



English as an Lx.  
Multilingualism, transfer and  
interactions with background profile.

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Bjørn H. Handeland

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## **Acknowledgements**

Previously in my life I've done many different things, and I expect it might come as a surprise to some that I've now also done a PhD. Myself, most of all.

There are many to thank for this happening, and I shall attempt to do so in chronological order.

I did a full circle and came back to English, where I started many years ago. Thank you, Anna, Annabelle, Anne Karin and Marjorie, for that initial spark and the inspiration.

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## **Abstract**

This thesis investigates multilingualism and effects of background profile in young Norwegian learners of English. A study is reported which takes a large-scale individual differences approach. 580 participants in years 6-8 of primary and lower secondary school took part. 383 participants used Norwegian as their only home language (NO users), and 197 used other additional home languages (OA users). Using a questionnaire designed for the study, participants reported on their knowledge and usage of languages, as well as attitudes to languages and language learning. Participants further completed a novel morphosyntactic test which used error spotting and sentence completion to test five key aspects of English morphosyntax; subject-verb agreement, aspect, word order, use of prepositions and definiteness marking.

Results show that OA users know more languages and use them to a greater extent in daily situations than NO users. Their attitudes to their individual languages, particularly to their home languages are more positive than those of NO users. Principal components analyses revealed differences between the two groups. NO users consider language skills as important for academic and professional purposes, whereas OA users emphasise the social and societal purposes of language and show more interest in language learning. Error rates for error spotting and sentence completion were generally high, and similar for both groups. The self-rated English proficiency of NO users significantly predicted performance for both task types but did not for OA users. Significant effects of open-mindedness were observed in both groups such that greater open mindedness predicted better performance in language tasks.

Morphosyntactic transfer was investigated in three subgroups of participants, L1 speakers of Norwegian, Arabic and Slavic and Baltic languages, respectively. Divergent patterns of errors traceable to L1 structure were observed in each group in the sentence completion task.

Overall, the findings of this thesis show that differences between NO and OA can be observed in degree of multilingualism and OA users' higher degree of personal experience with the benefits. Differences on a metalinguistic level can be seen in NO users' more accurate self-ratings of their own ability. Command of English



morphosyntax was also influenced by L1 background in the sense that although error rate did not vary considerably between groups, the frequency of error types did. The results have several implications for language teaching. As participants generally expressed high motivation for learning, the study shows the importance of understanding and using learners' L1 backgrounds in language teaching and learning in order to increase metalinguistic awareness and understanding of linguistic structure.

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# 1. Introduction and overview

One of the few things we can be certain about when it comes to the development of schools and classrooms is that they are becoming increasingly diverse. According to the Population Division of the UN Department of Economic and Social Affairs, more people than ever live in a different country than the one they were born in, and of the global population, international migrants made up 2.8% in 2000, and 3.5% in 2020- some 281 million people (United Nations, 2023). As an increasing number of pupils in school were either born in another country or have parents who have come from another country, classrooms now encompass many national, cultural and linguistic backgrounds gathered in one room with the collective goal of learning. This poses both challenges and opportunities to both teachers, learners, policy makers and researchers. The goal of this quantitative study is to consider English learning in young pupils in the setting of the Norwegian classroom. The study has investigated written mastery of key aspects of English morphosyntax, considering the effects of multilingualism, language use and language transfer. The study has used a purpose designed questionnaire and performance test battery to provide extensive linguistic profiles including proficiency self-ratings and attitudes to languages and language learning of Norwegian pupils in years 6 and 7. The test battery comprised error spotting, constrained sentence completion and free production. Analysis of free production fell beyond the scope of this thesis, but both error spotting and sentence completion data are presented. The test battery was designed to detect morphosyntactic transfer from the four most common L1 backgrounds in Norwegian classrooms, Norwegian, Arabic, Somali and Baltic and Slavic languages. Due to Covid complications the collected data did not have the sufficient number of Somali-speaking participants, so this language background could not be included in the final analyses.

Chapter two of the thesis reports on classroom demographics and language teaching traditions alongside national curricula and teaching materials in Norway. Achieved results for English in national tests and exams are reported as a description of how different groups of learners are performing within this system. This chapter also reviews previous Norwegian research on multilingualism in schools.

Chapter three defines central concepts and theories of multilingualism and discusses studies on the cognitive effects of multilingualism. Furthermore, this chapter discusses how views on multilingualism has changed with increased knowledge of cognitive

processing and how it is now generally believed that multilingualism has several potential advantages.

Chapter four addresses the concept of language transfer and its possible influences on language learning. This includes how linguistic contrast can impact language transfer and how it can be either a facilitating or a negative phenomenon in language learning. This chapter includes a review of previous Norwegian transfer research.

Chapter five describes linguistic contrast as a general notion and uses contrastive analysis and previous literature on typical errors in learner language in order to explore central points of divergence between English and the most commonly represented language backgrounds in Norwegian classrooms; Norwegian, Arabic, Somali and Slavic and Baltic languages. These will then form the basis the performance test battery designed for the study.

The methodology section in chapter six describes the creation of the test battery used for the study, including the motivation behind the test types and the language variables chosen.

The results section in chapters seven through nine first present questionnaire data on participants' language backgrounds, proficiency, use and attitudes. The second results chapter reports the results of statistical analyses in which factor analysis and multiple regression analyses were used to explore relationships between background factors and task performance before the third results chapter provides a side-by-side comparison of participant subgroups. These results are discussed in their respective chapters before a general discussion in chapter ten.

Finally, a summary of findings will be considered in light of pedagogical implications, limitations of the present study and directions for future research.

## **2. Multilingualism in an educational context**

### **2.1. Multilingualism in the world**

It is easy to consider multilingualism as a recent phenomenon, often mentioned as a consequence of immigration and increasing globalism. In an historical context, however, the picture is quite different. After the Norman conquest of England in 1066, English was the everyday language of the population, Norman French was the language of the ruling classes and Latin was used by the church and in public records. Indeed, Southern Mesopotamia was multilingual as early as the third millennium BCE. In recent years, mentioned factors such as globalism and immigration have nonetheless contributed to an increased awareness of multilingualism as a norm in society. With almost 7000 languages in the world and only about 200 independent countries (Cenoz, 2013), a majority of the world's population speak several languages. The reasons and circumstances for multilingualism are myriad. The most obvious examples are immigrants who speak their native language(s) in addition to having learnt the language of their host country. Others speak an indigenous minority language in addition to a dominant language in their country, such as the Welsh and Sami populations. In addition, linguistically diverse areas such as postcolonial areas have seen the need for a *lingua franca* for purposes of trade and commerce. Due to increased global mobility the status of linguistic proficiency has increased; linguistic skill gives opportunities for interaction and communication across borders and cultures. We may also, however, consider multilingualism on a smaller scale. A Norwegian fifth grader growing up in a Norwegian language family where Norwegian is spoken in the home will have five years of experience with English from school. They are also likely to have some experience with the two different variants of written Norwegian, Nynorsk and Bokmål. It's not unlikely that different Norwegian dialects are spoken within the family. They are likely to have a basic understanding of some Swedish and Danish due to linguistic similarity. Some may also have some knowledge of Norwegian Sign Language. Can also this constitute multilingualism?

### **2.2. European language policy**

Multilingualism in Europe has since long been an explicit part of European Union policy, as a fundamental characteristic of a European identity. The Council of Europe uses the definitions 'plurilingualism' and 'multilingualism', in which the former is used to refer to language use in individuals and the latter in greater social contexts. They



define plurilingualism as “the ability to use languages for the purposes of communication and to take part in intercultural interaction, where a person [...] has proficiency of varying degrees, in several languages, and experience of several cultures” (Trim et al., 2001: 168). The 1995 White Paper on Education and Training originally stated that EU citizens should be proficient in two European languages in addition to their own first language (L1) (The European Commission, 1995). This was later on specified as one foreign language with high international status, and one neighbouring language. These ideals were at the time an expression of a socio-political ideal aimed towards forging pan-European identities and through language proficiency promoting cultural understanding across member countries. The EU has taken further steps to promote multilingualism in establishing the Common European Framework of Reference for Languages (CEFR) which is described as “a description of the process of mastering an unknown language by type of competence and sub-competence” (CEFR website, 2021) This system is widely used, even in non-EU countries as a system of reference for assessing levels of foreign language proficiency.

