV1603	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.

Table 70: Background information Vietnamese-German bilinguals II

ID	Language Group	Age	Onset-German	Gender	School-type	School grade GER	School grade ENG	SES-father	SES-mother	HISEI
122177	TUR-GER	12	N.A.	N.A.	other	N.A.	N.A.	N.A.	N.A.	N.A.
122224	TUR-GER	12	birth	male	other	3	3	N.A.	N.A.	N.A.
122230	TUR-GER	12	three	female	other	3	2	43	43	43
122231	TUR-GER	12	birth	male	other	3	4	N.A.	N.A.	N.A.
122236	TUR-GER	12	three	female	Gymnasium	2	2	39	N.A.	39
122237	TUR-GER	12	birth	male	Gymnasium	4	2	34	16	34
122241	TUR-GER	12	birth	male	Gymnasium	3	3	16	N.A.	16
122242	TUR-GER	12	birth	male	Gymnasium	2	2	49	N.A.	49
122245	TUR-GER	12	birth	male	other	3	N.A.	21	N.A.	21
122246	TUR-GER	12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
122247	TUR-GER	12	N.A.	N.A.	N.A.	1	3	N.A.	N.A.	N.A.
122248	TUR-GER	12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
123147	TUR-GER	16	N.A.	female	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
123163	TUR-GER	16	N.A.	female	N.A.	3	3	N.A.	N.A.	99
123226	TUR-GER	16	three	female	other	2	3	26	N.A.	26
123229	TUR-GER	16	three	female	other	2	3	26	N.A.	26
123236	TUR-GER	16	birth	male	N.A.	3	4	N.A.	43	43
123237	TUR-GER	16	birth	male	N.A.	4	4	50	16	50
123240	TUR-GER	16	birth	female	N.A.	3	3	39	N.A.	39
123241	TUR-GER	16	birth	male	other	4	4	49	N.A.	49
ET1201	TUR-GER	12	three	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1202	TUR-GER	12	birth	female	other	N.A.	N.A.	N.A.	N.A.	N.A.

ET1203	TUR-GER	12	three	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1204	TUR-GER	12	three	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1205	TUR-GER	12	three	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1206	TUR-GER	12	three	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1207	TUR-GER	12	six	N.A.	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1208	TUR-GER	12	three	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1601	TUR-GER	16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ET1602	TUR-GER	16	three	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1603	TUR-GER	16	three	male	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1604	TUR-GER	16	three	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1605	TUR-GER	16	three	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1606	TUR-GER	16	three	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1607	TUR-GER	16	seven+	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1608	TUR-GER	16	seven+	male	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1609	TUR-GER	16	six	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.
ET1610	TUR-GER	16	four	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1611	TUR-GER	16	three	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1612	TUR-GER	16	six	female	other	N.A.	N.A.	N.A.	N.A.	N.A.
ET1613	TUR-GER	16	birth	female	Gymnasium	N.A.	N.A.	N.A.	N.A.	N.A.

Table 71: Background information Turkish-German bilinguals I

ID	ENG useful	ENG difficult	Language of parents	Language with mother	Language with father	Language with sibling(s)	No. of books
122177	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
122224	yes	no	HL	HL	HL	German	11-25
122230	yes	no	HL	HL	HL	mostly German	26-100
122231	yes	no	HL	German	HL	mostly German	N.A.
122236	yes	N.A.	HL	HL	mostly HL	mostly HL	26-100
122237	yes	no	HL	mostly HL	mostly HL	mostly German	11-25
122241	yes	no	HL	HL	mostly HL	mostly German	11-25
122242	no	no	mostly HL	mostly HL	mostly HL	mostly HL	101-200
122245	no	yes	HL	mostly HL	HL	German	0-10
122246	no	yes	N.A.	N.A.	N.A.	N.A.	N.A.
122247	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
122248	no	yes	N.A.	N.A.	N.A.	N.A.	N.A.
123147	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
123163	no	N.A.	HL	HL	HL	German	N.A.
123226	yes	yes	HL	HL	HL	mostly German	N.A.
123229	yes	no	HL	HL	HL	mostly HL	N.A.
123236	yes	no	HL	HL	N.A.	mostly German	201-500
123237	yes	no	mostly HL	HL	mostly German	mostly HL	101-200
123240	no	yes	HL	HL	mostly HL	German	N.A.
123241	no	no	HL	HL	mostly HL	mostly German	11-25
ET1201	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1202	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1203	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1204	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1205	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1206	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1207	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1208	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1601	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1602	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1603	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1604	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1605	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1606	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1607	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1608	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1609	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.
ET1610	no	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1611	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.

ET1612	yes	yes	N.A.	N.A.	N.A.	N.A.	N.A.
ET1613	yes	no	N.A.	N.A.	N.A.	N.A.	N.A.

Table 72: Background information Turkish-German bilinguals II

ID	Language Group	Age	Gender	Job mother	Job father
Co1E101	RUS mono	12	female	housewife	unknown
Co1E102	RUS mono	12	male	accountant	ingeneur
Co1E103	RUS mono	12	male	supervisor	military person
Co1E104	RUS mono	12	female	professor	tv editor
Co1E105	RUS mono	12	male	statistician	manager
Co1E106	RUS mono	12	female	doctor	manager
Co1E107	RUS mono	12	male	manager	manager
Co1E108	RUS mono	12	female	teacher	ingeneur
Co1E109	RUS mono	12	male	heardresser	manager
Co1E110	RUS mono	12	male	translator	doctor
Co1E201	RUS mono	16	male	teacher	customs worker
Co1E202	RUS mono	16	male	accountant	entrepreneur
Co1E203	RUS mono	16	female	secretary	entrepreneur
Co1E204	RUS mono	16	male	businesswoman	entrepreneur
Co1E205	RUS mono	16	male	official	entrepreneur
Co1E206	RUS mono	16	male	secretary	doctor
Co1E207	RUS mono	16	male	principal	athlete
Co1E208	RUS mono	16	male	secretary	lawyer
Co1E209	RUS mono	16	male	accountant	unknown
Co1E210	RUS mono	16	female	beauty consultant	unknown

Table 73: Background information Russian monolinguals

ID	Language Group	Age	Gender	ENG difficult	ENG useful
Co2E101	TUR mono	12	male	no	yes
Co2E105	TUR mono	12	male	no	no
Co2E106	TUR mono	12	male	no	no
Co2E107	TUR mono	12	male	no	no
Co2E108	TUR mono	12	male	no	no
Co2E109	TUR mono	12	female	no	yes
Co2E110	TUR mono	12	female	no	no
Co2E201	TUR mono	16	female	yes	yes
Co2E202	TUR mono	16	female	no	no
Co2E203	TUR mono	16	female	no	yes
Co2E206	TUR mono	16	male	no	no
Co2E207	TUR mono	16	female	no	no

Table 74: Background information Turkish monolinguals

ID	Language-Group	Age	Gender	other foreign languages	Job mother	Job father	ENG useful	ENG difficult
PS6A101	VIET mono	12	male	no	work in bank	engineer	yes	yes
PS6A102	VIET mono	12	male	no	clerk	clerk	yes	yes
PS6A113	VIET mono	12	male	no	chek	check	yes	yes
PS6A114	VIET mono	12	female	no	Teacher	N.A.	yes	no
PS6A118	VIET mono	12	male	Japanese, Germanese	N.A.	boss	yes	yes
PS6A124	VIET mono	12	male	no	Teacher	Teacher (retired)	yes	no
PS6A127	VIET mono	12	female	no	Office worker	I don't know	yes	yes
PS6A302	VIET mono	12	male	no	Director	Director	yes	no
PS6A303	VIET mono	12	male	no	selling clothes	selling Lotto	yes	no
PS6A120	VIET mono	12	male	no	N.A.	N.A.	yes	no

DTDS10C01	VIET mono	16	male	no	Business	Soldier	yes	no
DTDS10C03	VIET mono	16	male	Chinese	Cheif accountant	Businessmen	yes	no
AS01	VIET mono	16	female	no	Marketing manager	CEO	yes	no
AS02	VIET mono	16	female	no	Teacher	Businessman	yes	yes
AS03	VIET mono	16	female	no	Accountant	Police Officer	yes	no
AS04	VIET mono	16	female	Chinese	English Teacher	Event organiser	no	no
AS05	VIET mono	16	male	no	Teacher	Teacher	yes	no
AS07	VIET mono	16	female	no	Officer	Officer	yes	no
DTDS10C02	VIET mono	16	female	Japanese	Business	Business	yes	no
AS06	VIET mono	16	male	no	Office worker	Business Consultant	yes	no

Table 75: Background information Vietnamese monolinguals

ID	Language Group	Age	Gender	Foreign languages	ENG useful	ENG difficult
ES1201	ENG native	12	female	German, Spanish	yes	no
ES1202	ENG native	12	male	German, Spanish	yes	yes
ES1203	ENG native	12	male	German, Spanish	yes	no
ES1204	ENG native	12	male	German, French, Spanish	no	no
ES1205	ENG native	12	male	Czech	yes	no
ES1206	ENG native	12	female	German, Spanish	yes	no
ES1207	ENG native	12	female	French	yes	no
ES1208	ENG native	12	female	German, French, Spanish	yes	no
ES1209	ENG native	12	female	Welsh, Spanish, French	yes	no
ES1210	ENG native	12	male	German, French, Arabic	yes	no
ES1211	ENG native	12	female	none	yes	no
ES1212	ENG native	12	male	German, Spanish	yes	no
ES1213	ENG native	12	male	French, German	yes	no
ES1214	ENG native	12	male	French, German, Mandarin, Spanish	yes	no
ES1215	ENG native	12	male	French, Spanish	yes	no
ES1601	ENG native	16	female	Hebrew, Spanish, German	yes	no
ES1602	ENG native	16	female	Spanish	yes	no
ES1603	ENG native	16	male	Spanish	yes	no
ES1604	ENG native	16	male	German	yes	no
ES1605	ENG native	16	female	French, German, Spanish, Greek	yes	no
ES1606	ENG native	16	female	German, French	yes	yes
ES1607	ENG native	16	male	German	yes	yes
ES1608	ENG native	16	female	Spanish, German	no	no
ES1609	ENG native	16	female	German, French, Spanish	yes	no
ES1610	ENG native	16	female	unknown	yes	no
ES1611	ENG native	16	female	unknown	yes	no
ES1612	ENG native	16	female	unknown	yes	no
ES1613	ENG native	16	male	unknown	no	no
ES1615	ENG native	16	male	unknown	yes	no
ES1616	ENG native	16	male	unknown	yes	no

Table 76: Background information English native speaker control group

Language group	Tense of progressive form					Total
	bare	future	past	perfect	present	
ENG 12	-	-	9	-	11	20
ENG 16	2	-	7	-	28	37
GER 12	10	1	-	-	8	19
GER 16	8	-	8	-	24	40
RUS 12	4	-	2	-	-	6
RUS 16	8	-	5	-	9	22
RUS-GER 12	6	-	5	-	7	18
RUS-GER 16	7	-	3	2	7	19
TUR 12	7	-	-	-	6	13
TUR 16	-	-	-	-	5	5
TUR-GER 12	11	1	1	-	7	20
TUR-GER 16	16	-	-	-	16	32
VIET 12	6	-	-	-	10	16
VIET 16	1	-	7	-	5	13
VIET-GER 12	11	2	3	-	18	34
VIET-GER 16	6	-	5	-	31	42
Total	104	4	55	2	191	356

Table 77: Absolute numbers of tenses per progressive verb form

Language group	Auxiliary verb (form of <i>be</i>) present			Total
	can see	false	true	
ENG 12	2	-	18	20
ENG 16	1	2	34	37
GER 12	-	11	8	19
GER 16	4	8	28	40
RUS 12	-	4	2	6
RUS 16	1	8	13	22
RUS-GER 12	-	8	10	18
RUS-GER 16	1	8	10	19
TUR 12	-	7	6	13
TUR 16	-	-	5	5
TUR-GER 12	-	12	8	20
TUR-GER 16	2	16	14	32
VIET 12	-	6	10	16
VIET 16	-	1	12	13
VIET-GER 12	2	14	18	34
VIET-GER 16	3	7	32	42
Total	16	112	228	356

Table 78: Absolute numbers of auxiliary verbs (form of *be*) present, absent, or use of (can) see

Language group	Form of progressive		Total
	target-like	non-target-like	
ENG 12	19	1	20
ENG 16	34	3	37
GER 12	8	11	19
GER 16	25	15	40
RUS 12	2	4	6
RUS 16	11	11	22
RUS-GER 12	8	10	18
RUS-GER 16	10	9	19
TUR 12	6	7	13
TUR 16	5	-	5
TUR-GER 12	8	12	20
TUR-GER 16	13	19	32
VIET 12	7	9	16
VIET 16	7	6	13
VIET-GER 12	18	16	34
VIET-GER 16	31	11	42
Total	212	144	356

Table 79: Absolute numbers of (non-)target-like progressive forms

Language group	Meaning of progressive		Total
	target-like	non-target-like	
ENG 12	19	1	20
ENG 16	37	-	37
GER 12	17	2	19
GER 16	33	7	40
RUS 12	6	-	6
RUS 16	21	1	22
RUS-GER 12	14	4	18
RUS-GER 16	18	1	19
TUR 12	13	-	13
TUR 16	5	-	5
TUR-GER 12	15	5	20
TUR-GER 16	27	5	32
VIET 12	14	2	16
VIET 16	12	1	13
VIET-GER 12	30	4	34
VIET-GER 16	37	5	42
Total	318	38	356

Table 80: Absolute numbers of (non-)target-like progressive meaning

Language Group	state	Lexical aspect/ <i>aktionsart</i>			Total
		activity	accomplishment	achievement	
ENG 12	1	12	7	-	20
ENG 16	-	25	8	4	37
GER 12	-	5	12	2	19
GER 16	5	19	10	6	40
RUS 12	1	4	1	-	6
RUS 16	-	11	10	1	22
RUS-GER 12	3	7	8	-	18
RUS-GER 16	2	10	7	-	19
TUR 12	-	7	6	-	13
TUR 16	-	3	2	-	5
TUR-GER 12	1	3	12	4	20
TUR-GER 16	2	16	11	3	32
VIET 12	1	6	9	-	16
VIET 16	-	10	3	-	13
VIET-GER 12	2	15	13	4	34
VIET-GER 16	3	16	20	3	42
Total	21	169	139	27	356

Table 81: Absolute numbers of types of lexical aspect/*aktionsart* of progressives

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
ES1201	ENG	12	22	15	128	15	1	2	2	1	13	5	0	0	0	0	0	2	1	0	1	5	5	0	5	5	0	0	19	22	0	0	0	0	9	1	past
ES1202	ENG	12	30	20	126	23	0	2	3	6	12	0	0	0	0	2	0	2	3	0	0	2	2	0	6	6	0	0	29	30	1	1	0	0	10	0	present
ES1203	ENG	12	29	21	197	12	0	4	1	16	1	0	1	0	0	0	2	4	0	0	0	5	5	0	4	4	0	0	25	29	5	5	0	0	10	0	present
ES1204	ENG	12	22	12	108	11	1	2	3	0	15	5	0	0	0	0	0	1	0	0	0	5	5	0	3	3	0	0	20	22	0	0	0	0	8	0	past
ES1205	ENG	12	23	16	137	14	4	0	1	1	15	3	0	0	0	0	0	1	1	0	0	4	4	0	2	2	0	0	21	21	0	0	0	0	6	0	past
ES1206	ENG	12	61	20	208	44	0	5	1	21	22	0	0	0	4	2	0	4	2	0	0	7	7	0	5	5	0	0	60	61	0	0	0	0	15	0	mix
ES1207	ENG	12	21	17	142	12	0	0	0	1	17	1	0	0	0	0	0	1	2	0	0	1	1	0	0	0	0	0	20	19	0	0	0	0	1	0	past
ES1208	ENG	12	37	28	200	11	0	6	2	18	8	4	0	0	0	0	0	0	3	0	0	4	4	0	2	2	0	0	31	35	8	8	0	1	6	0	present
ES1209	ENG	12	18	16	104	12	0	5	1	0	12	2	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	18	18	0	0	0	0	3	0	past
ES1210	ENG	12	25	13	141	12	0	0	1	5	18	0	0	0	0	0	0	0	1	0	1	2	2	0	2	2	0	0	23	23	2	2	0	0	4	1	past
ES1211	ENG	12	29	22	185	10	0	6	2	16	3	0	0	0	0	0	0	2	0	0	0	2	2	0	5	5	0	0	29	29	2	2	0	0	7	0	present
ES1212	ENG	12	23	10	122	11	0	4	2	15	2	0	0	0	0	0	0	0	0	0	0	9	9	0	3	3	0	0	23	23	4	4	0	0	12	0	present
ES1213	ENG	12	30	21	185	12	2	3	0	0	23	3	0	1	0	0	0	1	0	0	0	3	3	0	2	2	0	0	26	27	0	0	0	0	3	0	past
ES1214	ENG	12	29	16	148	17	0	1	0	16	0	0	0	0	1	3	0	2	6	0	0	5	5	0	6	6	0	0	28	29	1	1	0	0	10	0	present
ES1215	ENG	12	36	20	190	17	1	5	0	3	19	3	2	1	0	0	1	2	2	0	0	4	4	0	4	4	0	0	36	36	1	1	0	0	7	0	past
ES1601	ENG	16	69	46	404	32	0	5	4	16	39	4	1	1	0	1	0	2	0	0	0	10	10	0	6	4	2	0	67	68	2	2	0	0	17	0	past
ES1602	ENG	12	58	39	325	20	4	6	3	23	16	1	0	0	0	0	1	3	2	0	0	1	1	0	3	3	0	0	57	55	14	14	0	0	6	0	mix
ES1603	ENG	16	53	42	276	27	0	3	3	4	39	5	0	0	0	2	0	1	1	0	0	7	7	0	5	5	0	0	52	52	1	1	0	0	12	0	past
ES1604	ENG	16	26	15	190	12	0	6	7	6	2	0	1	0	0	0	2	2	0	0	0	4	4	0	8	7	1	0	25	26	1	1	0	0	12	0	present
ES1605	ENG	12	22	17	132	9	0	3	3	15	0	0	1	0	0	0	0	0	0	0	0	6	6	0	4	4	0	0	22	22	6	6	0	0	10	0	present
ES1606	ENG	16	27	22	167	12	0	3	1	1	19	1	0	0	0	0	2	1	0	0	0	1	1	0	5	5	0	0	27	27	1	1	0	0	6	0	past
ES1607	ENG	16	16	13	101	12	0	2	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	16	15	3	3	0	0	1	0	present
ES1608	ENG	16	20	13	163	12	0	2	6	7	3	0	0	0	0	0	1	1	0	0	0	2	2	0	9	9	0	0	20	19	1	1	0	0	11	0	present
ES1609	ENG	16	21	17	133	7	1	5	0	0	11	0	0	1	0	1	2	0	0	0	0	0	0	3	3	0	0	21	21	0	0	0	0	2	0	past	
ES1610	ENG	16	23	16	128	12	1	2	0	20	0	0	0	0	0	0	0	0	0	0	0	4	4	0	1	1	0	0	23	23	13	13	0	0	6	0	present
ES1611	ENG	16	18	16	117	10	0	1	4	6	3	1	0	2	0	2	0	0	0	0	0	2	2	0	6	6	0	0	16	14	3	3	0	0	6	0	present
ES1612	ENG	16	20	14	103	5	1	4	0	0	13	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	20	20	0	0	0	0	0	0	past
ES1613	ENG	16	21	17	111	6	0	4	0	0	15	2	0	1	0	0	0	1	0	0	0	2	2	0	1	1	0	0	21	21	0	0	0	0	2	0	past
ES1615	ENG	16	19	13	108	12	0	2	1	14	0	0	0	0	0	1	1	0	0	0	0	6	6	0	5	5	0	0	19	19	4	4	0	0	11	0	present
ES1616	ENG	16	26	14	151	22	0	0	2	6	7	0	0	0	0	1	1	4	5	0	0	2	2	0	4	4	0	0	26	26	2	2	0	0	8	0	mix
142087	GER	12	17	11	142	13	0	1	3	11	1	0	0	0	0	0	0	1	0	0	0	4	4	0	5	5	0	0	11	14	4	1	3	2	8	0	present
142089	GER	12	14	9	99	9	0	1	3	4	4	0	1	0	0	0	0	1	0	0	0	2	2	0	6	3	3	0	11	8	1	1	0	0	3	0	mix
142124	GER	12	12	5	73	12	1	0	2	5	1	0	0	0	0	0	0	0	0	3	1	4	4	0	2	0	2	0	4	9	2	0	2	0	4	0	present
142130	GER	12	13	10	66	12	0	1	1	11	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	13	13	4	4	0	0	3	0	present
142131	GER	12	11	9	70	12	0	0	3	4	4	3	0	0	0	0	0	0	0	0	1	3	3	0	3	3	0	0	7	8	1	1	0	0	6	0	mix
142214	GER	12	13	8	96	13	0	0	2	10	0	0	0	0	0	0	0	0	0	1	1	5	5	0	3	1	2	0	7	12	3	0	3	0	5	0	present
142277	GER	12	16	10	90	12	0	3	0	12	0	0	0	0	0	0	1	0	0	0	0	5	5	0	1	1	0	0	16	16	2	2	0	0	6	0	present
142341	GER	12	12	8	76	12	0	0	3	5	2	0	0	0	2	0	0	0	0	0	2	3	3	0	5	2	3	0	6	8	1	0	1	0	4	0	present
142387	GER	12	13	7	84	12	0	1	1	7	4	4	0	0	0	0	0	0	0	0	0	4	4	0	1	0	1	0	12	9	2	1	1	0	4	0	mix
142404	GER	12	21	9	123	15	0	4	0	2	15	6	0	0	0	0	0	0	0	0	0	6	6	0	1	1	0	0	20	19	1	0	1	0	5	0	past
142451	GER	12	7	5	39	6	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	4	1	3	0	0	0	present
142455	GER	12	12	9	78	11	0	0	0	9	1	0	0	0	1	0	0	0	0	1	0	2	2	0	2	2	0	0	6	10	3						