In addition, the European Language Portfolio (ELP) provides yet another framework for learners of foreign languages, designed to support “the development of learner autonomy, plurilingualism and intercultural awareness” (ELP website, 2021). The ELP is a combination of a language passport, a language biography, and a dossier, between them mapping out a learner’s complete language history and proficiency levels, both in- and outside of formal education. The EU’s promotion of multilingualism can thereby be linked to three major factors: socio-economic factors such as language skills being fundamental to the free movement of services and workers, intercultural understanding across member countries, and the identity forging potential of language. In Norway, English is taught in primary education from year one (albeit with very limited time resources), and a second language is taught as an elective from year 8, with the option of choosing to specialise in English, a route often taken by pupils who don’t wish to undertake a second foreign language. In this context, Norwegian schoolchildren are bilingual from year one of formal education. Lundberg (2020) describes a similar situation in Sweden, where depending on the school, English instruction starts between years 1 and 3.

### 2.3. Defining multilingualism

Whereas the European Council and Common European Framework of Reference for Languages (CEFR) link multilingualism to the ability to interact and partake in a Pan-European community, in a more academic context, there are numerous definitions of what it means to be a multilingual. As the phenomenon of multilingualism spans fields and disciplines, definitions of the concept will also depend on what is understood within the research community. Haukås (2022: 282) lists the terms “*multilingualism (...), plurilingualism, bilingualism, trilingualism, polyglotism, polylingualism* and *translingualism*” as examples of concepts that are used, sometimes interchangeably and sometimes with different definitions attributed to them. At the core here is the concept of *language*. Harley (2014: 5) defines language as “a system of symbols and rules that enable us to communicate”. McGregor (2015) refers to these symbols as ‘signs’ involving a combination of form and meaning. Furthermore, the relations between the signs are described as syntagmatic and paradigmatic. The former signifies that signs are related in specific ways and that a sign may require the presence of another sign in order to convey something meaningful. Similarly, the latter signifies that relations between signs are built on contrast. This means that in a language, we use signs that have form and meaning, and when those signs are grouped together in units where both the choice and the order of each sign is established by a common convention, we can produce meaningful and communicative utterances. This means that multilingualism must involve on some level having access to several of these systems of signs and rules.

First of all, there is no general consensus about a correspondence between a term and the number of languages known. Where some researchers go by a “more than one language”-definition (e.g., Clyne, 2017 [1998]), others define speakers of two languages as bilinguals and those who speak three languages or more as multilingual (Kemp, 2009). Cenoz (2013) points out how this varying degree of distinction is potentially problematic when comparing research. If it is not defined which understanding of the concept is used and which category participants fall into, conclusions are difficult to compare. A study on bilingualism may well choose to look at relationships between two specific languages, but that does not necessarily exclude participants who speak three or more languages. Aside from the issue of number of languages, many definitions lean on either measures of proficiency (e.g., Bloomfield, 1933; Baker, 2011; Skutnabb-Kangas & McCarty, 2008) or frequency of use (e.g., Weinreich, 1953; Grosjean, 2010). Traditionally, proficiency-based definitions fall into two groups, one which requires

maximum, native-like proficiency, whereas the other accepts minimal proficiency, and both can be equally problematic (see e.g., Cook and Bassetti, 2011). If one is multilingual from the moment one has started learning a new language, as Fisher et al. (2020) suggest, then anyone who has had some exposure to another language is technically a multilingual. The same would apply to speakers of closely related languages, such as speakers of Scandinavian languages which to an extent are mutually intelligible due to typological similarities. If, however, native-like proficiency is required, then very few learners ever reach this level. Frequency-based definitions take a broader view, and a definition of bilingualism widely used in psycholinguistic studies claims that “bilingual speakers are persons who regularly use two or more languages for their verbal communication” (Roelofs, 2003: 175), thereby focussing more on regular use than proficiency. A definition such as this probably raises more questions than it answers, for instance on the nature of ‘regularity’ and ‘verbal communication’. Does using a language for a couple of lessons per weeks, and in some instances also with a minimal degree of actual communication, constitute regularity? If yes, that would mean that all school children receiving foreign language instruction are bilinguals. If no, who do we actually consider to be true bilinguals? Several studies have made the distinction between *true multilinguals*, who actively and regularly use and switch between two or more languages, and *foreign language users*, who have some degree of knowledge of another language, which is used on occasion (see e.g., Cook, 2003, 2007; Grosjean, 1992, 2008). Other definitions take language dominance into account, but balanced and unbalanced bilingualism entails a very different degree of command of the same language (Cenoz, 2013). Jessner (2008) summarises several different views on the matter, mentioning that Li Wei (2000) identified no less than 37 subtypes of bilinguals, dependent on background and nature of language use. Jessner also points to Skuttnab-Kangas’ (1984) definition of multilingualism, which emphasises the wide range of criteria. We can define by origin, in which multilingualism is considered a developmental phenomenon, or by competence, in which proficiency is considered crucial. Two users of the same L2, where one has grown up with the language as a home language and the other has acquired it as an adult for use on holiday are both bilingual speakers, but it goes without saying that both their knowledge and use of the language will be very different. As Jessner points out, all comparisons of definitions of bi- and multilingualism will reveal their arbitrary nature, and for that reason, “bilingualism is best viewed as a continuum” (2008: 20).

In a context of Norwegian multilingualism research, the term ‘multilingual’ has traditionally meant two specific groups: those with immigration backgrounds and speakers of national minority languages such as a Sami language (Haukås, 2022). Speakers of Norwegian as a first language have traditionally not been referred to as multilinguals in spite of knowing and/or using other languages, neither have learners of modern foreign languages in school. This is interesting in light of the expressed attitudes of teachers and pupils as described in the former chapter- a common awareness of *what* multilingualism is and *who* is a multilingual seems to be limited both among teachers, learners *and* researchers. In the current study, the term ‘multilingual’ is used to refer to speakers with knowledge of more than one language. This builds on the same definition used in new Norwegian multilingualism research (see Haukås, 2022) and the notion that multilingualism is a continuum (Jessner, 2008). Choosing to consider degree of multilingualism rather than attempting to employ criteria of frequency, proficiency or dominance to quantify a specific status acknowledges the complexity of the phenomenon, and also that criteria without consensus in the research community make cross-study comparison difficult.

#### **2.4. L1, L2 and L3- definitions of languages**

A second issue is the understanding of terms for different languages. Hammarberg (2014: 15) notes that when the terms L1 and L2 were first introduced it happened without regard for the spread of multilingualism or the complexity of multilingual language acquisition. This means that neither the term ‘L1’, ‘L2’ nor ‘L3’ can be distinguished in a universal way. In children who grow up in a multilingual household, even establishing a single L1 can pose a challenge. Traditionally, and L1 is regarded as having been acquired since infancy, with and L2 being acquired after infancy (Hammarberg, 2010). Cutoff points for the establishment of an L1 have been proposed, McLaughlin (1977) proposed three years old, but others acknowledge that is possible to have more than one L1.

Within the field of second language acquisition research (SLA), a ‘second language’ (L2) usually refers to any non-native language in a speaker’s repertoire, whereas in third language acquisition (TLA) research it is often used for the second language acquired, chronologically. (Hammarberg, 2014). Similarly, ‘third language’ (L3) is used in TLA either as a term for the chronologically acquired third language, an additional language for speakers who are simultaneous bilinguals since childhood (Cenoz, 2000), or in some

instances any non-native language being learnt by someone who is already a speaker of one or more non-native languages (Williams & Hammarberg, 1998). Due to the variation within a multilingual community and the varying definitions used for speakers, it is equally challenging to conclusively define what is understood by L1, L2, L3, native and foreign language, etc. In models describing acquisitional hierarchies, and thereby also defining status of languages, a chronological or a cognitive criterion is used, in addition to a specific number of levels (Hammarberg, 2014). Dependent on whether the model describes speakers of two, three, four or any number of languages, it can be chronologically based, labelling numbers after the order in which the speaker encountered them, or cognitively based. In cognitively based models, the distinction is made between infant and mature learning, and these models allow for more than one L1 and L2.