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
143032	GER	16	38	29	261	17	1	6	1	2	25	5	0	0	0	0	1	2	0	0	1	4	3	1	4	3	1	0	34	33	0	0	0	0	7	0	past
143034	GER	16	19	14	97	8	0	2	0	8	6	1	0	0	0	0	3	0	0	0	0	1	1	0	4	4	0	0	14	11	6	3	3	0	3	0	mix
143113	GER	16	20	13	145	12	0	3	3	14	0	0	0	0	0	0	0	0	0	0	0	3	3	0	3	0	3	0	8	18	5	0	5	0	3	0	present
143131	GER	16	19	12	117	14	0	2	0	16	0	0	0	0	0	0	1	0	0	0	0	5	5	0	2	2	0	0	17	19	11	11	0	0	6	0	present
143327	GER	16	9	3	52	1	0	0	2	2	0	0	0	0	0	0	0	1	0	4	0	0	0	0	3	1	2	0	2	5	0	0	0	0	0	0	present
143387	GER	16	16	15	103	10	0	1	2	5	2	1	2	0	0	0	2	2	0	0	0	1	1	0	8	8	0	0	15	13	4	4	0	0	7	0	present
143396	GER	16	21	14	148	14	1	3	3	14	0	0	0	0	0	0	0	0	0	0	7	7	0	5	5	0	0	19	20	6	6	0	0	10	0	present	
143400	GER	16	16	11	94	12	0	2	2	12	0	0	0	0	0	0	0	0	0	0	3	3	0	2	2	0	0	15	16	4	3	1	0	5	0	present	
143403	GER	16	14	13	94	7	0	2	0	2	9	0	0	0	0	1	0	0	0	0	0	1	1	0	1	1	0	0	14	10	0	0	0	0	2	0	past
143411	GER	16	51	17	278	27	0	4	4	6	28	9	1	2	0	0	0	5	1	0	0	9	9	0	11	9	2	0	44	42	4	3	1	0	12	0	past
143458	GER	16	27	17	172	13	0	4	1	0	20	5	0	0	0	0	1	1	0	0	0	5	5	0	3	3	0	0	26	26	0	0	0	0	6	0	past
143558	GER	16	21	16	157	12	0	2	3	15	0	0	0	0	0	1	0	0	0	0	4	4	0	4	3	1	0	18	20	6	5	1	1	7	0	present	
143565	GER	16	6	3	38	4	0	0	2	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	1	0	1	4	1	0	1	0	1	0	present
143577	GER	16	16	11	93	9	1	1	0	12	1	1	0	0	1	0	0	0	0	0	0	4	4	0	2	2	0	0	12	15	7	4	3	0	4	0	present
143581	GER	16	23	12	125	12	3	0	2	13	1	0	0	0	1	0	0	3	0	0	7	7	0	7	6	1	0	13	21	4	0	4	0	7	0	present	
242303	GER	12	15	7	129	13	0	0	0	14	0	0	1	0	0	0	0	0	0	0	1	3	3	0	1	1	0	0	11	15	3	0	3	0	4	1	present
EG1201	GER	12	13	6	88	12	0	0	0	12	0	0	0	0	0	0	0	0	0	1	1	5	4	1	0	0	0	5	12	1	0	1	0	5	1	present	
EG1202	GER	12	16	6	93	12	0	3	0	13	0	0	0	0	0	0	0	0	0	0	4	4	0	1	1	0	0	14	15	6	4	2	0	4	0	present	
EG1203	GER	12	20	15	137	9	0	1	0	15	4	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	20	17	6	6	0	0	1	0	present	
EG1204	GER	12	18	9	110	13	0	0	1	15	0	0	0	0	2	0	0	0	0	0	4	4	0	4	4	0	0	16	16	8	6	2	0	6	0	present	
EG1601	GER	16	16	7	88	12	0	2	0	12	0	0	1	0	0	0	1	0	0	0	7	7	0	3	3	0	0	13	14	3	3	0	0	9	0	present	
EG1602	GER	16	34	27	230	20	1	3	0	7	17	4	0	1	2	0	1	2	0	0	3	3	0	8	8	0	0	34	32	2	2	0	0	4	0	past	
EG1603	GER	16	20	14	113	12	0	3	0	0	17	3	0	0	0	0	0	0	0	0	3	3	0	8	8	0	0	20	19	0	0	0	0	3	0	past	
CoIE101	RUS	12	9	6	40	12	0	0	1	7	0	0	0	0	0	1	0	0	0	0	3	3	0	3	2	0	2	0	3	9	4	0	4	0	0	0	present
CoIE102	RUS	12	7	6	56	13	0	1	1	5	0	0	0	0	0	0	0	0	0	0	5	6	0	6	1	0	1	0	2	6	2	0	2	0	0	0	present
CoIE103	RUS	12	10	6	58	10	0	5	1	4	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	1	0	3	5	0	0	0	0	2	0	present	
CoIE104	RUS	12	14	11	80	12	1	0	0	11	1	1	0	0	0	0	1	0	0	0	1	1	0	1	1	0	0	6	11	6	0	6	0	2	0	present	
CoIE105	RUS	12	20	12	99	12	0	2	0	1	17	6	0	0	0	0	0	0	0	0	6	6	0	1	1	0	0	18	16	0	0	0	0	6	0	past	
CoIE106	RUS	12	14	12	58	10	0	4	1	1	8	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	10	9	0	0	0	0	1	0	past	
CoIE107	RUS	12	16	11	83	14	0	1	1	1	12	2	0	0	0	0	0	1	0	0	3	3	0	2	2	0	0	11	14	0	0	0	0	3	1	past	
CoIE108	RUS	12	17	11	91	15	0	0	0	0	15	6	0	0	0	0	0	1	0	0	6	5	1	0	0	0	1	12	16	0	0	0	0	6	0	past	
CoIE109	RUS	12	19	10	93	12	0	2	1	3	12	2	0	0	0	0	0	0	1	0	1	2	2	0	1	0	1	0	16	15	2	0	2	0	2	0	mix
CoIE110	RUS	12	27	17	131	14	0	5	0	6	14	1	0	0	0	0	0	2	0	0	2	2	0	1	1	0	0	23	19	2	0	2	0	2	0	past	
CoIE201	RUS	16	24	16	154	13	0	2	3	13	3	0	0	0	0	1	0	2	0	0	4	4	0	5	5	0	0	19	21	6	4	2	1	7	0	present	
CoIE202	RUS	16	17	17	102	11	0	4	3	7	2	0	0	0	0	0	0	0	0	0	4	4	0	4	4	0	1	13	15	1	1	0	0	7	1	past	
CoIE203	RUS	16	23	12	144	14	0	2	1	15	0	0	3	0	0	2	0	0	0	0	6	6	0	6	6	0	0	20	22	1	0	1	0	11	1	present	
CoIE204	RUS	16	31	18	151	13	0	5	2	20	2	0	0	0	0	0	0	2	0	0	1	1	0	2	2	0	0	20	30	11	0	11	0	3	0	present	
CoIE205	RUS	16	18	14	98	8	0	4	2	2	7	0	0	2	0	0	0	1	0	0	2	2	0	4	4	0	0	16	14	0	0	0	1	1	0	past	
CoIE206	RUS	16	16	13	87	12	0	1	3	1	9	2	0	1	0	0	0	1	0	0	2	2	0	4	3	1	0	12	15	0	0	0	0	3	1	past	
CoIE207	RUS	16	8	6	53	12	1	0	0	4	3	0	0	0	0	0	0	0	0	5	3	0	3	1	1	0	0	1	5	0	0	0	0	0	1	past	
CoIE208	RUS	16	15	9	87	13	0	2	0	12	0	0	0	0	0	1	0	0	0	0	3	9	6	3	1	0	1	0	11	15	2	0	2	0	6	1	present
CoIE209	RUS	16	13	9	64	12	0	0	0	5	4	2	0	0	0	0	1	0	2	0	1	3	2	1	2	2	0	1	9	11	2	0	2	0	4	0	mix
CoIE210	RUS	16	15	11	91	13	0	0	8	5	1	0	0	0	0	0	0	1	0	0	1	1	0	1	9	2	7	0	2	7	3	0	3	0	2	0	present
112025	RUS-GER	12	14	12	82	8	0	1	0	11	1	1	0	0	1	0	0	0	0	0	0	1	1	0	1	1	0	1	9	13	7	5	2	0	1	1	present
112044	RUS-GER	12	30	14	157	18																															

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
112107	RUS-GER	12	34	25	206	14	0	5	4	0	22	2	1	1	0	0	0	1	0	0	0	2	2	0	8	8	0	0	33	28	0	0	0	0	7	0	past
112160	RUS-GER	12	13	12	85	7	0	1	2	3	4	0	2	0	0	1	0	0	0	0	0	1	1	0	5	4	1	0	9	6	1	0	1	0	5	1	mix
112169	RUS-GER	12	20	12	139	13	0	0	1	17	0	0	0	1	0	0	0	1	0	0	0	6	6	0	4	4	0	0	12	20	7	2	5	0	6	1	present
112177	RUS-GER	12	25	13	150	15	2	0	1	12	6	6	0	0	2	0	0	0	2	0	2	6	6	0	5	5	0	0	18	20	5	2	3	1	6	2	present
112179	RUS-GER	12	17	12	94	9	0	4	0	11	2	1	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	11	15	5	0	5	0	1	1	present
112188	RUS-GER	12	19	11	122	11	0	0	1	7	7	1	0	0	3	0	0	1	0	0	0	3	3	0	5	5	0	0	12	15	4	0	4	0	4	0	mix
112189	RUS-GER	12	20	11	103	5	0	2	0	11	4	2	0	0	2	0	1	0	0	0	0	4	4	0	3	3	0	0	6	14	7	0	7	0	2	3	present
112191	RUS-GER	12	17	10	54	7	0	0	1	10	2	0	0	0	0	0	0	0	0	3	0	4	4	0	0	0	0	1	2	6	3	0	3	0	3	1	present
112192	RUS-GER	12	17	11	134	12	0	0	1	5	5	4	0	0	0	0	0	3	0	0	2	5	5	0	8	8	0	3	9	12	3	1	2	0	7	1	mix
112193	RUS-GER	12	12	4	86	12	0	0	3	3	0	0	0	0	0	0	0	0	0	6	0	2	2	0	3	0	3	0	2	5	1	0	1	0	2	0	present
112196	RUS-GER	12	8	5	51	6	0	0	0	6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	6	4	0	4	0	0	0	present
112213	RUS-GER	12	13	9	80	12	0	0	0	12	1	1	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	8	10	2	0	2	0	2	0	present
113006	RUS-GER	16	16	10	92	12	0	1	0	3	12	6	0	0	0	0	0	0	0	0	0	6	6	0	1	1	0	0	13	12	3	2	1	0	6	0	past
113026	RUS-GER	16	21	11	128	12	0	3	4	12	0	0	0	0	0	0	1	0	0	0	0	6	6	0	5	4	1	1	19	20	5	5	0	0	8	0	present
113066	RUS-GER	16	26	19	143	8	1	8	0	13	2	0	0	0	0	0	0	2	0	0	0	2	2	0	5	5	0	0	25	25	5	4	1	0	3	1	present
113089	RUS-GER	16	17	8	91	12	0	0	0	17	0	0	0	0	0	0	0	0	0	0	1	7	7	0	0	0	0	0	13	17	4	1	3	0	5	2	present
113090	RUS-GER	16	22	16	145	9	0	4	1	1	15	6	0	0	0	0	0	1	0	0	0	6	6	0	2	2	0	0	21	18	0	0	0	0	8	0	past
113153	RUS-GER	16	38	27	207	21	0	7	2	4	23	3	0	1	0	0	0	1	0	0	1	4	4	0	5	5	0	0	36	34	0	0	0	0	6	0	past
113156	RUS-GER	16	12	7	81	10	0	0	0	7	4	2	0	0	0	0	0	1	0	0	0	3	3	0	1	1	0	0	7	8	3	0	3	0	2	0	present
113161	RUS-GER	16	24	12	119	10	0	6	0	0	16	1	0	0	0	0	0	2	0	0	0	1	1	0	3	3	0	0	24	25	0	0	0	0	1	0	past
113162	RUS-GER	16	24	16	162	12	0	3	1	17	1	1	0	0	0	0	0	2	0	0	0	4	4	0	4	3	1	0	19	24	5	2	3	0	6	0	present
113168	RUS-GER	16	18	12	110	12	0	3	1	11	2	0	1	0	0	0	0	0	0	0	0	2	2	0	2	1	1	0	11	15	6	1	5	0	3	0	present
113177	RUS-GER	16	35	23	250	23	2	3	3	22	1	1	1	0	0	0	0	2	0	0	2	4	3	1	6	3	3	1	18	32	14	5	9	1	5	0	present
113180	RUS-GER	16	31	17	191	14	0	4	1	20	1	0	0	0	0	0	0	5	0	0	0	6	6	0	8	8	0	0	26	28	2	0	2	1	8	2	present
113183	RUS-GER	16	17	14	118	6	0	2	1	9	4	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1	1	0	14	16	6	6	0	0	0	0	present
113184	RUS-GER	16	20	14	126	9	1	2	2	6	7	4	0	0	0	0	0	2	0	0	0	5	5	0	5	4	1	0	13	12	3	0	3	0	6	0	mix

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
113186	RUS-GER	16	25	18	152	10	1	6	0	1	15	3	0	0	0	0	0	2	0	0	0	3	3	0	3	3	0	0	24	25	0	0	0	0	3	0	past
113189	RUS-GER	16	29	22	165	11	0	4	0	1	18	5	1	1	0	0	0	4	0	0	0	4	4	0	6	6	0	0	26	24	0	0	0	0	8	0	past
113191	RUS-GER	16	15	12	78	10	0	2	0	10	2	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	0	0	10	12	5	1	4	0	1	0	present
113193	RUS-GER	16	25	19	152	15	1	4	0	0	19	6	0	0	0	0	0	1	0	0	0	5	5	0	1	-1	2	0	22	26	0	0	0	0	6	0	past
113194	RUS-GER	16	25	18	140	11	0	4	0	10	9	4	0	0	0	0	0	1	0	1	0	4	4	0	2	2	0	0	17	14	5	1	4	0	3	1	mix
113209	RUS-GER	16	30	20	148	10	0	9	0	3	17	3	1	0	0	0	0	0	0	0	1	3	3	0	1	1	0	0	27	26	2	2	0	0	2	2	past
113212	RUS-GER	16	14	11	105	9	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	7	14	8	3	5	0	3	0	present
113213	RUS-GER	16	18	16	124	5	0	1	1	7	7	1	0	0	0	0	1	1	0	0	0	1	1	0	4	4	0	0	14	10	6	1	5	0	4	0	mix
ER1601	RUS-GER	16	31	21	187	14	1	2	1	0	25	4	0	0	0	0	0	2	0	0	0	5	5	0	4	4	0	0	29	31	0	0	0	0	6	0	past
Co2E101	TUR	12	8	4	53	12	0	0	1	7	0	0	0	0	0	0	0	0	0	0	6	6	0	6	1	0	1	0	2	8	5	0	5	0	0	1	present
Co2E105	TUR	12	6	3	42	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	3	4	2	2	0	0	0	0	5	6	0	0	0	0	1	1	present
Co2E106	TUR	12	10	6	61	12	0	0	1	9	0	0	0	0	0	0	0	0	0	0	3	3	3	0	1	0	1	0	4	9	4	0	4	0	4	0	present
Co2E107	TUR	12	12	9	81	12	0	0	3	5	0	0	0	0	0	0	0	0	0	0	4	4	0	3	3	0	4	8	7	0	0	0	2	11	0	present	
Co2E108	TUR	12	10	4	54	10	0	0	1	7	0	0	0	0	0	0	0	0	0	0	6	6	0	1	0	1	2	7	8	0	0	0	0	8	0	present	
Co2E109	TUR	12	15	9	77	12	0	1	5	8	0	0	0	0	0	0	0	0	0	0	1	4	4	0	5	1	4	1	7	14	2	0	2	0	6	1	present
Co2E110	TUR	12	12	6	72	12	0	0	2	7	0	0	0	0	0	0	0	0	0	0	5	5	0	2	2	0	3	9	9	0	0	0	0	9	0	present	
Co2E201	TUR	16	14	6	73	13	0	0	0	14	0	0	0	0	0	0	0	0	0	0	1	6	5	1	0	0	0	0	8	12	5	0	5	0	5	1	present
Co2E202	TUR	16	1	1	42	13	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	2	0	2	0	0	0	0	0	1	1	0	1	0	0	0	present
Co2E203	TUR	16	14	5	58	12	0	0	0	10	0	0	0	0	0	0	0	0	0	0	7	7	0	0	0	0	4	6	10	3	0	3	0	11	0	present	
Co2E206	TUR	16	11	5	53	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	4	5	8	2	0	2	0	9	1	present	
Co2E207	TUR	16	11	9	66	11	0	0	5	5	0	0	0	0	0	0	0	0	0	0	3	3	0	5	5	0	1	8	10	2	0	2	0	9	0	present	
122177	TUR-GER	12	9	7	58	9	0	0	5	2	0	0	0	0	1	0	0	0	0	0	0	1	1	0	5	2	3	1	5	7	1	0	1	0	3	0	present
122224	TUR-GER	12	13	7	80	10	0	1	1	8	0	0	0	0	0	0	0	2	0	0	1	4	4	0	1	1	0	1	8	11	3	0	3	0	6	0	present
122230	TUR-GER	12	14	8	85	8	0	0	2	10	0	0	0	0	1	0	0	0	1	0	0	3	3	0	2	0	2	0	7	12	6	3	3	2	3	0	present
122231	TUR-GER	12	12	8	71	7	0	0	0	10	0	0	0	0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	7	8	6	1	5	1	2	0	present
122236	TUR-GER	12	13	4	111	11	0	0	0	8	0	0	0	0	0	0	0	5	0	0	0	5	5	0	0	0	0	0	12	12	3	3	0	0	5	0	present
122237	TUR-GER	12	13	10	98	12	0	0	4	4	0	0	4	0	1	0	0	0	0	0	0	2	2	0	9	8	1	0	6	9	1	0	1	0	8	3	mix
122241	TUR-GER	12	19	15	97	12	1	0	0	6	11	4	1	0	0	0	0	0	0	0	0	4	4	0	1	1	0	0	12	15	4	2	2	0	4	1	mix
122242	TUR-GER	12	12	9	70	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	8	12	9	6	3	0	3	0	present
122245	TUR-GER	12	12	8	60	9	0	0	0	4	5	2	1	0	1	0	0	1	0	0	0	4	4	0	2	1	1	0	8	8	2	1	1	0	4	1	mix
122246	TUR-GER	12	14	12	80	12	0	0	0	12	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	9	11	10	5	5	0	1	0	present
122247	TUR-GER	12	20	10	116	10	1	1	0	2	15	6	0	0	0	0	0	1	0	0	0	6	6	0	1	1	0	0	16	19	1	1	0	0	7	0	past