Case studies with young or adolescent multilinguals (e.g., Iversen, 2016) exemplify well the complexities of translating participants' linguistic repertoires into categories, whether they are chronological or cognitive. Many participants report using several languages within the family. Some have parents and grandparents who speak different languages, some are born in another country and others in their current country of residence, some also report that family members have varying degrees of proficiency in the different languages used in the home. It can be challenging for young multilinguals to define a single L1 or native language because they have grown up using two or more and find it difficult even to rank them chronologically. In addition, they may have very varying degrees of experience with the majority language in their country of residence. The present study addresses this by rather than L1 considering *home language*, meaning the language(s) spoken with parents, siblings, and grandparents. Model A below describes the distinctions made in this study and is adapted from Hammarberg's acquisitional hierarchy models (2014: 10).

A. Model of acquisition for the present study

Level	Setting	Criterion	Home language	L2	L3
2/3-level model	Multilingual	Instruction	1 (Norwegian)	English	
			Several permitted	Norwegian	English

The model for the present study considers multilinguals with two or three language levels, where the criterion, unlike the models shown in Hammarberg (2014) is neither chronological order of acquisition nor cognitive maturation, but instructed languages as opposed to those learnt naturalistically. The model distinguishes between users of one home language (Norwegian) and users of several home languages, which may or may not include Norwegian. The first additional *instructed* language not used exclusively in the home is then either English or Norwegian, which will be the L2. English, then, is in the latter case considered the L3.

Having defined the basic concepts, the present study investigates multilingualism in a Norwegian context through language learning in linguistically diverse classrooms. The following section gives an overview of Norwegian classroom demographics and describes the developments in the curriculum for English.

## **2.5. Classroom demographics in Norway**

The academic year 2023/24 saw 637,051 pupils in primary and lower secondary education in Norway. Out of the total population a reported 877,227 are listed as immigrants and a further 213,810 as Norwegian-born to immigrant parents, which amounts to 16 and 3.9% of the total population, respectively (Statistics Norway, 2023). A majority of the population with an immigration background is quite young, particularly among those who are Norwegian-born to immigrant parents, where three out of four is under the age of 20 (Statistics Norway, 2023a). Both many in this group and also children of second-generation immigrants may speak a heritage language within the home. A 2009 OECD report stated that at least 8% of students in primary and secondary education had immigrant backgrounds (Taguma et al., 2009: 11). Using the limited data available from various sources, Krulatz and Dahl (2016) estimated that 11% of Norwegian school children come from non-Norwegian backgrounds and are likely to have other linguistic backgrounds. However, the percentages can vary up to 95% in some schools in the metropolitan Oslo area. In total, they estimate that 179 languages are used by pupils in Norwegian classrooms.

Immigrant groups in Norway are quite diverse, both in terms of origin and historical context, as can be seen from table 1. Some groups, such as those from Somalia, Syria, Eritrea, and Iraq have primarily come as refugees due to war and conflict. The Pakistani

group has been established in Norway for several decades, whereas groups such as the Polish and Lithuanians have come to Norway in more recent years as migrant workers.

1. Largest groups of immigrants and Norwegian-born of immigrant parents, 2023. (Statistics Norway, 2023a)

<b>Country</b>	<b>Total number</b>
<b>Poland</b>	124,025
<b>Lithuania</b>	50,406
<b>Somalia</b>	43,595
<b>Syria</b>	42,397
<b>Pakistan</b>	41,110
<b>Sweden</b>	39,805
<b>Ukraine</b>	38,057
<b>Iraq</b>	35,377
<b>Eritrea</b>	32,838
<b>Germany</b>	30,047

As data on language background in schools is not available, this can only be interpreted from data on first language (L1) and bilingual instruction. The Education Act (1999, §2-8) states that “Pupils attending the primary and lower secondary school who have a mother tongue [L1] other than Norwegian or Sami have the right to adapted instruction in the Norwegian language until they are sufficiently proficient in Norwegian to follow the normal instruction of the school. If necessary, such pupils are also entitled to mother tongue [L1] instruction, bilingual subject teaching, or both.” Figures from 2023 further show that 8309 pupils received bilingual instruction, 2244 received first language instruction and 1087 received both. These groups have been in a steady decline since 2014/15, with an approximate 24% reduction since that time, and attests this to changes in the immigrant population as well as priorities made by local administration. (Statistics Norway, 2023b). The main languages represented in adapted language instruction are Arabic (2980), Polish (1029) and Somali (988), between them making up over 50% of the total number (Norwegian Directorate for Education and Training, 2021). In the paradox of the increasing number of pupils with other language backgrounds seen against the dramatically decreasing number of pupils who receive some sort of

linguistically adapted instruction, there are two points to consider, both relating to the notion of “sufficiently proficient in Norwegian to follow the normal instruction of the school”, as described by the Education Act. Firstly, if access to mother tongue instruction and adapted teaching is limited to those with low proficiency in Norwegian, that means that more balanced speakers of other home languages are excluded and the task of developing home language literacy is limited to informal exposure within the home. Secondly, the focus is on Norwegian language, but it is not mentioned that these pupils are also expected to learn English and later on possibly other non-Norwegian languages. Any right to adaptation for these subjects is not included in the Education Act, thereby ignoring that many immigrant children may have little or no experience with both Norwegian and English.

This provides two perspectives on the case of multilingualism in Norwegian classrooms. Firstly, as the pupils receiving first language instruction are only the ones who are too low Norwegian proficiency to follow ordinary teaching, then there are obviously many additional proficient speakers of Norwegian from other language backgrounds. Although no data exists about their language backgrounds there is a correspondence between the most common languages in adapted instruction and the largest immigrant groups, and it seems likely that this is then also indicative of the most common home languages among pupils with an immigration background in Norway. Secondly, the Education Act states that the goal of adapted language instruction is to target those who are insufficiently proficient in Norwegian. This reinforces an impression given by both research on teachers’ attitudes and practices (e.g., Haukås 2015, 2016, 2012) and textbook material (e.g., Heger & Wroldsen, 2006, 2006a), where Norwegian is the primary point of reference in language instruction. Teaching additional L1s is then used primarily as a tool for increasing proficiency in Norwegian, but to a much lesser extent in order to build a more structural understanding of language, to build metalinguistic awareness or indeed to further language learning in general.

## **2.6. English in Norwegian primary education**

### **2.6.1. School policy and curricula**

English has a long tradition as a school subject in Norway, having been obligatory for all pupils since 1969 and taught from year 1 since 1997. As users of English, Norwegian learners have traditionally been viewed as part of “the expanding circle of English”



(Kachru, 1992), however due to widespread use and exposure to English, it has been argued that the expanding circle-classification is no longer an appropriate description. Among the countries traditionally in this category, Norwegian 15-year-olds have through the past two decades been among the most proficient (Rindal, 2020: 28). Rindal also argues that English is in a transition in Norway due to high proficiency and widespread use. She chooses instead of the traditional labels of English as a second language or foreign language to label it an *L2* in the sense “additional language” (2020: 32), denoting widespread use in society regardless of the number of other languages used by learners. Brevik et al. (2020) review English teaching traditions in Norwegian classrooms, noting that the ideal of a monolingual classroom with complete immersion in English was the ideal at the time when English was introduced as an obligatory subject and has been widely practiced in many classrooms since. Brevik and Rindal (2020) investigated language practices in classrooms and found that English was used 77% of the time, Norwegian 16% of the time and a mix of both languages interchangeably for the remaining 7%. There was almost no detectible use of other languages. Brevik and Rindal (2020) note that in very few instances did the participating teachers utilise the pupils’ language resources in languages other than Norwegian, indicating that teachers were not always aware of the full range of language resources available to the pupils. The participating teachers also expressed a certain scepticism towards using other languages in the English classroom, expressing a wish to adhere to the ideal of a monolingually English classroom as far as possible.