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
122248	TUR-GER	12	19	10	122	13	0	1	0	9	3	1	1	0	4	1	0	0	0	0	0	1	1	0	3	3	0	0	10	11	5	0	5	0	2	2	present
123147	TUR-GER	16	10	7	39	5	0	0	3	4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	3	0	1	7	2	0	2	0	1	1	present
123163	TUR-GER	16	13	9	66	8	0	2	0	8	1	0	0	0	2	0	0	0	0	0	0	0	0	0	2	1	1	0	4	12	6	3	3	0	0	1	present
123226	TUR-GER	16	7	6	39	4	0	0	0	4	1	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	2	4	3	0	3	0	1	0	present
123229	TUR-GER	16	11	9	51	6	0	1	0	2	6	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	7	9	1	1	0	0	0	0	past
123236	TUR-GER	16	12	7	55	12	0	0	5	7	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	5	0	0	11	10	2	2	0	0	10	0	present
123237	TUR-GER	16	17	15	87	5	0	4	0	1	10	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2	0	0	14	17	0	0	0	0	0	0	past
123240	TUR-GER	16	17	10	92	9	0	0	3	12	0	0	0	0	0	0	0	0	0	2	0	4	4	0	3	0	3	0	10	12	6	4	2	0	0	0	present
123241	TUR-GER	16	8	6	47	7	0	0	1	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	7	5	5	0	0	0	0	present
ET1201	TUR-GER	12	15	7	99	11	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	10	15	5	5	0	0	6	0	present
ET1202	TUR-GER	12	11	7	63	9	0	1	0	7	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	3	9	6	6	0	0	0	1	present
ET1203	TUR-GER	12	11	7	81	8	0	1	0	8	0	0	0	0	0	0	0	0	0	1	0	3	3	0	0	0	0	1	6	8	3	0	3	0	3	0	present
ET1204	TUR-GER	12	11	7	68	6	0	1	1	4	2	2	1	0	0	0	0	0	0	0	0	2	2	0	1	1	0	2	7	8	0	0	0	0	5	1	present
ET1205	TUR-GER	12	12	10	92	10	0	0	2	5	4	1	0	0	0	0	0	1	0	0	0	1	1	0	2	0	2	0	7	7	1	0	1	0	1	1	past
ET1206	TUR-GER	12	11	9	64	10	0	0	4	5	1	0	0	0	0	0	0	0	0	1	0	2	2	0	4	0	4	0	3	8	1	1	0	0	2	0	present
ET1207	TUR-GER	12	7	6	41	10	0	0	1	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	2	0	0	6	4	0	4	0	0	1	present
ET1208	TUR-GER	12	9	7	59	6	0	0	0	7	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	0	6	8	3	1	2	0	1	0	present
ET1601	TUR-GER	16	22	16	159	12	0	2	3	12	1	0	0	0	0	0	1	3	0	0	0	2	2	0	4	4	0	0	21	22	7	7	0	0	4	1	present
ET1602	TUR-GER	16	20	13	105	8	0	3	2	10	3	0	0	0	0	1	0	1	0	0	0	4	4	0	1	0	1	0	18	18	2	2	0	0	4	0	present
ET1603	TUR-GER	16	25	15	149	12	0	2	2	16	0	0	1	0	0	3	1	0	0	0	0	5	5	0	9	8	1	0	21	24	5	4	1	0	13	0	present
ET1604	TUR-GER	16	11	8	75	6	0	0	4	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4	3	1	2	5	9	0	0	0	0	5	0	present
ET1605	TUR-GER	16	9	9	46	6	0	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6	7	3	1	2	0	0	0	present
ET1606	TUR-GER	16	17	10	92	11	0	0	3	13	0	0	0	0	1	0	0	0	0	0	0	7	7	0	3	1	2	0	6	16	3	0	3	0	2	5	present
ET1607	TUR-GER	16	14	5	114	8	0	0	0	6	1	0	0	0	1	0	0	4	0	1	1	4	4	0	0	0	0	1	9	10	2	0	2	0	5	0	present
ET1608	TUR-GER	16	12	8	88	13	0	0	3	8	0	0	0	0	1	0	0	0	0	0	1	3	3	0	3	0	3	0	5	11	3	0	3	0	2	1	present
ET1609	TUR-GER	16	14	7	99	11	0	0	1	9	1	0	2	0	0	0	0	0	0	1	0	5	5	0	3	3	0	0	10	10	0	0	0	0	6	2	present

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
ET1610	TUR-GER	16	17	10	94	7	0	0	1	9	6	4	0	0	0	0	0	0	0	0	0	6	6	0	1	0	1	1	9	11	2	0	2	2	7	0	mix
ET1611	TUR-GER	16	17	11	111	11	0	1	1	14	0	0	0	0	1	0	0	0	0	0	0	6	6	0	1	0	1	0	10	15	6	3	3	1	6	0	present
ET1612	TUR-GER	16	16	10	122	13	0	0	0	12	1	0	0	0	0	0	0	3	0	0	0	3	3	0	0	0	0	0	8	15	6	6	0	0	3	0	present
ET1613	TUR-GER	16	17	14	133	12	0	1	1	12	1	0	1	0	1	0	0	0	0	0	0	5	4	1	3	3	0	0	14	14	3	3	0	0	6	1	present
AS01	VIET	16	46	32	306	15	0	12	4	2	27	6	0	1	0	0	0	0	0	0	0	4	4	0	6	6	0	0	46	44	2	0	2	0	8	0	past
AS02	VIET	16	32	19	216	17	2	5	1	18	1	0	1	0	0	0	1	2	0	0	0	3	3	0	4	4	0	1	28	27	5	5	0	0	8	0	present
AS03	VIET	16	26	23	176	12	1	3	1	1	17	2	0	1	0	1	1	0	0	0	0	2	1	1	4	3	1	0	22	23	1	0	1	0	3	0	past
AS04	VIET	16	26	16	179	10	0	2	1	1	16	4	0	4	0	1	1	0	0	0	0	6	6	0	7	7	0	0	25	24	0	0	0	0	9	0	past
AS05	VIET	16	35	27	256	14	0	4	1	2	23	4	1	0	1	0	0	3	0	0	0	5	5	0	2	2	0	0	33	33	0	0	0	0	8	0	past
AS06	VIET	16	29	20	189	14	0	8	0	1	16	7	0	0	0	1	2	0	1	0	1	7	7	0	3	3	0	0	28	29	0	0	0	0	10	0	past
AS07	VIET	16	30	25	184	18	0	4	1	2	15	2	1	1	0	1	1	4	0	0	0	2	2	0	3	3	0	0	30	29	1	1	0	0	5	0	past
DTDS10C01	VIET	16	20	12	89	20	3	0	1	4	3	0	0	0	1	0	0	1	7	0	0	1	1	0	2	2	0	0	18	18	0	0	0	0	3	0	present
DTDS10C02	VIET	16	18	15	123	13	0	2	4	12	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	6	0	0	13	15	6	1	5	0	7	0	present
DTDS10C03	VIET	16	21	12	103	19	1	1	0	13	1	0	0	0	1	0	0	1	3	0	0	5	5	0	1	1	0	0	20	18	0	0	0	0	4	0	present
PS6A101	VIET	12	24	15	103	9	2	2	1	17	1	0	1	0	0	0	0	0	0	0	1	1	0	1	2	1	1	0	9	18	9	0	9	0	1	0	present
PS6A102	VIET	12	12	9	78	11	2	0	0	8	0	0	0	0	0	0	0	0	1	0	1	1	0	1	2	2	0	1	7	12	4	0	4	0	1	0	present
PS6A113	VIET	12	10	8	54	2	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	9	6	0	6	0	0	0	present
PS6A114	VIET	12	10	6	51	6	0	0	0	4	6	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	6	6	2	0	2	0	2	0	mix
PS6A118	VIET	12	14	9	79	11	2	0	0	12	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	1	0	0	9	12	3	0	3	0	3	1	present
PS6A120	VIET	12	8	6	45	6	0	0	3	5	0	0	0	0	0	0	0	0	0	0	3	3	0	3	3	0	3	0	2	8	1	0	1	0	0	0	present
PS6A124	VIET	12	13	10	84	10	0	1	3	7	1	1	1	0	0	0	0	0	0	0	1	1	0	5	5	0	0	7	11	3	0	3	0	3	3	present	
PS6A127	VIET	12	13	10	86	7	0	1	1	9	0	0	0	0	1	0	0	0	1	0	0	1	1	0	2	2	0	0	7	12	3	0	3	0	3	1	present
PS6A302	VIET	12	38	18	170	15	1	4	1	20	0	0	0	0	3	0	0	1	0	0	4	9	6	3	1	1	0	8	12	23	5	0	5	0	17	3	present
PS6A303	VIET	12	14	11	90	5	1	2	6	2	1	0	0	0	0	0	1	0	1	0	1	1	1	0	7	6	1	0	10	15	0	0	0	0	8	0	present
132001	VIET-GER	12	16	7	107	11	0	0	0	4	8	7	2	0	1	0	0	0	0	1	1	7	7	0	4	4	0	0	12	9	3	0	3	0	10	0	past
132004	VIET-GER	12	20	13	128	13	0	2	4	12	0	0	0	0	1	0	0	0	0	0	0	2	2	0	8	5	3	1	8	19	9	2	7	0	5	0	present
132009	VIET-GER	12	11	7	70	5	0	0	0	9	0	0	0	0	1	0	0	1	0	0	1	2	1	1	3	3	0	0	6	9	4	0	4	0	3	0	present
132010	VIET-GER	12	17	9	118	14	0	0	3	13	0	0	0	0	1	0	0	0	0	0	0	4	4	0	6	3	3	0	8	17	7	2	5	0	4	0	present
132015	VIET-GER	12	12	8	87	5	0	0	4	5	0	0	0	0	1	0	0	2	0	0	0	0	0	0	8	6	2	0	5	9	5	0	5	0	1	0	present
132026	VIET-GER	12	16	10	91	13	1	1	1	3	9	3	0	0	0	0	1	0	0	0	0	3	3	0	1	1	0	0	10	13	2	0	2	0	4	0	past
132033	VIET-GER	12	18	12	85	13	1	0	1	14	0	0	0	0	0	0	0	1	1	0	0	5	5	0	2	1	1	0	8	15	7	0	7	0	5	0	present
132035	VIET-GER	12	28	13	130	12	2	3	0	17	4	3	1	0	0	0	0	0	0	0	0	3	3	0	3	3	0	1	15	20	10	1	9	0	5	0	present
132044	VIET-GER	12	20	9	107	14	1	0	0	12	5	3	0	0	0	0	0	0	0	2	0	5	5	0	0	0	0	0	6	15	10	0	10	0	4	1	present
132053	VIET-GER	12	18	13	90	11	1	1	0	14	1	0	0	0	1	0	0	0	0	0	0	4	4	0	1	1	0	0	18	17	4	4	0	0	4	0	present
132054	VIET-GER	12	13	7	65	12	0	0	0	11	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	9	9	3	0	3	0	1	1	present

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
132062	VIET-GER	12	18	11	92	12	0	1	0	17	0	0	0	0	0	0	0	0	0	0	1	4	4	0	3	2	1	0	12	18	7	2	5	0	4	0	present
132069	VIET-GER	12	11	9	58	6	0	1	1	7	2	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	6	9	3	1	2	2	1	0	present
132094	VIET-GER	12	17	10	115	12	0	3	5	9	0	0	0	0	0	0	0	0	0	0	1	4	4	0	6	6	0	0	17	16	5	5	0	0	9	0	present
132096	VIET-GER	12	15	13	88	14	0	1	1	10	3	0	0	0	0	0	0	0	0	0	1	2	2	0	1	1	0	0	7	11	6	0	6	0	3	0	present
132099	VIET-GER	12	15	8	102	12	0	1	2	10	1	1	0	0	0	0	0	0	0	0	0	6	6	0	3	2	1	1	13	14	2	2	0	0	9	0	present
132124	VIET-GER	12	19	8	100	17	0	0	0	15	1	1	0	0	3	0	0	0	0	0	1	5	5	0	6	5	1	0	14	15	3	0	3	0	6	0	present
132135	VIET-GER	12	17	12	94	12	0	5	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	13	17	6	4	2	1	3	0	present
132139	VIET-GER	12	15	12	91	12	0	1	0	12	0	0	0	0	2	0	0	0	0	0	0	4	4	0	2	2	0	0	8	14	3	0	3	0	3	2	present
132145	VIET-GER	12	14	8	83	12	1	1	0	12	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	7	14	5	1	4	1	2	0	present
132147	VIET-GER	12	27	12	154	11	0	2	1	14	7	6	2	0	0	0	0	1	0	0	0	5	5	0	3	3	0	0	11	16	9	0	9	0	7	5	present
133003	VIET-GER	16	11	7	77	10	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	7	11	3	0	3	0	4	1	present
133007	VIET-GER	16	19	13	114	11	0	2	1	16	0	0	0	0	0	0	0	0	0	0	0	5	5	0	1	1	0	0	19	18	7	7	0	0	6	0	present
133008	VIET-GER	16	17	9	83	6	0	3	0	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	8	15	10	1	9	0	0	0	present
133011	VIET-GER	16	14	10	107	9	0	2	3	5	1	0	0	0	0	1	2	0	0	0	0	1	1	0	8	8	0	0	13	14	3	3	0	0	8	0	present
133013	VIET-GER	16	22	17	142	10	0	2	1	17	0	0	0	0	0	0	0	2	0	0	0	1	1	0	3	3	0	0	22	21	12	12	0	0	2	0	present
133032	VIET-GER	16	12	9	68	5	1	0	4	5	0	0	0	0	1	0	0	1	0	0	1	0	0	0	6	3	3	0	6	9	1	0	1	1	1	0	present
133044	VIET-GER	16	42	32	270	24	1	5	4	8	12	0	2	1	1	2	4	2	0	0	0	3	3	0	14	12	2	0	40	33	2	2	0	0	11	0	past
133052	VIET-GER	16	31	17	156	12	0	8	0	21	1	1	0	0	0	0	0	1	0	0	0	7	7	0	2	2	0	0	27	29	10	6	4	0	7	0	present
133053	VIET-GER	16	22	14	142	12	0	3	2	15	0	0	0	0	0	0	1	1	0	0	1	1	1	0	5	5	0	0	17	19	9	6	3	0	4	0	present
133054	VIET-GER	16	36	21	198	15	0	5	0	2	26	7	0	1	0	1	1	0	0	0	0	8	8	0	3	3	0	0	34	30	0	0	0	0	10	0	past
133069	VIET-GER	16	18	17	118	6	0	4	1	1	11	1	0	0	0	0	0	1	0	0	0	0	0	0	3	3	0	0	15	17	1	1	0	1	1	0	past
133084	VIET-GER	16	18	13	134	12	0	2	6	8	0	0	0	0	0	0	1	1	0	0	0	2	2	0	8	8	0	0	17	17	4	4	0	0	10	0	present
133088	VIET-GER	16	13	10	75	5	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	13	10	0	10	0	1	0	present
133098	VIET-GER	16	21	10	169	9	0	1	1	15	2	0	0	0	0	0	0	2	0	0	0	5	5	0	4	4	0	0	19	18	6	4	2	0	7	0	present
133099	VIET-GER	16	20	14	151	16	0	2	4	11	1	0	1	0	0	0	0	0	0	0	0	3	3	0	7	5	2	1	17	18	7	7	0	0	6	0	present
133142	VIET-GER	16	22	11	146	9	0	2	1	19	0	0	0	0	0	0	0	0	0	0	0	6	6	0	2	1	1	0	9	15	7	1	6	0	5	1	present

ID	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
133149	VIET-GER	16	17	11	112	12	0	2	3	11	1	0	0	0	0	0	0	0	0	0	0	5	5	0	4	4	0	0	12	16	5	1	4	0	8	0	present
133150	VIET-GER	16	26	15	153	12	1	5	0	8	11	4	0	0	0	0	0	1	0	0	0	7	7	0	1	1	0	0	19	19	3	0	3	0	4	1	present
133130	VIET-GER	16	10	2	72	9	0	0	0	0	7	0	0	0	0	0	0	0	0	3	0	3	3	0	0	0	0	7	7	0	0	0	0	0	0	3	past
EV1202	VIET-GER	12	14	10	81	11	0	1	0	1	11	3	0	1	0	0	0	0	0	0	0	4	4	0	1	1	0	0	14	14	0	0	0	0	3	3	past
EV1203	VIET-GER	12	16	11	93	12	1	2	3	9	0	0	0	0	0	0	0	0	0	0	0	4	4	0	5	5	0	1	10	15	4	0	4	0	7	0	present
EV1204	VIET-GER	12	16	15	71	12	0	1	3	11	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	4	0	0	8	13	6	1	5	0	3	0	present
EV1205	VIET-GER	12	13	7	85	8	0	0	0	11	1	0	0	0	1	0	0	0	0	0	0	4	4	0	1	1	0	0	10	12	5	4	1	1	4	0	present
EV1206	VIET-GER	12	16	10	95	11	0	3	0	13	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	1	0	0	9	16	6	1	5	0	4	0	present
EV1601	VIET-GER	16	15	11	82	12	0	0	8	6	1	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	14	10	2	2	0	0	9	0	present
EV1602	VIET-GER	16	26	20	139	13	1	3	0	18	2	0	1	0	0	1	0	0	0	0	0	4	4	0	2	2	0	0	2	22	11	11	0	0	6	0	present
EV1603	VIET-GER	16	31	24	229	16	0	0	0	1	22	5	0	1	0	0	1	6	0	0	0	4	4	0	9	9	0	0	30	29	0	0	0	0	6	0	past

Table 82: Analysis of written texts - individual performance

A	Language group	O	<i>will</i> future	AC	VP formally correct
B	Age	P	<i>going to</i> future	AD	VP target-like meaning
C	VP tokens	Q	Passive	AE	3 rd person singular {-s} required
D	VP types	R	Modal/conditional	AF	3 rd person singular {-s} present
E	No. of words	S	Imperative	AG	3 rd person singular {-s} missing
F	No of sentences	T	Non-English verb	AH	3 rd person singular {-s} overuse
G	Infinitive	U	Verb phrase missing	AI	correct subject-verb-agreement
H	<i>to</i> -infinitive	V	Copula required	AJ	Incorrect subject-verb-agreement
I	Progressive	W	Copula present	AK	Main tense
J	Simple present	X	Copula missing		
K	Simple past	Y	Auxiliary required		
L	Simple past (was/were)	Z	Auxiliary present		
M	Present perfect	AA	Auxiliary missing		
N	Past perfect	AB	Unclear		

Table 83: Labels of the analysis table (Table 82)

ID	A	B	C	D	E	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
142087	GER	12	24	12	203	0	1	0	20	2	0	0	1	0	0	0	0	0	0	4	4	0	1	1	0	0	23	22	5	4	1	0	5	0	present
142124	GER	12	10	7	67	0	0	1	6	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	3	7	5	0	5	0	1	0	present
142130	GER	12	22	14	99	0	4	3	14	0	1	0	0	0	0	0	0	0	0	1	1	0	5	5	0	0	21	21	10	9	1	0	6	0	present
142131	GER	12	9	8	76	0	0	2	6	0	0	0	0	0	0	0	0	1	0	0	0	0	2	1	1	0	2	7	6	1	5	0	1	0	present
142214	GER	12	9	8	103	0	0	3	3	0	1	0	1	1	0	0	0	0	0	1	1	0	5	2	3	0	4	8	2	0	2	0	1	1	present
142341	GER	12	10	7	61	0	0	0	10	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2	9	7	0	7	0	2	0	present
142387	GER	12	10	8	51	0	1	0	6	1	0	0	0	0	0	0	1	0	1	0	1	0	1	1	0	0	6	8	5	3	2	0	1	0	present
142455	GER	12	15	9	99	0	1	1	6	3	0	0	0	0	0	0	1	0	3	0	0	0	1	0	1	0	5	9	6	0	6	0	0	0	present
142599	GER	12	14	9	103	0	0	0	11	1	0	0	0	0	1	1	0	0	0	2	2	0	0	0	0	0	7	13	6	1	5	0	2	1	present
143009	GER	16	39	25	274	0	0	19	11	0	0	0	0	0	0	9	0	0	0	4	4	0	13	13	0	0	38	39	3	3	0	0	13	0	present
143032	GER	16	13	10	111	0	2	1	1	7	0	0	0	0	0	1	1	0	0	2	2	0	2	2	0	0	13	13	0	0	0	0	4	0	past
143034	GER	16	10	9	55	0	1	0	4	5	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	9	5	3	2	1	0	2	0	mix
143113	GER	16	22	15	151	0	2	9	9	2	0	0	0	0	0	0	0	0	0	2	2	0	8	4	4	0	15	19	4	2	2	0	6	0	present
143131	GER	16	20	15	161	0	1	5	13	0	0	0	0	0	1	0	0	0	0	5	5	0	8	8	0	0	19	20	6	6	0	0	11	0	present
143327	GER	16	7	7	36	0	0	3	2	0	0	1	0	0	0	0	0	1	0	0	0	0	3	0	3	0	1	5	2	1	1	0	0	0	present
143387	GER	16	10	7	80	0	2	0	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9	9	6	6	0	0	0	0	present
143400	GER	16	11	8	103	0	1	3	3	0	1	0	0	0	0	3	0	0	1	1	1	0	4	4	0	0	11	11	2	2	0	0	5	0	present
143411	GER	16	25	18	180	0	5	9	6	1	0	0	0	0	0	4	0	0	0	3	3	0	9	9	0	0	25	25	2	2	0	0	11	0	present
143458	GER	16	13	10	97	0	0	3	1	9	0	0	0	0	0	0	0	0	0	2	2	0	3	3	0	0	13	13	0	0	0	0	5	0	past
143558	GER	16	12	11	102	0	3	1	7	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	10	12	6	4	2	0	1	0	present
EG1201	GER	12	18	10	123	0	1	0	15	1	0	0	0	0	0	0	0	1	0	3	3	0	0	0	0	0	5	16	10	2	8	0	1	4	present
Co1E101	RUS	12	9	4	31	0	0	0	4	4	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	4	3	0	3	0	0	0	mix
Co1E102	RUS	12	7	6	26	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	6	0	6	0	0	0	present
Co1E103	RUS	12	12	5	53	0	3	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	10	6	0	6	0	0	0	present
Co1E104	RUS	12	8	5	48	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	5	0	5	0	0	0	present
Co1E105	RUS	12	11	9	69	0	2	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	2	0	2	0	0	0	past
Co1E106	RUS	12	10	7	60	0	2	0	3	5	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	6	7	2	0	2	0	1	1	past
Co1E107	RUS	12	8	7	62	0	1	0	3	4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5	5	3	0	3	0	1	0	mix
Co1E108	RUS	12	13	8	70	0	2	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5	3	0	3	0	0	0	mix
Co1E109	RUS	12	14	10	86	1	2	0	7	4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	7	10	5	0	5	0	0	1	mix
Co1E110	RUS	12	8	5	50	0	1	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	6	0	6	0	0	0	present
Co1E201	RUS	16	27	15	167	0	2	4	12	4	0	0	0	1	0	4	0	0	2	5	3	2	6	4	2	0	23	27	3	2	1	1	7	0	present
Co1E202	RUS	16	19	13	129	0	3	2	9	1	0	1	0	3	0	0	0	0	0	3	3	0	5	5	0	0	16	18	3	0	3	0	7	0	present
Co1E203	RUS	16	16	8	106	0	3	1	10	2	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	11	14	6	0	6	0	2	0	present
Co1E204	RUS	16	22	10	102	0	5	0	14	1	0	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	13	7	7	0	7	0	1	0	present
Co1E205	RUS	16	30	10	149	0	11	0	17	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	14	28	10	0	10	0	2	0	present
Co1E206	RUS	16	8	6	40	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	5	6	2	0	2	0	2	0	mix
Co1E207	RUS	16	4	3	22	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	1	1	0	0	0	0	3	2	1	0	1	0	1	0	mix
Co1E208	RUS	16	6	5	40	0	2	1	3	0	0	0	0	0	0	0	0	0	2	2	0	2	1	0	1	0	0	6	3	0	3	0	0	0	present
Co1E209	RUS	16	7	5	36	0	0	0	7	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	3	7	4	0	4	0	1	0	present
Co1E210	RUS	16	7	5	65	0	0	0	5	2	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2	6	4	0	4	0	1	1	present
112025	RUS-GER	12	8	8	49	0	1	0	7	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	4	8	5	1	4	0	2	0	present
112107	RUS-GER	12	19	11	109	0	4	3	11	0	0	0	0	0	0	1	0	0	0	3	3	0	3	2	1	0	19	17	7	7	0	0	5	0	present
112160	RUS-GER	12	12	9	92	0	1	0	7	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	5	9	6	0	6	0	0	0	present
112169	RUS-GER	12	11	10	80	0	2	0	8	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	7	10	7	3	4	0	1	0	present
112177	RUS-GER	12	8	7	54	0	0	0	5	1	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	6	6	5	3	2	0	2	0	present

ID	A	B	C	D	E	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	
112179	RUS-GER	12	9	6	62	0	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6	9	3	1	2	0	0	0	0	present
112188	RUS-GER	12	13	9	80	0	0	0	9	3	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	0	12	9	8	8	0	0	2	0	0	present
112191	RUS-GER	12	5	3	32	0	0	4	1	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	4	0	1	4	0	0	0	0	0	0	0	present
112192	RUS-GER	12	9	8	74	0	0	0	5	1	0	0	0	0	0	3	0	0	0	1	1	0	0	0	0	0	5	6	4	0	4	0	1	0	present	
112193	RUS-GER	12	4	4	27	0	0	1	2	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	1	3	2	0	2	0	0	0	0	present
112196	RUS-GER	12	5	4	36	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	3	3	0	3	0	0	0	0	present
112213	RUS-GER	12	9	6	52	0	0	0	8	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	8	6	0	6	0	0	3	present	
113006	RUS-GER	16	23	12	142	0	4	4	15	0	0	0	0	0	0	0	0	0	0	5	5	0	4	1	3	0	16	23	4	1	3	1	7	0	present	
113026	RUS-GER	16	11	9	72	0	2	2	6	0	0	0	0	0	0	1	0	0	0	1	1	0	2	2	0	0	10	11	5	5	0	1	3	0	present	
113153	RUS-GER	16	19	14	122	0	4	1	12	0	0	0	0	0	0	1	0	0	0	2	2	0	1	1	0	1	19	18	11	10	1	0	3	0	present	
113156	RUS-GER	16	10	8	56	0	1	0	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3	9	7	1	6	0	0	0	present	
113161	RUS-GER	16	21	13	103	0	4	0	0	17	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	21	21	0	0	0	0	2	0	past	
113162	RUS-GER	16	12	9	111	0	2	0	7	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	11	12	7	6	1	0	0	0	present	
113168	RUS-GER	16	20	14	120	2	0	0	14	2	0	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	9	18	10	1	9	0	2	0	present	
113177	RUS-GER	16	8	6	61	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	7	5	1	4	1	0	0	present	
113180	RUS-GER	16	13	9	81	2	0	0	7	1	0	0	0	0	0	3	0	0	1	2	2	0	0	0	0	0	6	11	4	1	3	0	1	1	present	
113183	RUS-GER	16	22	15	135	0	4	1	12	3	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0	11	19	11	1	10	0	0	0	present	
113184	RUS-GER	16	15	12	109	0	1	1	9	1	0	0	1	0	0	1	1	0	0	1	1	0	1	1	0	0	8	13	6	0	6	0	2	0	present	
113186	RUS-GER	16	14	11	79	0	4	0	4	5	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	12	9	3	1	2	0	1	0	mix	
113189	RUS-GER	16	21	17	122	0	2	1	0	14	0	2	0	0	0	0	0	0	2	0	2	0	3	3	0	0	17	19	0	0	0	0	2	1	past	
113191	RUS-GER	16	11	9	62	0	3	1	6	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	5	11	6	1	5	0	0	0	present	
113193	RUS-GER	16	10	8	80	0	1	1	8	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	11	11	6	6	0	0	2	0	present	
113194	RUS-GER	16	17	12	106	0	0	2	9	3	0	0	0	0	3	0	0	0	0	1	1	0	2	2	0	0	10	8	3	1	2	0	5	0	mix	
113209	RUS-GER	16	11	10	79	0	2	0	4	4	0	0	0	0	0	1	0	0	1	2	2	0	1	1	0	0	7	7	4	0	4	0	3	0	mix	
113212	RUS-GER	16	14	10	80	0	5	0	4	2	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	1	9	11	3	0	3	0	2	0	present	
113213	RUS-GER	16	17	14	110	0	4	3	5	3	0	0	0	0	0	1	0	0	0	1	1	0	3	3	0	1	15	11	3	0	3	0	6	1	mix	
ER1601	RUS-GER	16	13	8	112	0	0	1	10	0	0	0	0	0	0	2	0	0	0	0	0	0	3	3	0	0	13	13	7	7	0	0	3	0	present	
Co2E101	TUR	12	10	6	42	0	0	5	4	1	0	0	0	0	0	0	0	0	2	2	0	2	5	0	5	0	1	7	2	1	1	2	0	0	present	
Co2E105	TUR	12	6	3	80	0	0	1	5	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	4	6	3	1	2	0	2	0	present	
Co2E106	TUR	12	15	6	100	0	0	5	6	1	0	0	0	0	0	0	0	0	2	2	2	0	5	5	0	3	6	5	3	0	3	0	9	0	present	
Co2E107	TUR	12	14	8	106	1	0	2	7	0	0	0	0	0	0	0	0	0	0	5	5	0	2	2	0	4	9	9	1	1	0	1	11	0	present	
Co2E108	TUR	12	4	3	52	0	0	0	3	0	0	0	0	0	0	0	0	0	5	1	1	0	0	0	0	1	0	3	3	0	3	0	1	0	present	
Co2E109	TUR	12	13	6	86	0	0	7	6	0	0	0	0	0	0	0	0	0	0	5	5	0	7	4	3	0	7	12	1	0	1	0	8	1	present	
Co2E201	TUR	16	12	4	63	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	6	4	0	4	0	0	0	present	
Co2E203	TUR	16	8	5	49	0	0	0	3	0	0	0	0	0	0	0	0	0	3	6	3	3	0	0	0	5	3	2	0	0	0	0	6	0	present	
Co2E206	TUR	16	9	4	42	0	0	0	2	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	7	1	0	1	0	1	0	4	0	present	
Co2E207	TUR	16	21	9	94	0	0	8	13	0	0	0	0	0	0	0	0	0	1	9	9	0	12	12	0	0	16	16	2	1	1	0	11	2	present	
122230	TUR-GER	12	11	8	76	0	0	0	6	0	0	0	3	0	0	0	0	1	1	0	0	0	0	0	0	1	5	6	4	3	1	1	0	0	present	
122231	TUR-GER	12	6	5	36	0	0	0	5	0	0	0	1	0	0	0	0	0	0	2	2	0	1	1	0	0	3	5	2	0	2	0	2	1	present	
122236	TUR-GER	12	9	6	53	0	1	0	6	0	0	0	0	0	0	2	0	0	0	1	1	0	1	1	0	0	8	9	4	4	0	0	1	1	present	
122237	TUR-GER	12	9	8	61	0	0	4	2	0	1	0	0	0	0	2	0	0	0	2	2	0	5	5	0	0	8	7	1	0	1	0	5	0	present	
122241	TUR-GER	12	10	8	75	0	0	0	9	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	10	9	1	8	0	0	0	present	
122242	TUR-GER	12	5	5	28	0	0	0	2	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	mix	
122245	TUR-GER	12	8	6	43	0	2	0	5	1	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	5	7	3	0	3	0	2	0	present	
122247	TUR-GER	12	7	5	56	0	0	3	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	0												

ID	A	B	C	D	E	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	
ET1201	TUR-GER	12	13	9	101	0	1	0	12	0	0	0	0	0	0	0	0	T	0	5	5	0	0	0	0	0	0	5	12	7	1	6	1	5	0	present
ET1202	TUR-GER	12	9	6	52	0	0	0	8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8	8	1	7	0	0	0	present
ET1203	TUR-GER	12	10	8	47	0	0	1	4	4	0	1	0	0	0	0	0	0	0	0	0	0	2	1	1	0	3	4	4	0	4	0	0	0	0	mix
ET1204	TUR-GER	12	11	8	77	0	0	4	5	2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	2	9	4	0	4	0	0	0	1	present
ET1205	TUR-GER	12	10	6	47	2	0	0	4	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	7	3	0	3	0	0	0	0	mix
ET1206	TUR-GER	12	9	7	48	0	0	3	3	0	0	0	1	0	0	0	0	2	1	1	1	0	3	0	3	0	1	5	2	0	2	0	1	0	present	
ET1208	TUR-GER	12	9	6	56	0	0	0	5	0	0	0	1	0	0	2	0	1	1	3	3	0	1	0	0	0	5	7	2	0	2	0	3	0	present	
ET1601	TUR-GER	16	15	10	120	1	1	5	4	0	1	0	0	0	0	2	0	1	0	2	2	0	7	7	0	0	13	14	1	1	0	0	10	0	present	
ET1602	TUR-GER	16	13	7	77	0	0	3	5	1	0	0	0	2	0	2	0	0	0	0	0	0	1	1	0	0	8	12	4	1	3	0	2	0	present	
ET1603	TUR-GER	16	15	11	176	0	0	4	9	0	1	0	0	1	0	0	0	0	0	3	3	0	6	6	0	0	15	15	3	3	0	0	9	0	present	
ET1604	TUR-GER	16	21	11	160	0	3	5	4	0	0	0	0	1	0	8	0	0	1	3	2	1	6	6	0	0	21	21	1	1	0	0	7	0	present	
ET1605	TUR-GER	16	9	7	60	0	0	0	6	0	0	0	1	0	0	2	0	0	0	1	1	0	0	0	0	0	6	6	3	2	1	0	2	1	present	
ET1606	TUR-GER	16	8	9	55	0	1	1	5	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	2	8	5	0	5	0	1	0	present	
ET1607	TUR-GER	16	14	8	96	0	0	1	0	3	0	0	0	0	0	5	0	5	0	0	0	0	1	0	1	0	8	8	0	0	0	0	0	0	past	
ET1608	TUR-GER	16	9	7	52	0	0	0	8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8	8	0	8	0	0	0	present	
ET1609	TUR-GER	16	12	5	90	0	0	0	7	0	0	0	1	0	0	0	0	0	0	4	4	0	0	0	0	4	5	8	3	0	3	0	5	3	present	
ET1610	TUR-GER	16	8	6	62	0	1	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	5	0	5	0	0	0	present	
ET1611	TUR-GER	16	10	7	80	0	0	0	6	2	1	0	1	0	0	0	0	0	0	3	3	0	1	1	0	0	7	8	3	1	2	0	4	0	present	
ET1612	TUR-GER	16	11	7	94	0	0	0	5	0	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	0	7	9	5	1	4	0	0	0	present	
ET1613	TUR-GER	16	20	11	180	0	3	1	14	0	0	0	2	0	0	0	0	0	1	1	1	0	1	1	0	0	17	18	4	3	1	0	1	1	present	
AS01	VIET	16	19	11	136	0	4	5	2	8	0	0	0	0	0	0	0	0	0	6	6	0	5	5	0	0	17	15	1	0	1	0	10	1	mix	
AS02	VIET	16	29	18	173	0	6	5	3	11	1	0	0	0	2	1	0	0	0	4	4	0	8	8	0	0	26	26	3	0	3	0	12	0	past	
AS03	VIET	16	24	13	123	0	6	4	7	7	0	0	0	0	0	0	0	0	1	4	3	1	4	3	1	0	19	17	5	1	4	0	5	1	mix	
AS04	VIET	16	17	15	119	0	4	1	1	11	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	15	19	0	0	0	1	3	0	past	
AS05	VIET	16	16	15	105	0	3	2	2	8	0	0	0	0	0	1	0	0	0	2	2	0	2	2	0	0	16	16	0	0	0	0	4	0	past	
AS06	VIET	16	14	10	87	0	4	2	1	7	0	0	0	0	0	0	0	0	0	2	2	0	2	2	0	0	13	14	0	0	0	0	4	0	past	
AS07	VIET	16	28	18	208	0	2	3	5	12	0	0	1	0	0	5	0	0	0	4	4	0	3	2	1	0	24	22	4	0	4	0	5	0	past	
DTDS10 C01	VIET	16	23	17	112	2	4	3	6	1	0	3	1	2	0	0	1	0	0	0	0	0	7	7	0	0	15	18	5	0	5	0	4	1	mix	
DTDS10 C02	VIET	16	16	10	74	1	2	3	8	1	0	0	0	0	1	0	0	0	0	2	2	0	4	1	3	0	6	15	6	0	6	0	3	0	present	
DTDS10 C03	VIET	16	17	13	72	0	3	2	12	0	0	0	0	0	0	0	0	0	0	3	3	0	2	2	0	0	6	16	8	0	8	0	3	3	present	
PS6A101	VIET	12	12	9	57	1	1	0	8	0	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	1	6	10	5	2	3	0	3	0	present	
PS6A102	VIET	12	8	8	40	0	1	0	7	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	8	6	0	6	0	1	0	present	
PS6A113	VIET	12	6	3	36	0	0	0	5	0	0	0	0	0	0	1	0	0	0	3	3	0	0	0	0	0	4	5	2	0	2	0	3	0	present	
PS6A114	VIET	12	9	7	64	0	0	4	4	0	0	0	0	0	0	0	0	0	0	1	1	0	5	4	1	1	5	7	2	0	2	0	5	0	present	
PS6A118	VIET	12	8	8	52	0	1	0	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	8	6	0	6	0	1	0	present	
PS6A120	VIET	12	7	5	47	1	0	4	2	0	0	0	0	0	0	0	0	0	1	1	1	0	4	0	3	0	2	5	1	0	1	0	2	0	present	
PS6A124	VIET	12	12	11	67	0	1	1	8	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	7	10	5	3	2	0	3	0	present	
PS6A127	VIET	12	13	10	77	0	2	5	4	0	0	0	0	0	0	0	2	0	0	2	1	1	5	5	0	0	10	12	2	0	2	0	5	1	present	
PS6A302	VIET	12	17	8	83	0	1	1	13	0	0	0	1	0	0	0	0	0	0	2	2	0	1	0	1	1	6	16	7	1	6	0	3	2	present	
PS6A303	VIET	12	15	11	79	0	1	0	10	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	3	8	11	7	3	4	0	6	0	present	
132001	VIET-GER	12	11	8	45	0	2	0	7	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4	7	7	0	7	0	0	0	present	
132009	VIET-GER	12	11	6	66	0	0	0	8	0	0	0	2	0	0	1	0	0	1	2	1	1	1	1	0	0	5	8	5	0	5	0	3	0	present	
132010	VIET-GER	12	11	9	75	0	2	0	7	0	0	0	0	0	0	2	0	0	0	1	1	0	1	1	0	0	4	10	5	0	5	0	1	1	present	