Two main influences on English teaching practices in classrooms are firstly what is defined by curricula, and secondly available teaching resources. A considerable update of the national curricula has recently been carried out (*Kunnskapsløftet* of 2020), and this update emphasised English as a lingua franca for communication between people who are not native speakers (The Norwegian Directorate for Education and Training, 2020). The M87 national curriculum of 1987 (Ministry of Church Affairs and Education, 1987) was the first to switch the emphasis from grammar and correct pronunciation to focus on communication, language experience and linguistic skill equally. Its successor, the L97 curriculum of 1997 (Ministry of Church Affairs, Education and Research, 1996) further expanded to an emphasis of cultural and linguistic awareness. The most recent update to the national curriculum provides a set of core elements, basic skills and competence aims and assessment practices. Basic skills are described as *Oral skills*, *Writing*, *Reading* and *Digital skills*, in which a common denominator for all four is emphasis on the ability to communicate with various interlocutors across a variety of

settings and modalities. *Language learning* is defined as a core element, defining it as “developing language awareness and knowledge of English as a system, and the ability to use language learning strategies.” (The Norwegian Directorate for Education and Training, 2020) Language learning refers to identifying connections between English and other languages the pupils know, and to understanding how English is structured. This is further underpinned by specific competence goals that are elaborated on through the various levels. Goals for year 4 specify “using simple strategies in language learning and communication” and “exploring and playing with words and expressions that are shared between English and other languages the student knows”. After year 7 this is expanded to “using strategies during reading, in language learning and communication” and “finding some linguistic similarities between English and other languages the student knows”. After year 10, the student is expected to “choose appropriate strategies for language learning and communication” and “explore linguistic similarities”. Overall, it is clear that from an early stage, the National Curriculum expects multilingualism to be an important part of the EFL classroom, and the students’ total linguistic resources to be used from the start. Exploring and identifying linguistic similarities between English and other languages could be interpreted as both the direct transfer of previous linguistic knowledge, as on cognates, idiomatic expressions as well as more morphosyntactic knowledge of structures, but also as a development of metalinguistic skill and the ability to reflect on the underlying systems of both the target language and other familiar languages. This also shows an understanding of the classroom as multilingual from the start and acknowledges that the linguistic backgrounds in the classroom may be diverse. It is, however, noteworthy that in spite of the emphasis given to exploring and identifying linguistic similarities, this is seemingly not to any considerable degree linked to the understanding of linguistic structures. There is little explicit mention of use of grammar as a part of language teaching beyond the competence aims after year 4 stating “follow simple rules for spelling and syntax”, expanded after year 7 to “follow rules for spelling, word inflection and syntax” as well as “identify sentence elements (...) and use knowledge of verb conjugation and declension of nouns and adjectives”. The ideals of a multilingual approach to English teaching and learning are then emphasised but remain somewhat vague in terms of what learners are expected to learn and how teachers are expected to facilitate. They do nonetheless challenge the long-established views described by Brevik and Rindal (2020) that English lessons should be monolingually English as far as possible, as well as the practices reported that other languages are hardly mentioned during teaching and learning.

### 2.6.2. References to grammar in teaching resources

A second factor which significantly influences classroom practices is teaching materials and textbooks and reviewing some of the resources used also provides important insights. Laugerud et al. (2014) claim that minority language speakers face discrimination in Norwegian schools by Norwegian being the only language of reference in the classroom. It is clear from reviewing a selection of widely used English textbooks that in spite of both classroom demographics and curriculum goals, many classrooms use teaching materials that take a Norwegian-centric approach. Grammar is given little emphasis, and when it is, Norwegian is both the point of reference and the language of instruction, with little opportunity for learners to use other linguistic resources. That means that learners with limited experience with Norwegian language, or indeed grammatical terminology as such, will struggle to keep up. Similarly, vocabulary learning as presented in the textbooks uses similarity with Norwegian words as comparison, thereby not taking into account that many words may be loanwords from, or more similar to words in other languages known within the classroom. *Doors 5* (Bunting et al., 2006) is part of a series of textbooks for primary school. This book has a communicative focus and was aimed at the curriculum reform of that year (Kunnskapsløftet of 2006). Although this textbook uses characters from a variety of cultures and nationalities, there is no mention of the languages they use, instead focusing on English as the lingua franca that connects them all. There are also hardly any instances of explicit grammar teaching or -activities in the textbook save for some brief explanations of word classes and their characteristics, but extensive emphasis on vocabulary learning. This is done both with a separate vocabulary section towards the end (“Gloser”), but also with in-text glossaries and explanations, such as “”Ground” means “bakken” in Norwegian. “Soil” or “earth” is what we call “jord”” (Bunting et al., 2006: 66). *Stairs 7* (Thorsen & Unnerud, 2008) for year 7 includes a grammar section for each chapter, which are all written in Norwegian. Each grammar section postulates a rule for the target construction or point, with examples written in English. *Quest 7* (Bade et al., 2017) has specific sections called “Language work”, which cover mostly brief descriptions of grammar topics, in addition to some more general language strategies. These sections are written in English, but all grammatical terms are translated into Norwegian. Additionally, there are some intralingual comparisons, but exclusively between English and Norwegian, such as “What are [irregular verbs] called in Norwegian? Try to find some verbs that are irregular in both languages” (2017: 27). There are accompanying workbook tasks that are written in English only and consist

mainly of cloze test-type tasks. The teacher's guide to *Quest 7* outlines the primary objectives behind the book and gives suggestion for use, but there is little mention of how to actually approach grammar teaching and learning, in fact it is not mentioned at all in the general principles for English teaching as detailed by the authors. Furthermore, differentiation is emphasised as important in the classroom, and addressed in a specific section, but only considers differentiation on the basis of proficiency level- there is no mention of differentiating for those with other language backgrounds. It is, however, suggested in the section of how to help the pupils approach new material that one considers whether any new words resemble Norwegian words (Bade, et al. 2017: 7). *Crossroads 8* (Heger & Wroldsen, 2006, 2006a) takes quite a comprehensive approach in using a textbook in two volumes, in which a separate section in the second volume is dedicated to grammar. The teacher's guide states that "Many students find grammar difficult, and for that reason we have chosen to write it in Norwegian to increase understanding. Had it been written in English, this part of language learning would probably have been too difficult for many" (Heger & Wroldsen, 2006a: 9, my translation). The grammar section is extensive but does notably only in some instances provide English translations for the grammatical terms used. The various concepts are presented and explained in Norwegian, but with English examples. As *Crossroads 8* is intended for the first year of lower secondary school, the teacher's guide makes a point out of the importance of creating a safe classroom environment, noting that some pupils can feel anxiety at speaking English in front of the class, and emphasises the need for a safety and differentiation. However, also here there is no mention of differentiation based on various degrees of proficiency or even experience with Norwegian language. This raises questions about the classroom as an arena not only for tacit language learning, but also for the development of metalinguistic awareness. Gombert (1992: 2) cites Read (1978) who "correlates the primary linguistic ability of knowing something and the metalinguistic ability of knowing that one knows it". Similarly, Spellerberg (2016: 21) describes how the development of metalinguistic awareness involves "restructuring of mental representations of language through analysis, which results in more structured, explicit and interconnected linguistic representations of language". It is clear that unless facilitated through targeted instruction with meaningful points of reference it is difficult not only to establish comprehension, but even more to connect concepts in a way that does create these interconnected linguistic representations of language.

## 2.7. Achieved English results in national tests and exams

National tests are used as a measure of basic skills in maths, reading and English. Since their introduction in 2004, these standardised tests are taken at the beginning of years 5, 8 and 9, where English is tested in years 5 and 8. The tests are written, comprising a listening comprehension section and a reading comprehension section with related questions and assignments, mostly multiple choice or cloze test tasks. The following tables show results from national tests in English of 2023, broken down into three groups; immigrants, Norwegian-born to immigrant parents and other pupils, this final group meaning pupils with an L1 Norwegian background.

2. Results from year 5 national tests, English, 2023. Percentages from low to high level.  
(Statistics Norway, 2023c, 2023d)

<b>Category</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
Immigrants	27.9	49.2	22.9
Norwegian-born to immigrant parents	17.4	55.1	27.5
Other pupils	26.4	49.2	24.4

3. Results from year 8 national tests, English, 2023. Percentages from low to high level.  
(Statistics Norway, 2023; 2023a)

<b>Category</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
Immigrants	10.3	19.2	36.5	15.7	9.3
Norwegian-born to immigrant parents	9.1	17.9	43.3	20.5	9.1
Other pupils	9.4	17.0	42.7	20.5	10.4

As seen in the tables, the results do not vary considerably, Norwegian-born to immigrant parents on the whole perform well, with the smallest proportion on the lowest level of achievement on both tests. There are notable differences between this group and the immigrant group on both the highest and lowest levels. The overall picture is that on the year 5 test, immigrant pupils seem to perform well, but on the year 8 test, results show

that the immigrant group is now overrepresented at lower levels of proficiency, compared to the two other groups.

One may hypothesize various reasons for this, but it should be remembered that the group “Norwegian-born to immigrant parents” will be different from the immigrant group in that they have grown up and started school in a Norwegian-speaking environment and their language experience in a formal context is much more similar to that of those who have grown up in a Norwegian-speaking home. Within the immigrant group, pupils may have arrived in Norway at various ages and also had various degrees of experience with language learning or indeed formal education prior to that. Many immigrant children are faced with learning Norwegian and English simultaneously, and it is likely that the immigrant group average results encompass learners who have arrived in Norway a relatively short time before. With very limited formal experience with English, or indeed any other language, it is harder to keep up if you start in year 7 than in year 4, thereby creating a larger gap for the older pupils.