ID	A	B	C	D	E	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK		
132015	VIET-GER	12	8	5	69	0	0	0	3	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	6	3	0	3	0	0	0	0	mix
132026	VIET-GER	12	14	11	79	0	3	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	11	3	1	2	0	0	0	0	past
132033	VIET-GER	12	17	11	96	0	2	0	14	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	3	17	12	0	12	0	1	0	0	present
132035	VIET-GER	12	13	8	90	0	0	0	11	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	1	11	10	0	10	0	1	0	0	present
132044	VIET-GER	12	12	7	48	1	1	1	7	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	3	10	7	1	6	0	0	0	0	present
132053	VIET-GER	12	14	12	63	0	3	0	11	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	11	14	9	9	0	0	2	0	0	present
132054	VIET-GER	12	8	5	37	0	0	0	5	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	4	0	4	0	0	0	0	present
132062	VIET-GER	12	14	8	64	0	2	1	11	0	0	0	0	0	0	0	0	0	0	3	3	0	1	0	1	0	5	13	7	0	7	0	3	0	0	0	present
132094	VIET-GER	12	11	9	63	0	2	2	4	1	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	7	9	4	2	2	0	4	0	0	0	present
132096	VIET-GER	12	7	5	41	0	0	0	4	1	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	4	4	0	4	0	2	0	0	present
132099	VIET-GER	12	10	7	55	0	1	0	9	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	10	10	6	6	0	0	3	0	0	present
132135	VIET-GER	12	9	7	57	0	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	9	8	7	1	0	0	0	0	present	
132139	VIET-GER	12	8	7	45	0	0	0	7	0	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	7	5	0	5	0	1	1	0	present
132145	VIET-GER	12	8	6	58	0	1	2	3	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	2	2	3	6	3	0	3	0	4	0	0	0	present
132147	VIET-GER	12	10	8	49	1	1	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	3	8	5	0	5	0	1	1	0	0	present
133003	VIET-GER	16	6	6	32	0	0	0	6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	6	5	1	4	0	1	0	0	present
133007	VIET-GER	16	19	11	139	0	1	3	14	1	0	0	0	0	0	0	0	0	0	6	6	0	3	3	0	0	17	17	6	4	2	0	6	1	0	0	present
133008	VIET-GER	16	6	6	38	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6	4	2	2	0	0	0	0	0	present
133011	VIET-GER	16	14	9	103	0	4	1	6	1	1	0	0	1	0	0	0	0	0	2	2	0	3	3	0	0	14	12	4	4	0	0	5	0	0	0	present
133013	VIET-GER	16	16	11	85	0	4	0	11	0	0	0	0	0	0	1	0	0	0	2	2	0	0	0	0	0	15	16	8	7	1	0	3	0	0	0	present
133032	VIET-GER	16	7	7	44	0	0	0	3	1	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	1	5	5	1	0	1	0	0	0	0	0	past
133044	VIET-GER	16	25	16	144	0	6	1	7	9	0	0	1	0	1	0	0	0	0	2	2	0	2	2	0	0	23	17	5	4	1	0	4	0	0	0	past
133052	VIET-GER	16	11	10	65	0	2	0	2	6	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	9	9	2	0	2	0	1	0	0	0	past
133053	VIET-GER	16	17	9	126	0	1	0	10	5	0	0	0	0	0	1	0	0	0	5	5	0	1	1	0	0	11	12	7	5	2	2	5	1	0	0	present
133054	VIET-GER	16	17	10	99	0	7	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	2	0	2	0	0	0	0	0	past
133069	VIET-GER	16	13	10	84	0	2	2	0	8	0	0	0	0	0	1	0	0	0	2	2	0	2	0	0	0	0	13	12	0	0	0	0	3	0	0	past

ID	A	B	C	D	E	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
133084	VIET-GER	16	20	11	137	0	6	5	4	0	0	0	0	0	0	4	0	0	0	4	4	0	5	5	0	1	18	19	4	3	1	0	5	0	present
133088	VIET-GER	16	9	8	48	0	2	0	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	8	5	1	4	0	0	0	present
133098	VIET-GER	16	19	10	172	0	2	4	4	2	0	0	1	1	0	5	0	0	0	4	4	0	5	5	0	0	16	17	1	0	1	0	7	1	present
133099	VIET-GER	16	8	7	46	0	1	1	4	2	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	6	6	3	1	2	0	2	0	present
133130	VIET-GER	16	7	3	45	1	0	0	5	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	5	1	0	0	0	0	0	1	present
133142	VIET-GER	16	16	10	86	0	4	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	15	10	2	8	0	0	0	present
133149	VIET-GER	16	16	11	117	0	1	0	12	1	0	0	0	0	0	1	0	1	0	3	3	0	0	0	0	0	10	14	8	4	4	1	2	0	present
133150	VIET-GER	16	21	15	94	0	6	0	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	8	0	8	0	0	0	mix
EV1202	VIET-GER	12	25	14	147	0	4	0	15	3	0	0	0	0	0	3	0	0	0	3	3	0	1	1	0	0	25	21	6	6	0	0	4	0	present
EV1203	VIET-GER	12	12	8	90	0	0	0	10	0	1	0	0	0	0	1	0	0	0	2	2	0	1	1	0	0	3	10	8	0	8	0	3	0	present
EV1601	VIET-GER	16	11	10	72	0	1	2	7	0	0	0	0	1	0	0	0	0	0	2	2	0	3	3	0	0	10	11	5	4	1	0	5	0	present
EV1602	VIET-GER	16	15	8	63	0	3	0	12	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	9	11	10	4	6	0	1	0	present

Table 84: Analysis of oral recordings - individual performance⁴⁹

⁴⁹ For the oral analysis, we did not code the data for number of sentences and we did not count how often *was* and *were* occurred in the recordings. Otherwise, the oral and written coding scheme is the same.

A	Language group	Q	Passive	AE	3 rd person singular {-s} required
B	Age	R	Modal/conditional	AF	3 rd person singular {-s} present
C	VP tokens	S	Imperative	AG	3 rd person singular {-s} missing
D	VP types	T	Non-English verb	AH	3 rd person singular {-s} overuse
E	No. of words	U	Verb phrase missing	AI	correct subject-verb-agreement
G	Infinitive	V	Copula required	AJ	Incorrect subject-verb-agreement
H	<i>to</i> -infinitive	W	Copula present	AK	Main tense
I	Progressive	X	Copula missing		
J	Simple present	Y	Auxiliary required		
K	Simple past	Z	Auxiliary present		
M	Present perfect	AA	Auxiliary missing		
N	Past perfect	AB	Unclear		
O	<i>will</i> future	AC	VP formally correct		
P	<i>going to</i> future	AD	VP target-like meaning		

Table 85: Labels of the analysis table (Table 84)

		ENG native	GER mono	RUS mono	RUS-GER	TUR mono	TUR-GER	VIET mono	VIET-GER	ANOVAs	η^2
No. of words	Age 12	154.73 (34.48)	91.25 (26.77)	78.90 (25.28)	107.40 (41.68)	62.86 (13.24)	80.75 (21.06)	84.00 (33.72)	95.38 (20.83)	F(7)=11.94, p<.05	0.4209
	Age 16	173.93 (87.39)	136.95 (64.31)	103.10 (33.60)	139.74 (40.95)	58.40 (10.67)	88.71 (34.49)	182.10 (63-62)	133.50 (50.62)	F(7)=5.841, p<.05	0.2573
No. of VP tokens	Age 12	29.00 (10.03)	14.00 (3.42)	15.30 (5.62)	18.13 (6.77)	10.43 (2.72)	12.85(3.28)	15.60 (8.51)	16.62 (3.95)	F(7)=12.09, p<.05	0.4239
	Age 16	29.27 (15.92)	21.65 (9.98)	18.00 (6.15)	23.17 (6.77)	10.20 (4.79)	14.57 (4.50)	28.30 (7.84)	21.05 (8 05)	F(7)=5.505, p<.05	0.2462
No. of VP types	Age 12	17.80 (4.42)	8.30 (2.41)	10.20 (3.28)	11.20 (4.61)	5.86 (2.23)	8.40 (2.31)	10.20 (3.57)	10.15 (2.26)	F(7)=15.22, p<.05	0.4809
	Age 16	20.93 (11.00)	13.85 (6.12)	12.50 (3.67)	15.78 (4.93)	5.20 (2.56)	9.76 (3.13)	20.10 (6.30)	13.95 (6.24)	F(7)=6.851, p<.05	0.2890
Type-token-ratio	Age 12	0.64 (0.14)	0.60 (0.13)	0.69 (0.11)	0.62 (0.14)	0.55 (0.10)	0.67 (0.15)	0.70 (0.10)	0.62 (0.13)	F(7)=1.288, p=.26	0.0727
	Age 16	0.73 (0.09)	0.65 (0.16)	0.71 (0.13)	0.68 (0.10)	0.61 (0.25)	0.68 (0.14)	0.71 (0.11)	0.66 (0.15)	F(7)=0.765, p=.61	0.0434
Normalized VP tokens	Age 12	18.65 (3.36)	15.57 (1.91)	19.31 (3.03)	17.42 (4.21)	16.46 (1.80)	16.10 (2.02)	18.08 (2.78)	17.53 (2.29)	F(7)=2.773, p<.05	0.1444
	Age 16	16.74 (1.91)	16.09 (1.80)	17.46 (1.79)	16.66 (1.89)	16.62 (7.52)	17.31 (3.39)	16.20 (2.73)	15.91 (2.24)	F(7)=0.634, p=.73	0.0363
Normalized VP types	Age 12	11.60 (2.05)	9.47 (2.47)	13.17 (2.87)	10.82 (3.19)	9.01 (1.73)	10.87 (2.89)	12.37 (1.33)	11.02 (3.15)	F(7)=2.716, p<.05	0.1419
	Age 16	12.17 (2.17)	10.31 (2.44)	12.44 (2.39)	11.32 (1.81)	8.46 (3.60)	11.98 (3.73)	11.33 (1.66)	10.45 (2.66)	F(7)=2.123, p<.05	0.1118

Table 86: Number of words, verb phrases (VP) types and tokens per cohort, normalized VP types and tokens, standard deviation (in parenthesis), ANOVAs, effect sizes (eta-squared)

Language Group		Simple Present	% Simple Present	Simple Past	% Simple Past	Present Perfect	% Present Perfect	Past Perfect	% Past Perfect	Pro- gressive	% Pro- gressive	Modal/ Con- ditional	% Modal/ Con- ditional	will- future	% will- future	going- to- future	% going- to- future	to- infinitive	% to- infinitive	Total
ENG	Age 12	119	29.60	180	44.78	3	0.75	2	0.50	19	4.73	22	5.47	5	1.24	7	1.74	45	11.19	402
	Age 16	131	31.64	168	40.58	3	0.72	5	1.21	34	8.21	17	4.11	0	0.00	8	1.93	48	11.59	414
GER	Age 12	178	65.93	43	15.93	3	1.11	0	0.00	19	7.04	4	1.48	6	2.22	0	0.00	17	6.30	270
	Age 16	154	37.65	136	33.25	4	0.98	3	0.73	41	10.02	17	4.16	4	0.98	4	0.98	46	11.25	409
RUS	Age 12	39	26.53	79	53.74	0	0.00	0	0.00	6	4.08	2	1.36	0	0.00	1	0.68	20	13.61	147
	Age 16	84	48.28	31	17.82	3	1.72	3	1.72	22	12.64	7	4.02	0	0.00	4	2.30	20	11.49	174
RUS-GER	Age 12	117	46.99	72	28.92	3	1.20	2	0.80	18	7.23	8	3.21	12	4.82	1	0.40	16	6.43	249
	Age 16	187	36.03	200	38.54	4	0.77	2	0.39	18	3.47	30	5.78	0	0.00	0	0.00	78	15.03	519
TUR	Age 12	49	77.78	0	0.00	0	0.00	0	0.00	13	20.63	0	0.00	0	0.00	0	0.00	1	1.59	63
	Age 16	37	88.10	0	0.00	0	0.00	0	0.00	5	11.90	0	0.00	0	0.00	0	0.00	0	0.00	42
TUR-GER	Age 12	143	58.61	43	17.62	9	3.69	0	0.00	20	8.20	11	4.51	11	4.51	1	0.41	6	2.46	244
	Age 16	173	59.86	32	11.07	4	1.38	1	0.35	34	11.76	16	5.54	8	2.77	4	1.38	17	5.88	289
VIET	Age 12	94	69.63	9	6.67	2	1.48	0	0.00	15	11.11	1	0.74	4	2.96	0	0.00	10	7.41	135
	Age 16	56	21.71	119	46.12	3	1.16	7	2.71	14	5.43	11	4.26	3	1.16	4	1.55	41	15.89	258
VIET-GER	Age 12	274	66.02	55	13.25	5	1.20	1	0.24	32	7.71	6	1.45	12	2.89	0	0.00	30	7.23	415
	Age 16	221	49.66	100	22.47	4	0.90	3	0.67	39	8.76	18	4.04	2	0.45	5	1.12	53	11.91	445
Total		2056		1267		50		29		349		170		67		39		448		4475

Table 87: Overall tense classification of verb phrases (written performance)

Language Group		Simple Present	% Simple Present	Simple Past	% Simple Past	Present Perfect	% Present Perfect	Past Perfect	% Past Perfect	Pro- gressive	% Pro- gressive	Modal/ Con- ditional	% Modal/ Con- ditional	will- future	% will- future	going- to- future	% going- to- future	to- infinitive	% to- infinitive	Total
GER	Age 12	97	72.93	9	6.77	2	1.50	0	0.00	10	7.52	3	2.26	3	2.26	1	0.75	8	6.02	133
	Age 16	63	35.20	24	13.41	1	0.56	1	0.56	53	29.61	20	11.17	0	0.00	0	0.00	17	9.50	179
RUS	Age 12	51	51.52	32	32.32	1	1.01	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	15	15.15	99
	Age 16	82	56.16	16	10.96	2	1.37	1	0.68	9	6.16	6	4.11	0	0.00	4	2.74	26	17.81	146
RUS-GER	Age 12	73	65.77	7	6.31	1	0.90	0	0.00	9	8.11	7	6.31	5	4.50	0	0.00	9	8.11	111
	Age 16	145	50.35	55	19.10	0	0.00	2	0.69	19	6.60	22	7.64	1	0.35	0	0.00	44	15.28	288
TUR	Age 12	31	58.49	2	3.77	0	0.00	0	0.00	20	37.74	0	0.00	0	0.00	0	0.00	0	0.00	53
	Age 16	24	72.73	1	3.03	0	0.00	0	0.00	8	24.24	0	0.00	0	0.00	0	0.00	0	0.00	33
TUR-GER	Age 12	77	61.60	12	9.60	1	0.80	1	0.80	15	12.00	7	5.60	8	6.40	0	0.00	4	3.20	125
	Age 16	96	52.75	10	5.49	3	1.65	0	0.00	25	13.74	27	14.84	8	4.40	4	2.20	9	4.95	182
VIET	Age 12	68	71.58	1	1.05	0	0.00	0	0.00	15	15.79	1	1.05	2	2.11	0	0.00	8	8.42	95
	Age 16	47	23.98	66	33.67	1	0.51	3	1.53	30	15.31	7	3.57	2	1.02	2	1.02	38	19.39	196
VIET-GER	Age 12	153	68.92	17	7.66	1	0.45	0	0.00	6	2.70	14	6.31	6	2.70	0	0.00	25	11.26	222
	Age 16	139	48.43	52	18.12	1	0.35	0	0.00	19	6.62	17	5.92	2	0.70	3	1.05	54	18.82	287
Total		1146	53.33	304	14.15	14	0.65	8	0.37	238	11.07	131	6.10	37	1.72	14	0.65	257	11.96	2149

Table 88: Overall tense classification of verb phrases (oral performance)

Language Group		Correct Form	Incorrect Form	Target-like meaning	Non-target-like meaning	VP tokens	Copula required	copula present	copula missing	3rd s required	3rd s present	3rd s missing	3rd s overuse	correct SVA	incorrect SVA	Mix tenses	Past tense	Present tense
GER	Age 12	78	63	120	21	141	14	14	0	62	20	42	0	20	6	-	-	10
	Age 16	163	19	171	11	182	20	20	0	34	28	6	0	58	0	1	2	8
RUS	Age 12	50	50	71	29	100	3	3	0	41	0	41	0	2	2	4	2	4
	Age 16	90	56	121	25	146	19	13	6	43	2	41	1	24	1	2	-	8
RUS-GER	Age 12	67	45	92	20	112	11	10	1	56	23	33	0	13	3	-	-	12
	Age 16	215	87	262	40	302	24	24	0	105	43	62	3	44	3	4	2	14
TUR	Age 12	27	35	42	20	62	16	14	2	13	3	10	3	31	1	-	-	6
	Age 16	23	27	24	26	50	16	13	3	7	1	6	0	21	2	-	-	4
TUR-GER	Age 12	57	79	103	33	136	16	16	0	54	10	44	2	20	3	3	-	12
	Age 16	130	65	169	26	195	18	17	1	54	13	41	0	42	5	-	2	15
VIET	Age 12	52	55	92	15	107	15	14	1	43	9	34	0	32	3	-	-	10
	Age 16	157	46	178	25	203	29	28	1	32	1	31	1	53	6	3	5	2
VIET-GER	Age 12	118	115	196	37	233	22	21	1	121	32	89	0	33	3	1	1	18
	Age 16	227	66	242	51	293	37	37	0	98	46	52	3	50	4	1	5	15
Total		1454	808	1883	379	2262	260	244	16	763	231	532	13	443	42	19	19	138

Table 89: Frequency measures (oral performance)

Linear Model IXa: frequency of word tokens versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	14.6898	37.7065	0.69754
RUS-GER	-38.6683	12.6274	0.00272 **
TUR-GER	-38.7488	19.4894	0.04909 *
VIET-GER	-35.4956	14.0873	0.01307 *
Gender-male	-6.7363	6.8776	0.32934
Age	5.2599	1.9137	0.00692 **
Mode-written	33.4225	6.1321	2.76e-07 ***
Onset GER-five	30.8797	31.3621	0.32681
Onset GER-four	39.1373	22.6051	0.08598 .
Onset GER-seven+	2.0674	21.8378	0.92473
Onset GER-six	62.1319	22.3174	0.00625 **
Onset GER-three	14.2837	10.1173	0.16062
HISEI	0.3217	0.2485	0.19796
School grade-GER	13.0995	6.4847	0.04562 *
School grade-ENG	-4.9365	4.7388	0.29966
School type-other	-31.1672	9.3629	0.00116 **
ENG difficult-no	9.8169	10.9110	0.37009
ENG useful-no	-3.0216	22.4565	0.89319
No of books-0-10	-25.5938	15.9592	0.11143
No of books-101-200	-29.3961	11.2349	0.01004 *
No of books-11-25	-17.1789	16.8553	0.31018
No of books-201-500	-20.8742	14.7292	0.15904
No of books-26-100	-28.6598	14.1612	0.04523 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.5306			
F-statistic: 6.116 on 22 and 119 DF, p-value: 2.161e-11			

Table 90: Linear Model IXa: Frequency of word tokens

Linear Model IXb: frequency of VP tokens versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	2.55761	6.04173	0.67282
RUS-GER	-2.85648	2.02329	0.16062
TUR-GER	-3.82233	3.12280	0.22337
VIET-GER	-1.88717	2.25721	0.40479
Gender-male	-1.02469	1.10200	0.35433
Age	0.66956	0.30663	0.03095 *
Mode-written	6.29577	0.98256	3.09e-09 ***
Onset GER-five	4.02887	5.02517	0.42430
Onset GER-four	7.08142	3.62203	0.05292 .
Onset GER-seven+	2.24386	3.49908	0.52258
Onset GER-six	10.95705	3.57593	0.00270 **
Onset GER-three	1.57812	1.62111	0.33229
HISEI	0.05982	0.03981	0.13562
School grade-GER	1.01022	1.03905	0.33290
School grade-ENG	-0.47888	0.75930	0.52945
School type-other	-3.51379	1.50022	0.02083 *
ENG difficult-no	2.39279	1.74828	0.17369
ENG useful-no	0.26294	3.59822	0.94187
No of books-0-10	-4.25238	2.55716	0.09896 .
No of books-101-200	-4.94438	1.80017	0.00696 **
No of books-11-25	-2.84284	2.70073	0.29465
No of books-201-500	-3.86861	2.36006	0.10381
No of books-26-100	-4.69700	2.26905	0.04061 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.5029			
F-statistic: 5.473 on 22 and 119 DF, p-value: 3.92e-10			

Table 91: Linear Model IXb: Frequency of VP tokens

Linear Model IXc: frequency of VP types versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.38831	3.66803	0.915868
RUS-GER	-0.91115	1.22837	0.459698
TUR-GER	-1.11583	1.89590	0.557280
VIET-GER	-1.45501	1.37039	0.290499
Gender-male	-0.26533	0.66904	0.692385
Age	0.63049	0.18616	0.000959 ***
Mode-written	3.02817	0.59653	1.44e-06 ***
Onset GER-five	3.38245	3.05086	0.269801
Onset GER-four	4.66726	2.19899	0.035872 *
Onset GER-seven+	-1.57670	2.12435	0.459426
Onset GER-six	8.16792	2.17100	0.000263 ***
Onset GER-three	0.79884	0.98420	0.418606
HISEI	0.03623	0.02417	0.136565
School grade-GER	0.35560	0.63082	0.574016
School grade-ENG	-0.21168	0.46098	0.646926
School type-other	-2.39965	0.91081	0.009543 **
ENG difficult-no	1.05693	1.06141	0.321378
ENG useful-no	0.40264	2.18454	0.854080
No of books-0-10	-2.07884	1.55249	0.183111
No of books-101-200	-2.70141	1.09291	0.014860 *
No of books-11-25	-1.16273	1.63966	0.479633
No of books-201-500	-2.04071	1.43283	0.156990
No of books-26-100	-2.88774	1.37758	0.038179 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.5075			
F-statistic: 5.574 on 22 and 119 DF, p-value: 2.459e-10			