A similar tendency is visible even in average exam scores after year 10, as shown in table 4:

4. Average overall achievement marks, 2023. (Statistics Norway, 2023).

<b>Category</b>	<b>Average mark</b>
Immigrants	4.0
Norwegian-born to immigrant parents	4.3
Other pupils	4.3

It should be noted that in the 2009-2020 period, average marks generally increased for all groups, from 3.2 for immigrants, 3.7 for Norwegian-born to immigrant parents and 3.9 for others in written English and similarly from 3.5, 3.9 and 4.1 for spoken English for the same groups, respectively. A 2009 OECD report noted that at that time, immigrant students had weaker outcomes on average at all levels of education compared to their native peers, the report even stresses that the performance disadvantages observed in Norway were the largest among OECD countries (Taguma et al., 2009: 16). In their general recommendations on how to facilitate more equality in education in Norway, the report concludes that “In particular, priority should be given to improving

the capacity of teachers and school leaders to be more responsive to linguistic and cultural diversity” (Taguma et al., 2009: 7). According to a report from Statistics Norway (Arnesen et al., 2023), only 57% of English teachers in primary and lower secondary school have formal qualifications. Although a specified number of credits are required to teach English at this level, the percentage of teachers lacking formal qualifications is considerably higher than in the other subjects that make subject-specific competence requirements and has actually decreased since 2019. At lower levels particularly, up to 60% of teachers lack formal qualifications, which is concerning for the quality of teaching. The widespread use of un- or underqualified teachers makes it more challenging to build metalinguistic awareness and language learning strategies in pupils from an early age.

## **2.8. Norwegian multilingualism studies**

Studies on multilingualism in the context of foreign language learning are only relatively recent in Norwegian settings. A comprehensive meta study by Golden and Hvistendal (2010) has looked at published works on second language writing in Norway from 1980 until 2010. The authors note that they were surprised at the number of Norwegian studies of second language writing, however the only L2 in these studies was Norwegian, other languages taught in Norwegian schools had until that point not been considered. The review of L2 Norwegian writing does still show patterns of results similar to those shown for English in the previous section. Alver (2010) surveyed a corpus of 74 Norwegian texts written by pupils in five year six groups, a quarter of which were written by pupils with language backgrounds other than Norwegian. 23 of those pupils had been educated solely in Norway, and yet in the assessment of the texts only 7.6 of the texts written by speakers of other languages were rated at the highest level. The majority of tests from both groups were rated at a mid-level, with those written by native speakers of Norwegian at the higher end and those by speakers of other languages at the lower end. Of all the lowest level texts, only 6.3% were written by native Norwegian speakers. Alver notes that even in Norwegian, a relatively large proportion of minority language speakers with more than six years of schooling in Norway cannot produce factual texts on familiar material in a correct and understandable way. More recently, additional research opportunities have been provided by the launch of the Tracking Written Language Corpus (TRAWL) which is a multilingual corpus of texts by young learners (ages 10-18) written in L1 Norwegian, L2 English and L3 French, German and Spanish (Dirdal et al., 2022). Publications using this corpus has investigated various

aspects of Norwegian pupils' written English, such as use of genres (Hasund, 2022), metaphor density (Nacey, 2022), use of adjective phrases with adverb phrase premodifiers (Hasselgård, 2022) and noun phrase complexity (Rørvik, 2022). The only one of these studies to mention language background in the corpus material surveyed is Hasselgård (2022), who describes all participants in the study as L1 speakers of Norwegian. Although the TRAWL Corpus does contain information about L1 background (Dirdal et al., 2022), no comparative studies of material written by learners with different L1 backgrounds seem to have been carried out to date.

Norwegian studies on multilingualism have tended to focus mainly on classroom practices or beliefs and attitudes held by pupils and teachers. As previously mentioned, curricula and teaching materials have important influence on classroom practices, but as important are teachers' beliefs and attitudes towards what constitutes the best practice. The pedagogical decisions of teachers are strongly influenced by their beliefs, and research has shown that these beliefs are not only resistant to change (Haukås, 2015; Borg, 2006), but also in many instances contrary to evidence from current research on multilingualism (De Angelis, 2011). Several Norwegian studies have investigated the beliefs and attitudes of teachers regarding multilingualism and how they influence their classroom practices. The general findings are that language teachers in Norway are positive towards multilingualism as a general phenomenon and view multilingual learners as a classroom asset (Krulatz and Dahl 2016; Burner & Carlsen 2022; Calafato 2020; Haukås 2016; Angelovska et al. 2020; Lorenz et al., 2021). Yet in spite of positive attitudes, teachers often express uncertainty or ambivalence when it comes to the actual use of multilingualism as a classroom resource (Haukås, 2012, 2015, 2016; Hegna & Speitz, 2020; Tishakov & Tsagari, 2022) and whether multilingualism is beneficial in learning situations not related to language, or indeed in learning other languages (Haukås, 2015; Calafato, 2020). Krulatz & Dahl (2016) surveyed Norwegian English teachers' preparedness to work with multilingual students (which they described as "multilingual/minority language students", meaning those with immigrant backgrounds (2016: 204)), to what degree they had been trained to do so, and what skills and resources they viewed as important to the task. The most important finding was that although 62% of teachers reported that they felt at least to some extent prepared to teach English to linguistically diverse student groups, 89% expressed an interest in more training in order to do so more successfully. On the perceived usefulness of multilingualism, Haukås (2015) reports that although teachers frequently used their own linguistic resources in language learning, they expressed that they found it difficult to encourage their pupils



to do the same. This was explained partially by a lack of knowledge of the pupils' languages, but also a belief that English was "different", and that its acquisition process is mostly implicit, to some extent subconscious and very much dependent on exposure in non-classroom contexts. For this reason, many of the interviewed teachers felt that it made little sense to consider learning strategies in English, not to mention transferring them from other language learning processes, as they were seen to be fundamentally different. Calafato (2020) reports similar beliefs among secondary school English teachers, who were uncertain about how the benefits of multilingualism beyond simply language learning situations and expressed reluctance to cooperate with both non-language and other language teachers. In fact, Burner & Carlsen (2022) report how even at a secondary school for recently arrived students, teachers expressed little concern for encouraging translanguaging strategies, and little or no cooperation between Norwegian and English teaching. These views seem to result in the prevalence of the monolingual classroom ideal, as previously discussed (Brevik et al., 2020; Brevik & Rindal, 2020) or a purely English-Norwegian bilingual classroom where only Norwegian and English are used in order to promote an ideal of sameness (Krulatz & Dahl, 2016; Iversen, 2017).

Krulatz and Dahl (2016) mention specifically that although 55% thought knowledge of the students' cultural backgrounds was important in their teaching, more surprisingly 45% did not think so. A similar perception is given by students' experiences, where Iversen (2017: 43) reports that "the students could not report any attempts by their teachers to take their multilingualism into consideration in the English teaching".

Multiple Norwegian studies have pointed out the pedagogical implications involved in both the ideal of multilingualism as a resource but also teachers' uncertainty of its use (Haukås, 2012; 2015; 2016; Hegna & Speitz, 2020; Tishakov & Tzagari, 2022), but it is also interesting to note that Lorenz et al. (2021) evaluated the effect of professional development workshops to further teachers' competence in this specific area. This study concluded that although some changes in attitudes and awareness were observed, it was not enough to significantly impact classroom practices.

It is important to consider that teachers' beliefs are not only of importance to classroom practices, but they are also influential to pupils' beliefs. Research on pupils' beliefs about multilingualism (Haukås et al., 2022; Iversen, 2017) has shown that although pupils are generally positive towards multilingualism on the whole, many of their perceptions of aspects of multilingualism vary. This is explored further in two recent Norwegian

studies on aspects of multilingualism from the pupils' point of view. These studies investigated pupils' awareness of themselves as multilinguals (Haukås, 2022) and their beliefs about the benefits of multilingualism (Haukås et al., 2022). These studies have all been quantitative and questionnaire-based, with participants with a mean age of 13.5 years. Firstly, Haukås (2022) reports that 67% of her participants ( $n=78$ ) considered themselves multilingual, and her data showed that the main reason for self-classifying as a multilingual was knowledge of more than one, or multiple languages. She further reports that among the 23% who reported that they were unsure whether they were multilingual or not, a majority either were not familiar with the term or were unsure of how many languages you needed to know in order to qualify. Among the 116 participants of this study only 14% reported that their first or native language was not Norwegian, and Haukås thereby argues that the focus on immigrants as the multilinguals is not only inappropriate, as a majority of pupils consider themselves multilingual, but it also hinders a full-class approach to multilingualism in the classroom. She claims that a multilingual pedagogical approach should include all pupils, regardless of language background. Haukås et al. (2022) explored further beliefs about the benefits of multilingualism in a group of 593 pupils and found statistical significances between three background factors and beliefs about multilingualism as beneficial. These factors were having friends with other home languages, having a migration background and experience living abroad. This study was the first in a Norwegian context to actually consider beliefs on multilingualism from the pupil's point of view and concluded that pupils with other home languages than Norwegian, or those who had friends with other home languages hold the most positive beliefs, as they "have probably experienced that knowing and using multiple languages have direct advantages for them when interacting with others and learning further languages" (2022: 10). This study also provided interesting insights through background factors that were not statistically significant in relations to pupils' beliefs on multilingualism. Neither self-identifying as multilingual or learning additional languages at school turned out to be significant, it was seemingly extramural language use and exposure that was considered most important by learners. The authors call for further studies which should also explore pupils' tendency to disagree with certain beliefs on multilingualism. They also discuss the importance of initiatives that can increase motivation for language learning and multilingualism- if experience with the benefits through communicative interaction is important, then it is cause for concern that language learning in school seemingly does not facilitate this. It is also interesting to note that choosing to study more than one language did not yield statistically significant differences in attitudes to those who only learnt English. This

may suggest that pupils did not experience the process of further language learning as facilitated by previous linguistic knowledge. Similarly, Iversen (2017) reported varying degrees of awareness of multilingualism in the language learning of non-native speakers of Norwegian, and some informants completely disregarded their L1 as a resource.

To conclude, we see different patterns in achieved results, where pupils with immigrant backgrounds generally achieve lower marks than those who are Norwegian-born to immigrant parents. Attitudes towards multilingualism are generally positive among both teachers and pupils. Teachers, however, express uncertainty about how to work with pupils from other language backgrounds and also more specifically how to use pupils' total linguistic resources, whether they are majority or minority pupils, strategically in the classroom setting rather than to default to a monolingually English or bilingually Norwegian-English ideal. Similarly, pupils express positive attitudes, but have limited awareness of their own multilingualism and its potential benefits unless they have first-hand experience, most of which are reported to be related to extramural exposure and experience. The Norwegian national curriculum emphasises the use of multilingual learning strategies but is non-specific on the nature and execution of these strategies. This calls firstly for a more detailed understanding of the classroom situation, for the benefit of both teachers and pupils, with a focus on ascertaining how language background affects language learning. Language background should also be understood in a wider context, where it is not just limited to the actual languages spoken by learners, but also the circumstances of language learning, the nature and frequency of use and the attitudes to the languages. All of these are potential affective factors in further language learning.

## **2.9. Aim of present study**

As discussed in this chapter, societal changes have affected Norwegian classroom demographics. As society in general has become both more multicultural and multilingual, national curricula have been updated to reflect this, and multilingualism is more than ever reflected in goals for language learning. In spite of this, many teaching resources being used still reflect an idea of bilingually Norwegian-English classroom, and recent studies show that although teachers are positive to multilingualism as both an ideal and an influence on classroom practices, they express uncertainty on how to translate this into their teaching practices. Pupils with migration backgrounds are overrepresented on the lower scale of achieved results, both on national tests and exams,

and express similar uncertainty about how to use their own multilingualism as a learning resource.

While previous Norwegian research on multilingualism has generally focussed on teachers' and learners' experiences and attitudes in general, and to the extent of being language-specific considered mostly Norwegian as an L2, the present study addresses learning of English in Norwegian primary school classrooms (grades 6 and 7), which dependent on participants' backgrounds may be an L2, L3, L4, etc. Acknowledging diversity in classroom demographics means that in order to achieve the goals of the national curriculum for English, it must also be acknowledged that that ideals of linguistic sameness must be abandoned. The goal of the study is to ascertain differences between pupils from Norwegian-speaking homes and those who are speakers of other additional languages. Learners in primary education in Norway have not had formal experience with any languages other than Norwegian and English and the study investigates differences between those learning English as their L2 and those who already know and use several other languages and learn it as their language number x.

The present study addresses differences in achieved results for English by investigating written learner language. Through testing command of English morphosyntax, differences between learners using different home languages (Norwegian-only or other additional home languages) are investigated through a framework of transfer and linguistic contrast. Morphosyntax has been chosen because feedback on grammar is a significant part of formative assessment in written English language education, although not necessarily a type of assessment valued by pupils (Burner, 2016), but also due to its significance in exam evaluation. In the assessment criteria for the final year 10 exam for English, "language", further described as both vocabulary, morphology and syntax, is considered of equal importance as content in written tasks (Directorate for Education and Training, 2023). This means that command of morphosyntax will be of considerable importance in achieved results.

The present study combines performance measures of written English morphosyntax with extensive background data describing language competence, language use habits, and attitudes to individual languages, own learning and the role of languages in society. The objectives of the study can be summarised in the following five research questions:

1. What is the nature of multilingual profiles in Norwegian year 6 and 7 classrooms (ages 11-13) in terms of language experience and self-rated proficiency?
2. Are there differences in attitudes to multilingualism and language learning in general between NO and AO speakers?
3. What are the underlying factors that best characterise multilingual profiles in Norwegian 11–13-year-olds, and do they differ between NO and AO speakers?
4. Which underlying factors significantly predict performance in aspects of young multilingual learners English reading and writing and do they differ between NO and AO speakers?
5. Can language-specific patterns of transfer be detected in the English of young multilingual learners, and if so, which languages are transferred?

### **3. Multilingual language processing**

#### **3.1. Introduction**

The previous chapter described Norwegian classrooms as a highly multilingual learning arena. Previous research has investigated the attitudes and experiences of Norwegian pupils and concluded that these are affected by language background and personal experience with multilingualism. When looking at achieved results for English in schools there are observable differences between immigrants, Norwegian-born to immigrant parents and those from a Norwegian background, in which those who were not born in Norway achieve lower marks.

This chapter describes the cognitive effects of learning and using more than one language. Although multilingualism is far from a recent phenomenon, the scientific study has moved from investigating IQ in bilingual populations to a wide understanding of how language learning fundamentally reorganises cognitive processing not only limited to language.

The chapter reviews how studies on speakers of two languages led to an understanding of the processing mechanisms of a multilingual mind. Studies investigating multilingualism effects on language learning will then be discussed, with a particular emphasis on differences between L2 and L3 language learning.

Finally, the complex nature of multilingualism has consequences for research in that studies must depict the enormous variation within multilingual groups accurately, and account for which background factors can affect the outcome of studies. Methodological concerns will be the final topic of discussion in this chapter, focussing on the use of background profiling in research.

#### **3.2. Understanding multilingualism**

When reviewing a century of scientific research on multilingualism, the research community has seen changing views on the cognitive effects of being multilingual. Starting out as being considered unequivocally detrimental, perspectives have shifted to more nuanced views on changes that have the potential for positive and negative effects (see Kroll & Bialystok, 2013). It has also become clear that these effects can be observed both in language learning and processing as well as other areas of cognitive processing.

Secondly, the complexity of multilingualism research has become obvious by recognising that a multilingual brain is not a detached processing mechanism, but rather a product of direct and indirect influences (see Barac & Bialystok, 2011). The same goes for linguistic processing, which now is considered task dependent, susceptible to influence from a number of extrinsic and intrinsic factors, and as all other cognitive processes, difficult to fully monitor (Kroll & Bialystok, 2013; Cenoz, 2013; Herdina & Jessner, 2002). The scientific study of these effects started out as studies of bilingualism in its literal sense, studies on speakers of two languages (Dijkstra et al., 1998; Kroll & Stewart, 1994), and from there on expanded into studies of the processing of more than two languages (Cenoz, 2003; Bartolotti & Marian, 2017). The following section reviews relevant studies to provide an overview of the development in the field, both in terms of insights into the phenomenon itself, and insights into the effects of methodology. As the present study investigates differences between learners who speak different numbers of languages, the initial focus will be cognitive effects of learning a second language before moving on to discussing differences between L2 and L3 learning and processing.