Table 92: Linear Model IXc: Frequency of VP types

Linear Model Xa: formally correct VPs versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-2.68329	6.14500	0.663148
RUS-GER	-1.97355	2.05788	0.339491
TUR-GER	-2.17076	3.17618	0.495651
VIET-GER	-0.75491	2.29579	0.742867
Gender-male	-1.21597	1.12084	0.280172
Age	1.01704	0.31187	0.001448 **
Mode-written	4.90141	0.99935	3e-06 ***
Onset GER-five	5.80000	5.11106	0.258742
Onset GER-four	7.92441	3.68394	0.033492 *
Onset GER-seven+	2.68671	3.55889	0.451783
Onset GER-six	10.08984	3.63705	0.006428 **
Onset GER-three	0.64809	1.64882	0.694977
HISEI	0.07510	0.04049	0.066101 .
School grade-GER	0.91792	1.05681	0.386827
School grade-ENG	-1.34680	0.77228	0.083753 .
School type-other	-3.83253	1.52586	0.013355 *
ENG difficult-no	2.07875	1.77816	0.244722
ENG useful-no	0.32979	3.65973	0.928349
No of books-0-10	-7.28312	2.60087	0.005960 **
No of books-101-200	-6.52099	1.83094	0.000531 ***
No of books-11-25	-5.66088	2.74690	0.041499 *
No of books-201-500	-5.29666	2.40040	0.029263 *
No of books-26-100	-7.94856	2.30784	0.000792 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.5649			
F-statistic: 7.022 on 22 and 119 DF, p-value: 4.373e-13			

Table 93: Linear Model Xa: Formally correct VPs

Linear Model Xb: proportions of formally correct VPs versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.254348	0.219951	0.249841
RUS-GER	-0.015942	0.073659	0.829027
TUR-GER	0.056489	0.113687	0.620189
VIET-GER	0.026410	0.082174	0.748480
Gender-male	-0.016362	0.040119	0.684124
Age	0.039903	0.011163	0.000508 ***
Mode-written	0.047366	0.035770	0.187981
Onset GER-five	0.281699	0.182943	0.126259
Onset GER-four	0.127907	0.131861	0.334006
Onset GER-seven+	0.094417	0.127385	0.460035
Onset GER-six	0.090474	0.130183	0.488426
Onset GER-three	0.005653	0.059017	0.923849
HISEI	0.002384	0.001449	0.102627
School grade-GER	-0.013587	0.037827	0.720082
School grade-ENG	-0.039070	0.027642	0.160146
School type-other	-0.120191	0.054616	0.029690 *
ENG difficult-no	0.001083	0.063647	0.986449
ENG useful-no	0.056680	0.130994	0.666022
No of books-0-10	-0.235633	0.093094	0.012674 *
No of books-101-200	-0.150180	0.065536	0.023689 *
No of books-11-25	-0.150656	0.098321	0.128106
No of books-201-500	-0.126207	0.085919	0.144494
No of books-26-100	-0.237016	0.082606	0.004870 **

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4235			
F-statistic: 3.973 on 22 and 119 DF, p-value: 5.123e-07			

Table 94: Linear Model Xb: Proportions of formally correct VPs

Linear Model XIa: target-like meaning of VPs versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	-0.62241	5.56705	0.91117
RUS-GER	-2.07956	1.86433	0.26691
TUR-GER	-2.83297	2.87745	0.32685
VIET-GER	-0.64414	2.07987	0.75733
Gender-male	-0.55192	1.01542	0.58778
Age	0.74803	0.28254	0.00921 **
Mode-written	4.85915	0.90536	4.01e-07 ***
Onset GER-five	3.05570	4.63036	0.51058
Onset GER-four	7.75371	3.33746	0.02186 *
Onset GER-seven+	2.39659	3.22416	0.45875
Onset GER-six	3.79595	3.29498	0.25161
Onset GER-three	1.17107	1.49374	0.43461
HISEI	0.08582	0.03668	0.02097 *
School grade-GER	0.40376	0.95742	0.67399
School grade-ENG	-0.83729	0.69964	0.23379
School type-other	-3.85408	1.38235	0.00617 **
ENG difficult-no	3.01490	1.61092	0.06373 .
ENG useful-no	0.83032	3.31552	0.80268
No of books-0-10	-4.07526	2.35625	0.08630 .
No of books-101-200	-4.87728	1.65874	0.00394 **
No of books-11-25	-2.25861	2.48854	0.36592
No of books-201-500	-2.78670	2.17464	0.20253
No of books-26-100	-4.50693	2.09078	0.03313 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.5086			
F-statistic: 5.599 on 22 and 119 DF, p-value: 2.195e-10			

Table 95: Linear Model XIa: Target-like meaning of VPs

Linear Model XIb: proportions of target-like meaning of VPs versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.5931421	0.1417945	5.53e-05 ***
RUS-GER	0.0308382	0.0474850	0.51731
TUR-GER	0.0067529	0.0732896	0.92674
VIET-GER	0.0717321	0.0529749	0.17828
Gender-male	0.0283715	0.0258631	0.27486
Age	0.0124590	0.0071964	0.08599 .
Onset GER-five	-0.0305992	0.1179366	0.79573
Onset GER-four	0.0856405	0.0850061	0.31576
Onset GER-seven+	-0.0120138	0.0821205	0.88394
Onset GER-six	-0.2438160	0.0839241	0.00438 **
Onset GER-three	-0.0035065	0.0380461	0.92672
Mode-written	-0.0179958	0.0230598	0.43671
HISEI	0.0026966	0.0009343	0.00463 **
School grade-GER	-0.0329860	0.0243857	0.17872
School grade-ENG	-0.0198726	0.0178201	0.26702
School type-other	-0.0605077	0.0352089	0.08830 .
ENG difficult-no	0.0600278	0.0410306	0.14610
ENG useful-no	-0.0011226	0.0844473	0.98942
No of books-0-10	-0.0104368	0.0600144	0.86224
No of books-101-200	-0.0431783	0.0422486	0.30885
No of books-11-25	0.0434405	0.0633840	0.49445
No of books-201-500	0.0499958	0.0553887	0.36854
No of books-26-100	-0.0141789	0.0532528	0.79050

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.3412			
F-statistic: 2.801 on 22 and 119 DF, p-value: 0.0001856			

Table 96: Linear Model XIb: Proportions of target-like meaning of VPs

Linear Model XIIa: proportions of 3rd person singular {-s} missing versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.781917	0.383836	0.0442 *
RUS-GER	0.155731	0.133501	0.2460
TUR-GER	-0.080198	0.199465	0.6885
VIET-GER	0.040607	0.144061	0.7786
Gender-male	0.065015	0.069548	0.3520
Age	-0.035565	0.018983	0.0638 .
Mode-written	0.002162	0.061683	0.9721
Onset GER-five	0.024486	0.298986	0.9349
Onset GER-four	-0.144342	0.244870	0.5568
Onset GER-seven+	-0.364547	0.232716	0.1202
Onset GER-six	-0.172628	0.212914	0.4193
Onset GER-three	0.028405	0.101811	0.7808
HISEI	-0.002961	0.002598	0.2570
School grade-GER	0.038965	0.064735	0.5485
School grade-ENG	0.077389	0.048343	0.1124
School type-other	0.065701	0.090441	0.4692
ENG difficult-no	-0.108357	0.113949	0.3438
ENG useful-no	0.128344	0.239731	0.5935
No of books-0-10	0.348011	0.156586	0.0284 *
No of books-101-200	0.088956	0.115449	0.4427
No of books-11-25	0.218819	0.165556	0.1891
No of books-201-500	0.200084	0.145171	0.1711
No of books-26-100	0.178365	0.144187	0.2188

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.3506			
F-statistic: 2.577 on 22 and 105 DF, p-value: 0.0007025			

Table 97: Linear Model XIIa: Proportions of 3rd person singular {-s} missing

Linear Model XIIb: proportions of incorrect SVA of *be* versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.2785347	0.1746245	0.1140
RUS-GER	0.0042360	0.0591420	0.9431
TUR-GER	-0.0740880	0.1030672	0.4740
VIET-GER	-0.0610617	0.0683115	0.3736
Gender-male	0.0621517	0.0322276	0.0567 .
Age	-0.0172220	0.0090478	0.0600 .
Mode-written	-0.0311416	0.0296099	0.2956
Onset GER-five	-0.1198993	0.1747992	0.4944
Onset GER-four	-0.0136651	0.0984294	0.8899
Onset GER-seven+	-0.0514916	0.0952787	0.5902
Onset GER-six	0.0485536	0.0972689	0.6188
Onset GER-three	0.0298139	0.0489506	0.5439
HISEI	-0.0010758	0.0011167	0.3378
School grade-GER	0.0121019	0.0298028	0.6856
School grade-ENG	0.0083181	0.0220600	0.7070
School type-other	-0.0378070	0.0475676	0.4287
ENG difficult-no	0.0008142	0.0534797	0.9879
ENG useful-no	-0.0001795	0.1266714	0.9989
No of books-0-10	0.1542670	0.0777777	0.0502 .
No of books-101-200	0.0118921	0.0505530	0.8145
No of books-11-25	0.0987088	0.0777392	0.2072
No of books-201-500	0.0544076	0.0654512	0.4079
No of books-26-100	0.0224946	0.0664794	0.7358

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.2428			
F-statistic: 1.399 on 22 and 96 DF, p-value: 0.1347			

Table 98: Linear Model XIIb: Proportions of incorrect SVA of *be*

Linear Model XIIc: proportions of incorrect SVA of *be* versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	0.324850	0.137856	0.0203 *
RUS-GER	0.004624	0.049889	0.9263
TUR-GER	0.005155	0.083362	0.9508
VIET-GER	-0.044111	0.055593	0.4293
Gender-male	0.055152	0.029505	0.0643 .
Age	-0.017649	0.008040	0.0303 *
Mode-written	-0.044613	0.028388	0.1190
HISEI	-0.001446	0.001058	0.1746
School grade-GER	0.007218	0.026929	0.7892
School grade-ENG	0.012902	0.020994	0.5402
School type-other	-0.042521	0.043722	0.3330
No of books-0-10	0.155795	0.072890	0.0348 *
No of books-101-200	0.005305	0.047538	0.9114
No of books-11-25	0.060361	0.071108	0.3979
No of books-201-500	0.045445	0.053628	0.3987
No of books-26-100	0.029572	0.058854	0.6164

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.2189			
F-statistic: 1.999 on 15 and 107 DF, p-value: 0.02163			

Table 99: Linear Model XIIc: Proportions of incorrect SVA of *be*

Linear Model XIII: absolute frequencies of forms of *be* versus background variables (language background (reference level: GER), age (numeric), mode (reference level: spoken), onset German (reference level: birth), gender (reference level: female), HISEI (numeric), school grades ENG/GER (numeric), school type (reference level: Gymnasium), English difficult/useful (reference levels: yes), Number of books (reference level: 500+):

	Estimate	Std. Error	P-value
(Intercept)	2.917174	2.510538	0.24757
RUS-GER	-2.237422	0.840745	0.00886 **
TUR-GER	-2.249526	1.297626	0.08558 .
VIET-GER	-1.433699	0.937946	0.12903
Gender-male	-0.065347	0.457919	0.88677
Age	0.043801	0.127415	0.73163
Mode-written	2.464789	0.408284	1.83e-08 ***
Onset GER-five	-2.001566	2.088123	0.33973
Onset GER-four	1.370623	1.505072	0.36431
Onset GER-seven+	1.013208	1.453981	0.48726
Onset GER-six	2.152479	1.485915	0.15008
Onset GER-three	0.287404	0.673624	0.67040
HISEI	0.002528	0.016543	0.87878
School grade-GER	1.010448	0.431760	0.02093 *
School grade-ENG	-0.693473	0.315513	0.02989 *
School type-other	-1.877779	0.623390	0.00317 **
ENG difficult-no	0.811766	0.726467	0.26607
ENG useful-no	-1.076081	1.495179	0.47312
No of books-0-10	-2.646015	1.062583	0.01415 *
No of books-101-200	-1.621558	0.748032	0.03217 *
No of books-11-25	0.161086	1.122243	0.88611
No of books-201-500	-1.151859	0.980683	0.24252
No of books-26-100	-1.596273	0.942867	0.09307 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Multiple R-squared: 0.4617			
F-statistic: 4.64 on 22 and 119 DF, p-value: 1.966e-08			

Table 100: Linear Model XIII: Absolute frequencies of forms of *be*

Appendix II: Supplementary Figures

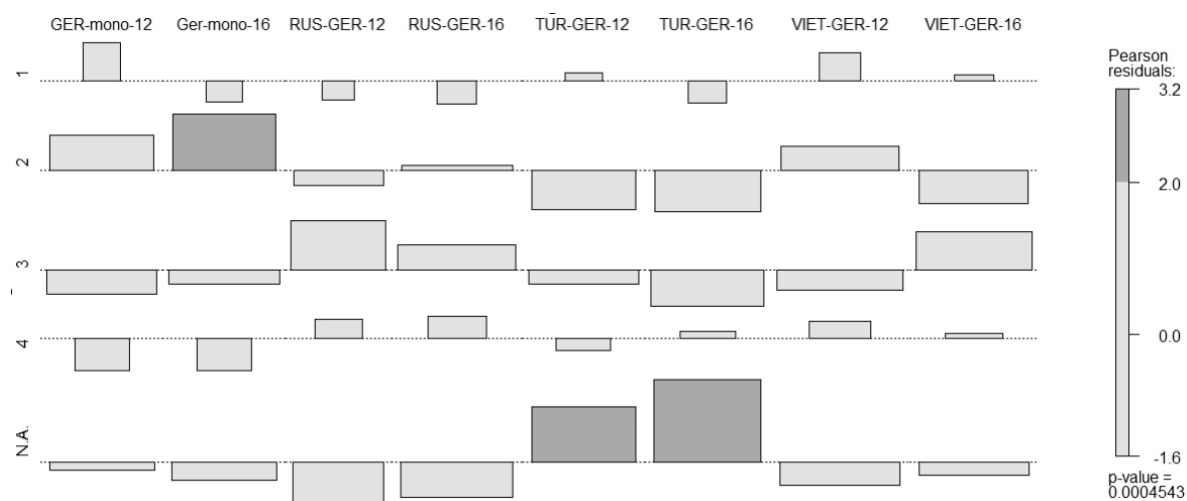


Figure 99: Association of school grades in German and language group and age

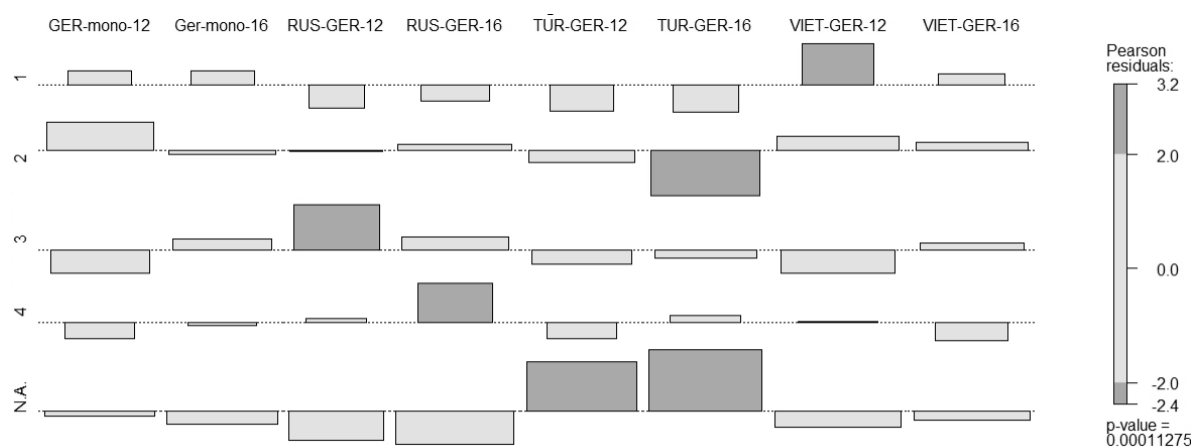


Figure 100: Association of school grades in English and language group and age

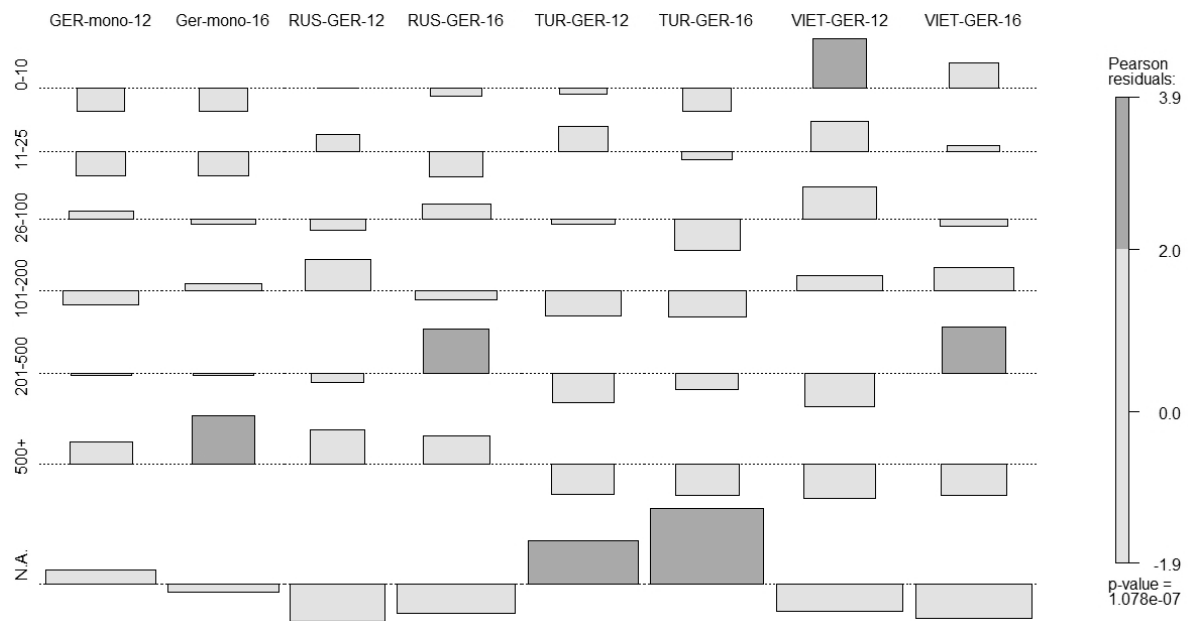


Figure 101: Association of no. of books per language group and age cohort



Figure 102: Form of progressive (non-)target-like for all language groups per age

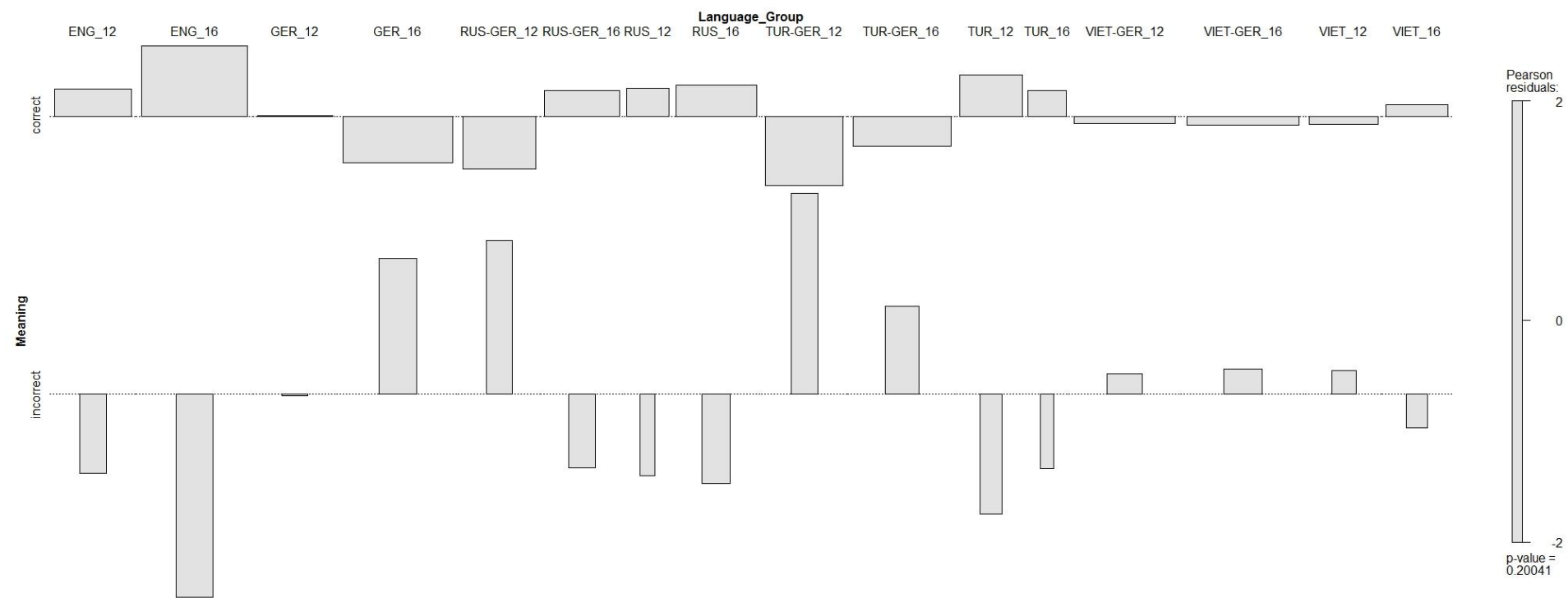


Figure 103: Meaning (non-)target-like for all language groups per age

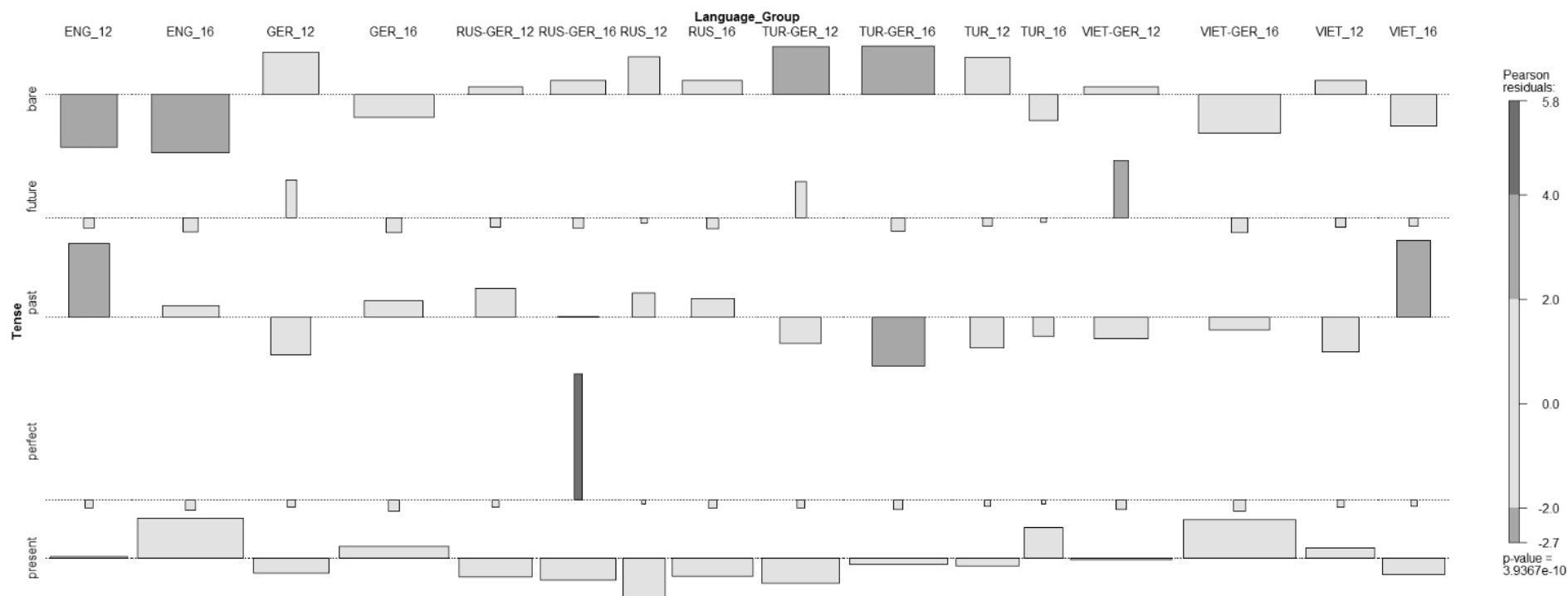


Figure 104: Tense of progressive forms for all language groups per age

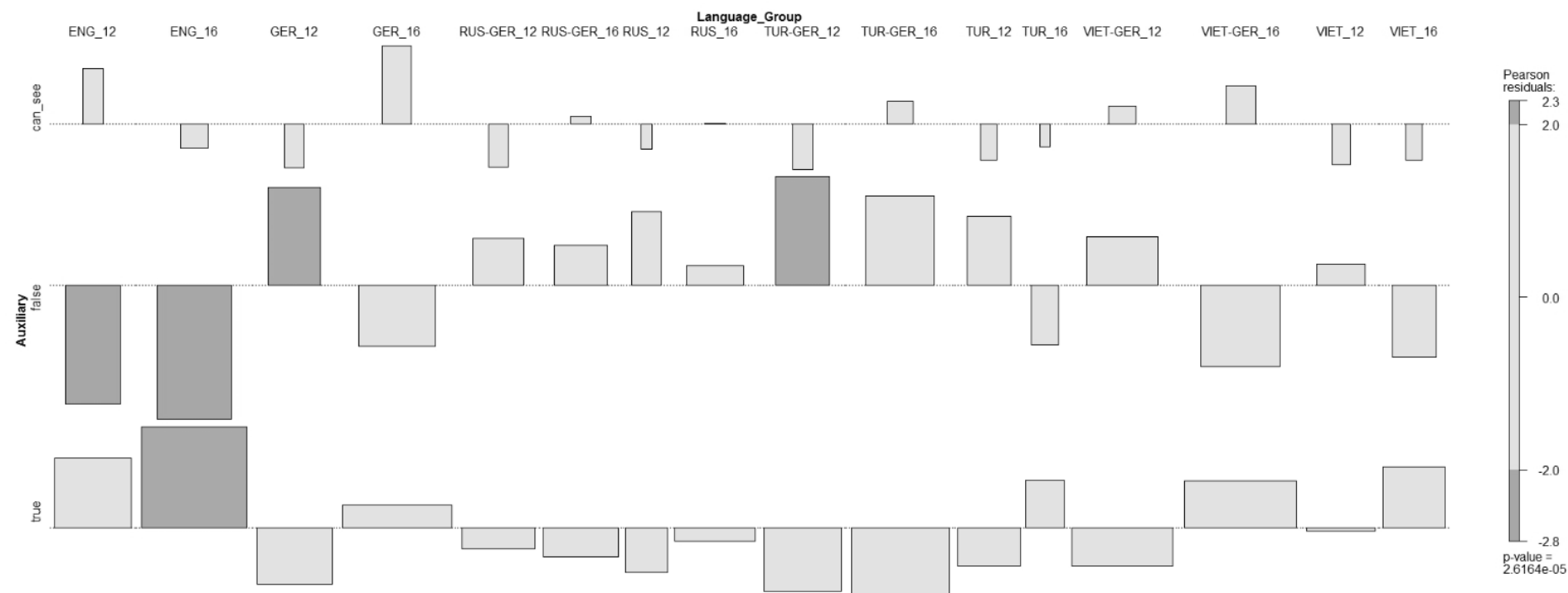


Figure 105: Auxiliary verb (form of *be*) present in progressives for all language groups per age

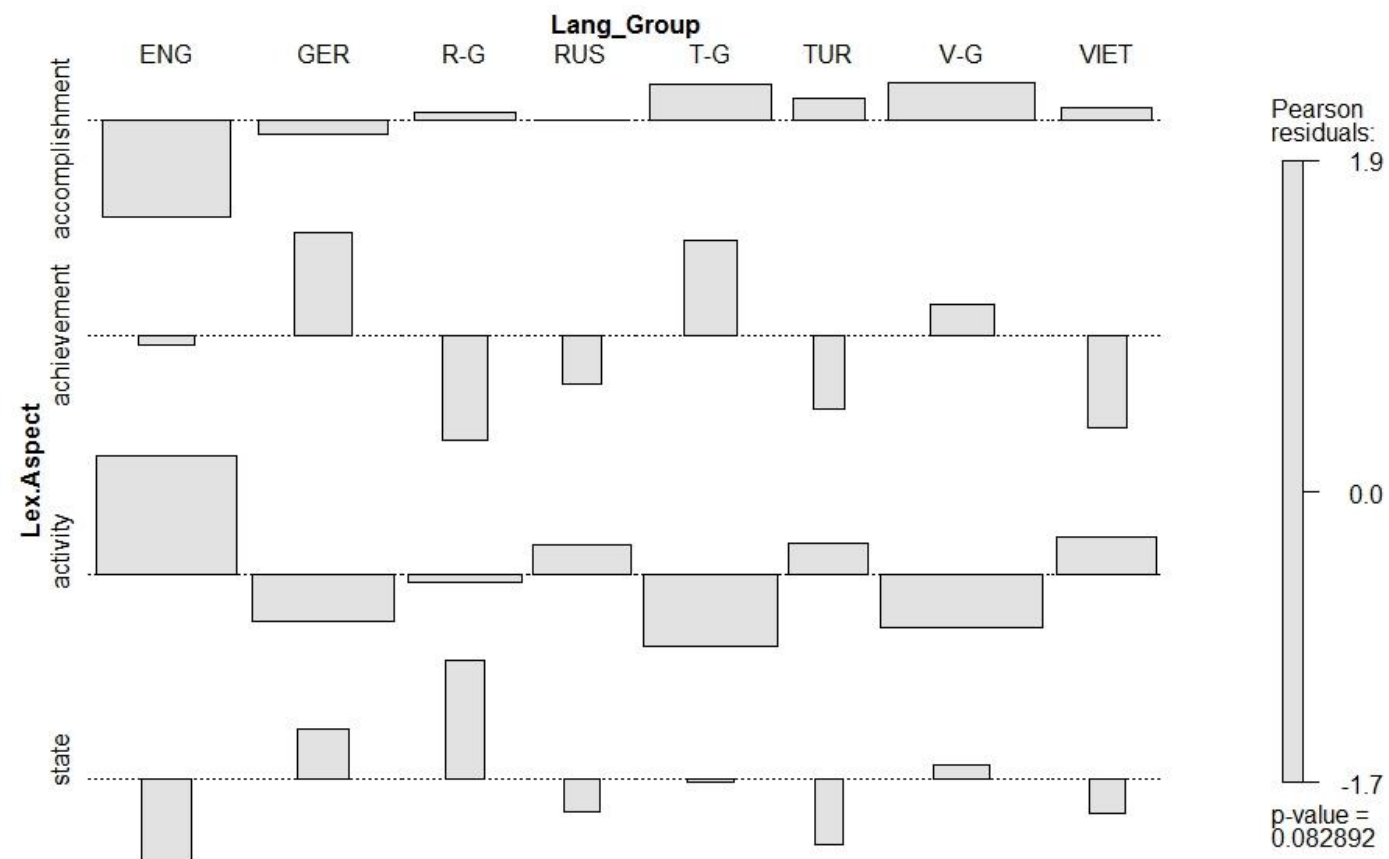
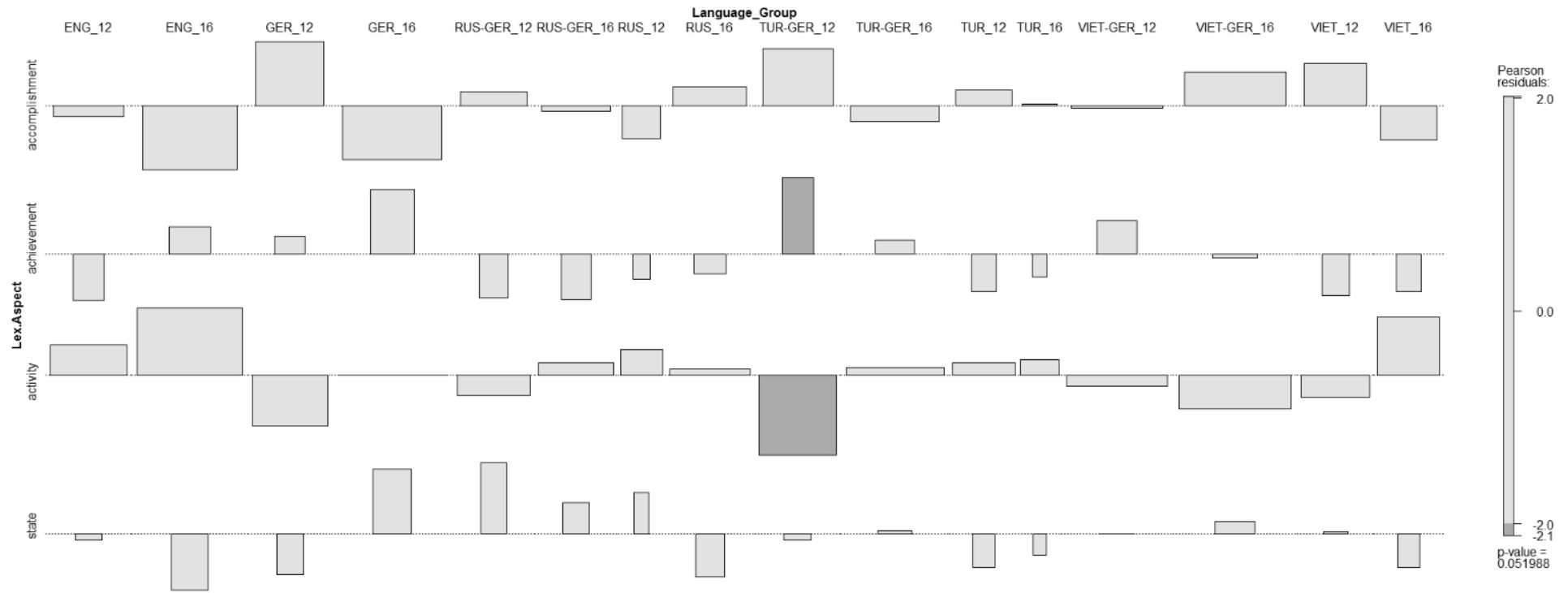


Figure 106: Lexical aspect (*aktionsart*) for all language groups (no age differentiation)

Figure 107: Lexical aspect (*aktionsart*) for all language groups per age

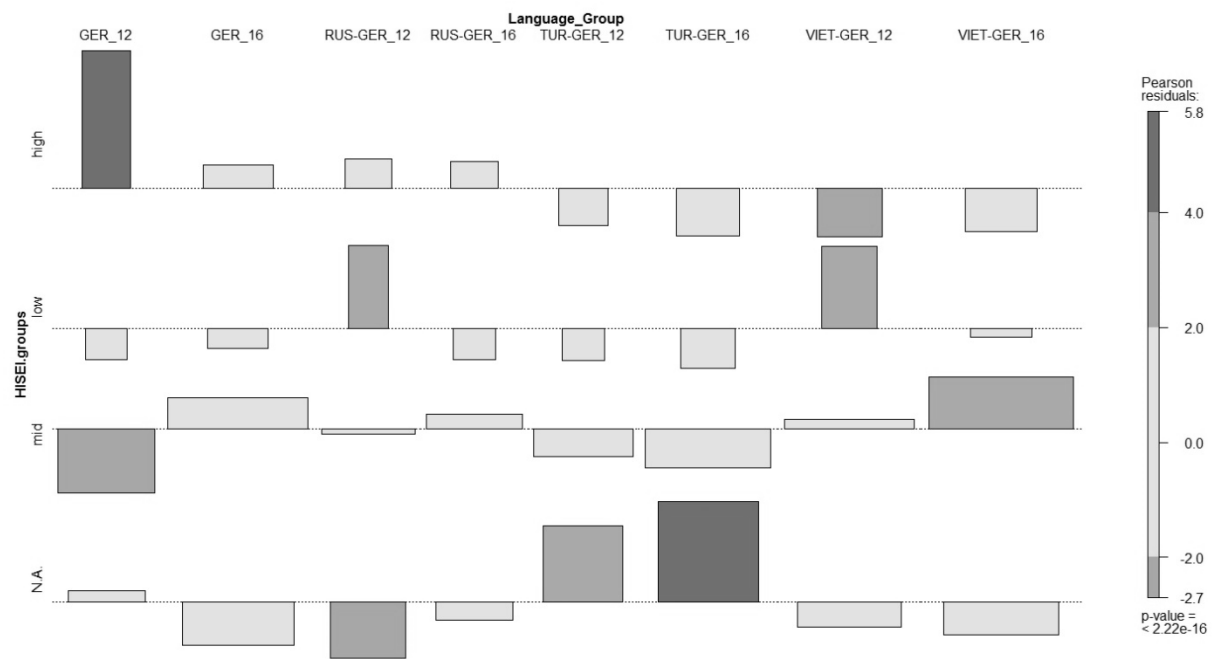


Figure 108: Association plot: HISEI index versus language groups and age (only GER and bilingual participants)

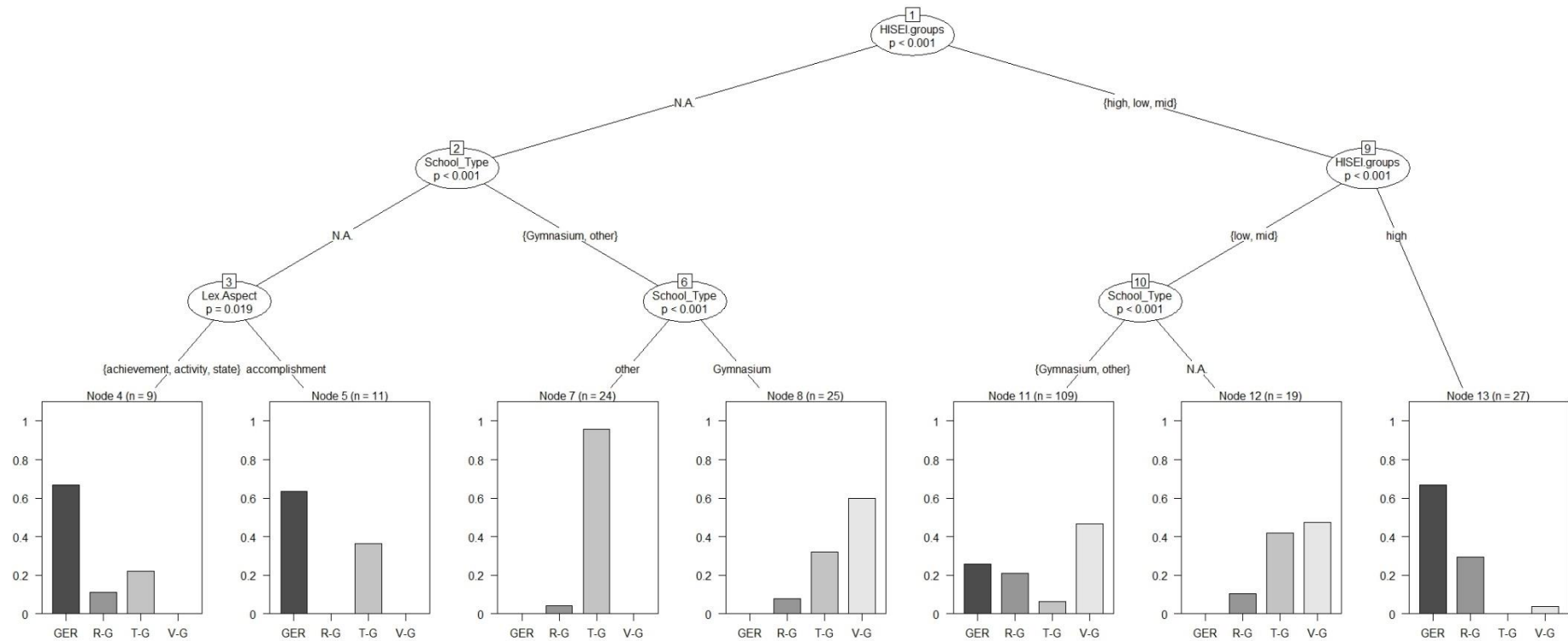


Figure 109: Conditional inference tree: all linguistic variables plus HISEI index and school type (only GER and bilingual participants)