### **3.2.1. Early bilingualism studies**

It has long since been established in public opinion that the number of languages children are surrounded with and at some point, learn, will have some effect on their development. Not much short of a century into research on multilingualism, vast progress has been made into developing an understanding of the effects of living with two or more languages. Research in the field has included both considering the cognitive implications of multilingualism, in addition to the implications this has for education (see Antoniou, 2019 for review). Early studies tended to look mainly at children in population groups in countries that have one national language as well as indigenous languages, such as Welsh/English or Irish/English speakers, and thereby a literally bilingual focus, in the meaning ‘speakers of two languages’ (e.g., Saer, 1923; Stark, 1940; Macnamara, 1966). These early studies focussed mainly on considering a connection between bilingualism and IQ and concluded that detrimental effects to cognitive development could be observed.

Saer (1923) was one of the first studies to claim detrimental consequences of bilingualism, having shown that Welsh-English child bilinguals scored significantly lower than monolinguals on the Stanford-Binet Scale of intelligence. These results were elaborated on by Manuel (1935) who considered Spanish-English bilingual children’s

performance in reading and arithmetic tasks compared to English monolingual children. The results showed the bilingual group as persistently lagging behind in reading skills, thereby claiming that bilingualism created a ‘language handicap’- although the differences in numeracy skills between the groups evened out over time, the difference in reading proficiency persisted. The early studies which claimed detrimental effects of bilingualism considered primarily effects on two factors: intelligence and school results. One major flaw with these studies was that the samples used represented very unequal groups, with few or no exceptions the bilingual groups were from socioeconomically disadvantaged groups. Speakers of indigenous minority languages did at that time hold very low social and cultural status, they were usually on the lower end of the economic scale and in many instances, schools were intended to assimilate them into the language and culture of the majority. For that reason, the disadvantaged status of the one group would naturally also influence their chances in the educational system. Already in 1936, a study by Hill showed that when participating children were matched for factors such as age, gender, mental age and socioeconomic status, bilingual children’s scores were equal to monolinguals on all measures of intelligence. Although this conclusion was mostly ignored for another 25 years, it gave rise to an important change- the notion that bilingualism as a phenomenon needed to be defined in a more careful and nuanced way (Barac & Bialystok, 2011).

### **3.2.2. Bilingual language processing**

The first published description of processing differences in multilingual processing was Leopold’s (1939-1949) case study of his daughter, who was raised in a one parent-one language environment. Leopold notes that already from an early age, she was able to separate word form from meaning, as well as understanding the arbitrary nature of linguistic labels. Leopold linked these abilities to an early ability for abstract thinking and metalinguistic awareness. Around the same time, a study by Stark (1940) showed Irish-English bilinguals outperforming monolinguals on measures of verbal intelligence, with no demonstrable difference in performance on non-verbal intelligence tests. In this instance, the author also stated explicitly that bilingualism had positive effects on cognitive development without any cost to the home language. A clear documentation of metalinguistic advantages in bilingual children was demonstrated by Feldman and Shen (1971) in a study of explicit metalinguistic awareness, in which Spanish-English bilingual children outperformed monolinguals in tests on understanding of object constancy, the arbitrariness of linguistic labels and the ability to use standard, non-word

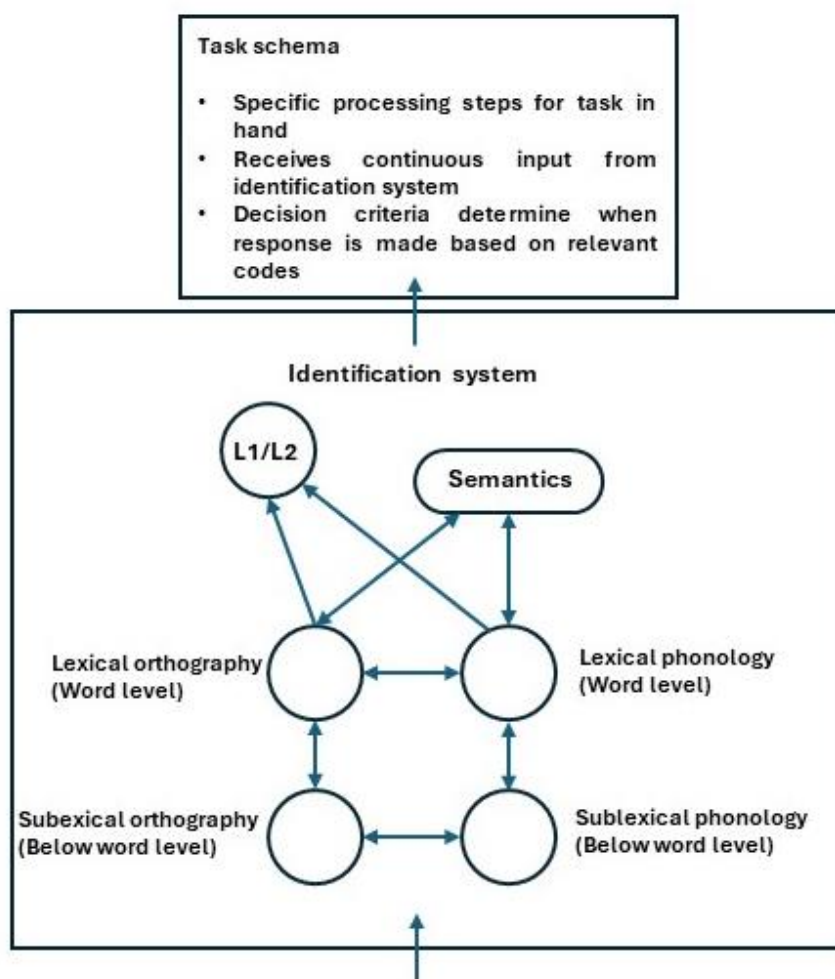


and common-switched labels in sentences. The study suggested that the operation of two ‘language codes’ in bilingual cognition led to increased and earlier development of metacognitive skills, in line with Leopolds’ (1939-1949) suggestion. These studies laid a foundation for research interests that no longer focussed primarily on bilingualism as an affective factor on intelligence, but rather on its influence on cognitive development (see Barac & Bialystok, 2011 for review). New technological advances such as functional imaging as well as changes in study methodology gave the chance to consider the bilingualism question in new ways and resulted in new insights. The discovery of fundamental changes in cognitive processing as consequence of acquiring language number two has been a cornerstone in our understanding of multilingual processing. The main findings of this entire body of research can “all be traced in some measure to this joint activation of two language systems and nonselective access to the target system” (Kroll & Bialystok, 2013: 499). We now have an understanding of a bilingual brain as being different from a monolingual brain not simply due to the processing of two languages, but due to a different organisation of mental resources caused by processing two languages. The notion of how a bilinguals’ two languages are organised, stored and then retrieved in the brain has been important to the understanding of both language processing and production.

Early studies considered a bilingual brain to contain two monolingual systems (the so-called *fractional view*, see Grosjean, 1989), and this was important to the consideration of bilingualism as cognitively detrimental; the two systems would develop one at the expense of the other, resulting in considerable cognitive cost. This idea was however challenged by studies on language *activation*. Linguistic activation relates to levels of representation. A concept has both orthographic, phonological, syntactic and semantic representations. There are different degrees of overlap between representations in each language. Some languages share greater similarities in script, sound structures and grammatical framework than others, also affecting overlap in representations between languages. A considerable body of evidence claims that any input of one concept will activate similar, neighbouring concepts related on the level of input, and that this activation applies across languages- no matter how different the languages (e.g., Emmorey et al., 2008; Morford et al., 2011; Thierry & Wu, 2007; see Kroll & Tokowicz, 2001 for review). Parallel activation has been observed in a number of both receptive and productive studies. Studies of word recognition have shown interference of non-target language for orthographically similar, yet semantically unrelated words, such as English ‘room’/Dutch ‘room’, “cream” (e.g., Grainger & Dijkstra, 1992; Jared & Kroll,

2001). The recognition of interlingual homophones (i.e. words that are related in phonological form, but not meaning, such as English ‘leaf’/Dutch ‘lief’ - “sweet”) across languages is also shown to be influenced by word frequency in the non-target language (e.g., Jared & Szucs, 2002; Studnitz & Green, 2002). Also, a facilitation effect for the recognition of cognates (words that are similar in both form and meaning, such as English “cat”, Norwegian “katt”) is observed in bilinguals, but not in monolinguals (Dijkstra et al., 1998; Van Hell & Dijkstra, 2003). Similar observations have been made in language production tasks using picture naming where significant priming effects have been observed in bilinguals when presented with semantically related primes in the non-target language. Meng et al. (2016) found that in a language-switching phonological decision experiment, Chinese- English bilinguals were considerably faster in deciding which language the test word was if it was preceded by a semantically related prime word in the other language. (See also Costa, 2005; Silverberg & Samuel, 2004; Van Hell & De Groot, 1998; Talamas et al., 1999).