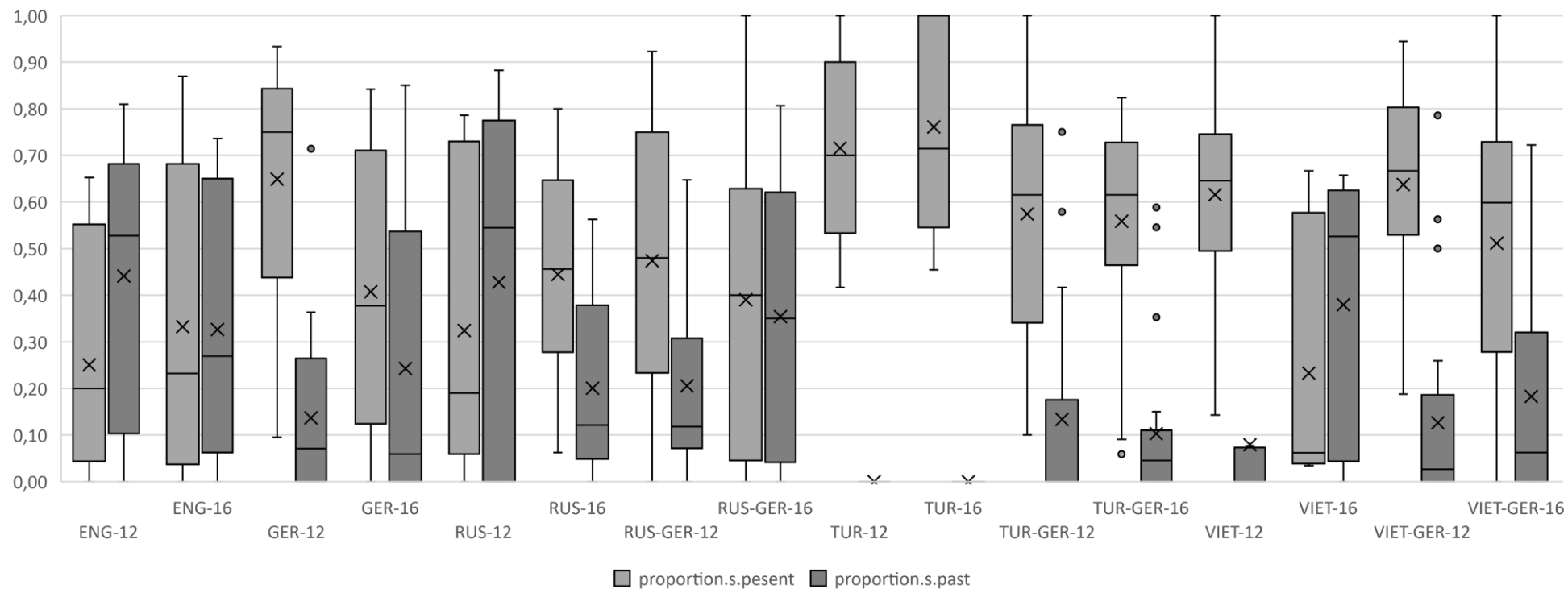


Figure 110: Distributions of simple present and simple past in the written picture descriptions

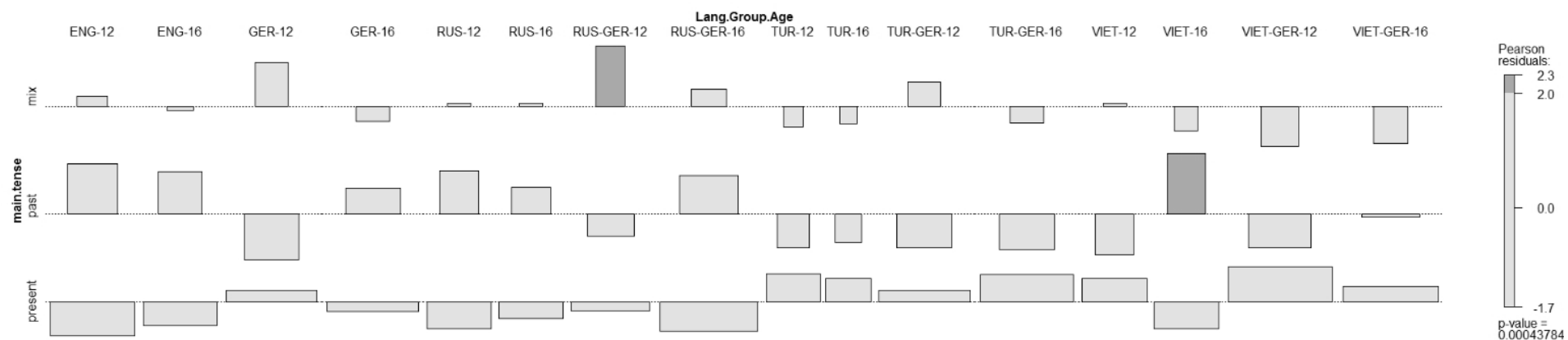


Figure 111: Distribution of main tense per written text

Abstract (English)

This dissertation project is part of the highly researched areas of second and third language acquisition, bilingualism, multilingualism, and cross-linguistic influence. The study assesses the role of cross-linguistic influence (CLI) in third language acquisition, and investigates whether the L1, the L2, or both can act as the source of CLI in further language acquisition. The focus here lies on young bilingual heritage speakers of Russian, Turkish, and Vietnamese who grow up in Germany and learn English as a third or additional language in school. Their performance in using tense and aspect in English is compared to the performance of monolingual German peers who learn English as their second language. In addition, monolingual Russian, Turkish, and Vietnamese students, as well as English native speakers serve as control groups.

The main research question is to investigate whether both languages, i.e. the majority language German and the heritage language (either Russian, Turkish, or Vietnamese), are sources of cross-linguistic influence in third language acquisition, or whether only one of the two previously acquired languages is transferred. Therefore, relevant theories and recent models of third language acquisition, i.e. ‘absolute L1 transfer’ (see Hermas 2014; Na Ranong & Leung 2009), the ‘L2 Status Factor Model’ (Bardel & Falk 2007), the ‘Cumulative Enhancement Model’ (Flynn et al. 2004), the ‘Typological Primacy Model’ (Rothman 2011), the ‘Linguistic Proximity Model’ (Westergaard et al. 2017) and the ‘Scalpel Model’ (Slabakova 2017), are discussed and serve as the basis for the current investigation. In addition, the highly debated question whether bilinguals have an advantage over monolinguals or not is also addressed and examined from various perspectives. Several background variables, such as age of onset of acquiring German, type of school, and socio-economic status of the family, are included in the analysis.

This research adds significantly to the dynamic field of third language acquisition because (i) it analyzes young bilingual heritage learners (two age cohorts: 12- and 16-year-old students) as opposed to balanced bilinguals or adults that learn a third language – two groups that most previous studies focuses on; (ii) it investigates the use of tense and aspect, an area that is only rarely examined in other surveys; (iii) both oral and written production data are compared; and (iv) it includes a large number of participants (n=249) subdivided into several language groups, namely Russian-German, Turkish-German, and Vietnamese-German bilinguals, German, Russian, Turkish, and Vietnamese monolinguals, and an English native speaker control group.

The analysis is based on a written and an oral picture description task that make up an English learner corpus. The study uses data from E-LiPS, a subproject of the Linguistic Diversity Management in Urban Areas (LiMA) Panel Study (LiPS) that was conducted at the University of Hamburg from 2009 until 2013 (Linguistic Diversity Management in Urban Areas, 2009-2013, directed by Peter Siemund and Ingrid Gogolin). Task one of the participants was to write a narrative based on a picture story. The children had a time limit of 30 minutes to complete this task: they were asked to write at least two sentences for each of the six pictures of the story. Exercise two consisted of the oral description of another picture sequence while being recorded. In addition to describing two picture stories, the children had to fill in two questionnaires. One contained questions asking about personal information such as age, native language(s), foreign language(s), years of studying English. The other addressed the attitudes towards English as well as situations in which the students use English in their daily lives.

Both sections of the learner corpus are manually coded and analyzed for formal correctness and target-like use of tense and aspect. Four case studies make up the central parts of this study, out of which the first three are entirely based on the written performance. Case study I evaluates the overall use of tenses. Second, the use of the progressive aspect, the only aspectual distinction we find in English, is analyzed. Case study III discusses past time reference, and case study IV compares the written data with the oral data.

The close analysis reveals that there are only marginal differences between the L2 and the L3 learners of English in the present study. These contrasts cannot be attributed to differences in cross-linguistic influence. Clearly, in the English production of the monolingual participants, cross-linguistic influence can only come from the native language (i.e. German, Russian, Turkish, or Vietnamese). In the production of the bilingual participants, there are two potential sources, i.e. the majority language German or the heritage language. Yet, several linear regression analyses return no statistically significant differences between the German monolinguals and the bilingual participants. The only difference that was revealed pertains to the overall number of words that were either written or spoken. The German monolinguals produced comparably more words than their bilingual peers. Therefore, it is argued that cross-linguistic influence in the English production of the bilingual participants comes exclusively from German. This can be explained with the dominant status of the majority language German and the presumably lower proficiency in the heritage language, as well as the typological similarity between German and English, as opposed to Russian, Turkish, or Vietnamese and English.

There are no general advantages or disadvantages in the English production of the bilingual heritage speakers, even though bilingual heritage speakers have in principle access to additional language resources. This demonstrates that being a heritage speaker does not automatically enhance foreign language acquisition. In general, we report a similar developmental acquisition process for all learners of this study, which means that with increasing age, the performance in English improves. Moreover, several other background variables have an additional impact on the use of tense and aspect in English. Most decisive is the type of school that the students attend, and the socio-economic status also affects the use of verb phrases to a certain extent. Finally, in order for the additional resources of bilingual heritage speakers to have a positive effect on further language acquisition, certain conditions in the language learning context would need to be achieved, which are currently not satisfactorily incorporated into the English language classroom.

Deutsche Kurzfassung der Ergebnisse

Die vorliegende Arbeit ist Teil des Forschungsgebietes des Zweit- und Drittspracherwerbs, welches sich u.a. mit Bilingualismus, Multilingualismus, und (zwischen)sprachlichem Transfer beschäftigt. Die Studie untersucht aus welcher der beiden Sprachen, der Erst- oder der Zweitsprache, sprachliche Merkmale in die Drittsprache übertragen werden. Der Fokus liegt hier auf Herkunftssprecher*innen des Russischen, Türkischen und Vietnamesischen, die in Deutschland aufwachsen und Englisch als Fremdsprache in der Sekundarstufe I lernen. Die Leistungen dieser bilingualen Schüler*innen im Englischen, konkret in der Verwendung von Tempus und Aspekt, werden mit den Leistungen von lebensweltlich monolingual deutschen Schüler*innen, die Englisch als zweite Sprache erlernen, verglichen. Zusätzlich nehmen weitere monolinguale Kontrollgruppen, sowie englische Muttersprachler*innen an der Studie teil.

Die zentrale Fragestellung ist, ob beide Sprachen, das heißt die Umgebungssprache Deutsch und die Herkunftssprache (entweder Russisch, Türkisch, oder Vietnamesisch), Einfluss auf den Erwerb des Englischen nehmen können, oder ob sprachliche Elemente nur von einer der beiden Sprachen, entweder der Umgebungs- oder der Herkunftssprache, auf die Drittsprache English übertragen werden.

Um die Arbeit theoretisch einzuordnen, werden aktuelle Spracherwerbstheorien aufbereitet und diskutiert. Dabei spielen insbesondere die folgenden Theorien und Modelle eine Rolle: ‘absolute L1 transfer’ (vgl. Hermas 2014; Na Ranong & Leung 2009), das ‘L2 Status Factor Model’ (Bardel & Falk 2007), das ‘Cumulative Enhancement Model’ (Flynn et al. 2004), das ‘Typological Primacy Model’ (Rothman 2011), das ‘Linguistic Proximity Model’ (Westergaard et al. 2017) und das ‘Scalpel Model’ (Slabakova 2017). Jedes dieser Modelle bringt gegensätzliche Ergebnisse hervor, die im Verlauf der Studie untersucht und kritisch betrachtet werden. Des Weiteren wird auf das kontrovers diskutierte Thema der Vor- oder Nachteile von Ein- oder Mehrsprachigkeit eingegangen. Die Analyse wird durch eine Reihe von Hintergrundvariablen unterstützt. Dazu zählen zum Beispiel der sozioökonomische Status, der Beginn des Erwerbs der deutschen Sprache oder der Schultyp, der besucht wird.

Die Studie trägt einen wichtigen Beitrag zum Forschungsbereich des Drittspracherwerbs bei, da (i) anstatt von bilingualen Sprecher*innen, die beide Sprachen (fast) gleich gut beherrschen, oder erwachsenen Lernenden einer Drittsprache – zwei Gruppen die hauptsächlich in früheren Studien betrachtet wurden – bilinguale Herkunftssprecher*innen im Alter von 12 und 16 Jahren untersucht werden; (ii) die Verwendung von Tempus und Aspekt verglichen wird, ein grammatikalisches Gebiet, das nur selten in Drittspracherwerbsstudien

vorkommt; (iii) eine verhältnismäßig große Strichprobe (n=249) erhoben wurde, die sich auf acht Untergruppen aufteilt. Es wird zwischen deutsch, russisch, türkisch und vietnamesisch monolingualen Sprecher*innen, zwischen russisch-deutsch, türkisch-deutsch und vietnamesisch-deutsch bilingualen Sprecher*innen, sowie englischen Muttersprachler*innen, unterschieden, wobei die letzte Gruppe die Kontrollgruppe darstellt.

Die Analyse basiert auf schriftlichen und mündlichen Bildbeschreibungen, die in transkribierter Form ein Lerner*innen-Korpus bilden. Die Daten, die für diese Studie verwendet werden, stammen von dem Teilprojekt E-LiPS, welches im Rahmen des *Landesexzellenzclusters LiMA (Linguistic Diversity Management in Urban Areas)* von 2009 bis 2013 an der Universität Hamburg, geleitet von Peter Siemund und Ingrid Gogolin, durchgeführt wurde. Die erste Aufgabe der Teilnehmenden bestand darin, eine Bildersequenz in Form einer kurzen Geschichte schriftlich widerzugeben. Dafür hatten die Schüler*innen 30 Minuten Zeit und sollten mindestens zwei Sätze pro Bild formulieren. Die zweite Erhebungssituation bestand aus einer mündlichen Beschreibung einer weiteren Bildergeschichte, wobei die gesprochene Sprache aufgezeichnet wurde. Zusätzlich füllten die Schüler*innen zwei Fragebögen zu demographischen Daten wie zum Beispiel zum Sprachhintergrund, Alter, Englischerverb, und Informationen über die Familie aus.

Beide Teile des Lerner*innen-Korpus (die schriftlichen und die mündlichen Daten) wurden manuell kodiert und auf formale Richtigkeit und grammatikalisch korrekte Verwendung von Tempus und Aspekt untersucht. Vier Fallstudien bilden das zentrale Kapitel der Arbeit, wobei sich die ersten drei ausschließlich auf die schriftlichen Daten beziehen. Die erste Teilstudie evaluiert die generelle Verwendung von Zeitformen. In der zweiten Studie wird der Gebrauch des progressiven Aspekts, die einzige Form des Aspekts die es im Englischen gibt, analysiert. Die dritte Teilstudie erforscht die Verwendung von Vergangenheitsformen und in der vierten Fallstudie werden die mündlichen mit den schriftlichen Sprachdaten verglichen.

Die detaillierte Analyse offenbart, dass zwischen den L2 und L3 Lernenden nur marginale Unterschiede bestehen. Diese Gegensätze lassen sich nur schwerlich auf (zwischen)sprachlichen Transfer zurückführen. Es ist eindeutig, dass in dem Gebrauch des Englischen der einsprachigen Teilnehmenden grammatikalische Merkmale nur aus der Muttersprache (d.h. Deutsch, Russisch, Türkisch oder Vietnamesisch) übernommen werden können. In der Sprachproduktion der bilingualen Schüler*innen kann (zwischen)sprachlicher Transfer potentiell aber sowohl von der Umgebungssprache Deutsch, als auch der Herkunftssprache stattfinden. Mehrere lineare Regressionen zeigen jedoch keine signifikanten Unterschiede zwischen den monolingual deutschen Schüler*innen und den bilingualen

Schüler*innen. Einzig die Anzahl der geschriebenen und gesprochenen Worte unterscheidet sich signifikant. Die monolingual deutschen Schüler*innen haben insgesamt mehr Worte produziert als die bilingualen Sprecher*innen. Deshalb ist die Schlussfolgerung, dass für die Verwendung des Englischen der bilingualen Sprecher*innen sprachliche Merkmale allein aus dem Deutschen übernommen werden. Dies kann sowohl mit dem dominanteren Stellenwert der Umgebungssprache Deutsch und des präsumtiv niedrigeren Sprachniveaus der Herkunftssprache, als auch mit der typologischen Ähnlichkeit zwischen Deutsch und English, im Gegensatz zu Russisch, Türkisch, oder Vietnamesisch und English, erklärt werden.

Generell lassen sich keine Vor- oder Nachteile der bilingualen Sprecher*innen in der Verwendung des Englischen finden, obwohl bilinguale Herkunftssprecher*innen prinzipiell Zugang zu zusätzlichen Ressourcen in Form von zwei Sprachen haben. Das deutet darauf, dass bilinguale Herkunftssprecher*innen nicht per se besser als lebensweltlich monolingual Personen im Erlernen einer Fremdsprache sind. Es konnte allgemein über die Alterskohorten hinweg ein vergleichbarer Entwicklungsprozess für alle Lernenden dieser Studie gezeigt werden, was bedeutet, dass sich mit zunehmendem Alter die Leistungen im Englischen grundsätzliche verbessern. Darüber hinaus wurden aber weitere Faktoren herausgearbeitet, die einen entscheidenden Einfluss auf die Verwendung von Tempus und Aspekt im Englischen ausüben. Am ausschlaggebendsten erwies sich insbesondere die Art der Schule, die besucht wird; auch der sozioökonomische Status wirkt sich zum Teil auf die Verwendung von Verben aus. Zusammenfassend lässt sich aus den Befunden ableiten, dass bestimmte Gegebenheiten vorherrschen müssen, welche zum heutigen Zeitpunkt noch nicht ausreichend im Englischunterricht inkorporiert sind, damit sich die zusätzlichen Ressourcen von bilingualen Herkunftssprechern positiv auf das Erlernen einer Fremdsprache auswirken können.

Veröffentlichungen die aus dieser Dissertation hervorgegangen sind

- Lorenz, E. & Siemund, P. 2019. Differences in the acquisition and production of English as a foreign language. A study based on bilingual and monolingual students. In *International Research on Multilingualism: Breaking with the Monolingual Perspective*, E. Vetter & U. Jessner (eds). Dordrecht: Springer Nature Switzerland AG.
- Lorenz, E. 2018. “One day a father and his son going fishing on the Lake.” – A study on the use of the progressive aspect of monolingual and bilingual learners of English. In *Foreign Languages in Multilingual Classrooms*, A. Bonnet and P. Siemund (eds), 331–357. Amsterdam: John Benjamins.
- Lorenz, E. 2019. Analysis of verb phrases and the progressive aspect in a learner corpus of L2 and L3 learners of English. In *Widening the Scope of Learner Corpus Research. Selected Papers from the 4th Learner Corpus Research Conference 2017*, A. Abel, A. Glaznieks, V. Lyding & L. Nicholas (eds). Louvain-la-Neuve: Presses Universitaires de Louvain. [Corpora and Language in Use].

Eidesstattliche Erklärung über das selbstständige Verfassen der vorliegenden Arbeit

Hierdurch versichere ich an Eides Statt, dass ich die vorliegende Dissertation selbständig angefertigt, andere als die von mir angegebenen Quellen und Hilfsmittel nicht benutzt und die den herangezogenen Werken wörtlich oder inhaltlich entnommenen Stellen als solche kenntlich gemacht habe.

Eliane Lorenz

Hamburg, 14.08.2020