From this experimental evidence, several bilingual processing models have been proposed, working from the assumption of parallel activation of both languages. The Bilingual Interactive Activation Model (Dijkstra et al., 1998), revised as BIA+, see fig. B (Dijkstra & van Heuven, 2002) is a language processing model which builds on the observations of word type effects in both of a bilingual’s languages (e.g., Grainger & Dijkstra, 1992; Jared & Kroll, 2001; Jared & Szucs, 2002; Studnitz & Green, 2002).

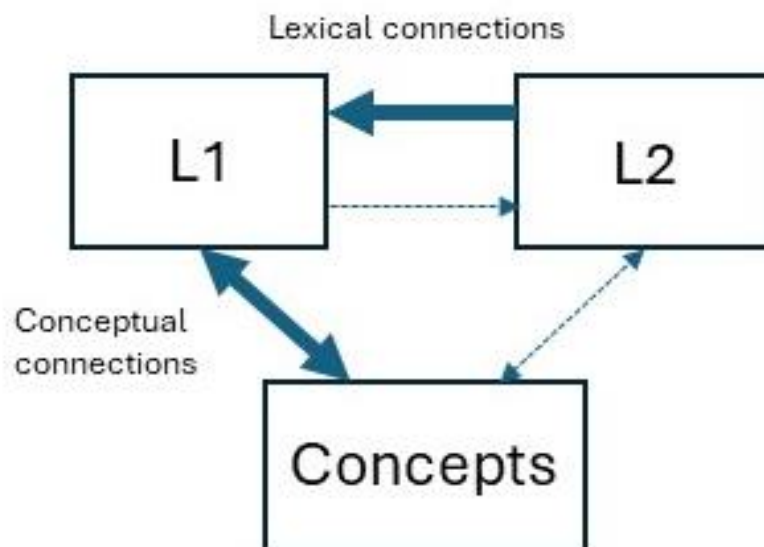


B. The BIA+ model, from Dijkstra & Van Heuven (1998: 182).

The model argues that the reason why a bilingual faced with language input in one language is affected by the non-operational language is that activation is not limited to that one language, but rather flows through both language systems in a competition for selection. When a bilingual is presented with a string of letters, word candidates from each language will become active and compete for selection. The model shows how orthography and phonology, first on a sublexical (i.e. below full word level), and then on a lexical level feed information back and forth. Through a process of inhibition and blocking by language nodes linked to the parameter settings of each language, as well as semantic clues, a process of elimination will result in the string of letters being recognised as a word belonging to one language rather than the other. Thereby, the model explains the effects observed in the previously mentioned experimental studies- words sharing form and meaning are recognised faster whereas words that share form but not meaning take more time. Thereby the model describes how the full linguistic resources

of a bilingual brain are active during input processing and that it is not possible to switch one language off and function as a monolingual. Had this been the case, processing times would not have been affected by similarities in form or meaning across languages.

Some effects are, however, dependent on other factors. In tasks of lexical decision both English-Spanish and Spanish-English bilinguals showed effects of proficiency in tasks where a target word was preceded by an either semantically (e.g., Silverberg & Samuel, 2004), or semantically or orthographically (Talamas et al., 1999) related prime in the non-target language. Silverberg and Samuel (2004) observed clear priming effects among more proficient bilinguals, and Talamas et al. (1999) also observed that in deciding translation equivalent status, less proficient bilinguals showed more interference from form-related primes, whereas the more proficient showed interference from meaning-related primes. This effect has been summarised in the Revised Hierarchical Model (see Fig. C).



C. The Revised Hierarchical Model, from Kroll & Stewart (1994: 158).

This model of conceptual activation in bilinguals describes how proficiency mediates the connection between form and meaning. It claims that at early stages of L2 processing, meaning is accessed through L1 translation equivalents. With increasing proficiency, however, comes more direct access between L2 word and concept, meaning

that processing is quicker. This means that although it's not possible to function in just one language at a time, the influence of the L1 can decrease over time providing quicker access to the meaning of L2 words.

To summarise, experimental evidence has shown that learning a second language fundamentally restructures language processing mechanisms- once a second language is introduced it cannot be switched off during processing. Tasks such as lexical decision, word recognition and picture naming have all shown effects of the non-operational language, and speakers of several languages display effects of both facilitation and interference that are not observed in monolinguals. This has been further explored using functional imaging, which has shown that bilingualism has consequences for patterns of brain activation (e.g., Perani et al., 1998, 1996; Kim et al., 1997; Briellmann et al., 2004; Abutelabi et al., 2005). These studies have concluded that different brain networks are involved in L1 and L2 acquisition, and that different patterns of brain activation can also be observed for bilinguals dependent on age of second language acquisition and levels of proficiency.

The observable effects of bilingualism on cognitive processing in behavioural tasks has led to several different claims on bilingual advantages and disadvantages. Some are a matter of dispute (see e.g., Kroll & Bialystok, 2013), but there are some general trends. As mentioned, current research has debunked the initial idea that bilingualism has a detrimental effect to intelligence or first language development. However, having two active languages competing for selection during language processing does come at a cost. Longer naming latencies in production tasks have been observed, and bilinguals more often experience tip of the tongue-states (e.g., Gollan et al., 2005; Marian & Shook, 2012). This has been attributed to language competition (Gollan & Acenas, 2004), but more recently to the *Weaker Links Hypothesis* (Gollan et al., 2008). This hypothesis claims that the longer latencies for retrieval observed in bilinguals can be explained by the lower frequency of use of each individual lexical item in bilinguals. As each language is only used a certain percentage of their time, each item will be used less frequently than by monolinguals, who speak one language 100% of the time. Thereby, the connections between lexical items are weaker in bilinguals. In addition, it has been observed that bilinguals have somewhat smaller vocabularies in each of their languages compared to monolinguals (e.g., Oller et al., 2007), however this is still claimed “not [to] change the normal properties of their lexical knowledge nor does it interfere with the verbal skills being developed for academic achievement” (Bialystok et al., 2010:

231). The notion of differences in vocabulary size has nonetheless been disputed in other studies claiming that observed differences are due to factors other than bilingualism as such- for instance several of the studies to observe a difference in vocabulary sizes have tested in the monolingual group's L1, which has not necessarily been one of the bilingual group's home languages (see e.g., De Houwer et al., 2014; Bialystok et al., 2010). Similarly, Altman et al. (2018) claim that unless measures of metalinguistic awareness are considered, definite conclusions on differences in vocabulary size due to bilingualism cannot be made.

Nonetheless, simultaneous activation in the representation of two languages has also been observed to have positive effects, mainly related to the so-called *executive functions*. Marian & Shook (2012: 4) define this as the “regulatory system of general cognitive abilities that includes processes such as attention and inhibition”, meaning the cognitive processes that regulate functions such as task switching and monitoring, the ability to ignore unnecessary information and the ability to suppress and inhibit responses to stimuli. This means that bilingual brains have generally been shown to have better performance in tasks that entail cognitive conflict. This has been repeatedly shown in Stroop-type tasks, which require an ability to distinguish a mismatch between semantic and visual information, e.g., reading the word ‘blue’ printed in red (see review by MacLeod, 1991), or switching categories such as organising objects by colour and then by shape (Prior & MacWhinney, 2010). Studies have also shown advantages in auditory attentions, as bilingual adolescents performed better than monolinguals in tests where speech sounds were played back with interfering background noise. Bilinguals’ neural responses to the speech sounds were much higher than that of the monolinguals, indicating better pitch perception and a stronger ability to tune out the interfering background noise (Krizman et al., 2012). In summary, the cognitive advantages of bilingualism are linked to visibly higher activation in the dorsolateral prefrontal cortex, a region linked to cognitive skills such as attention and inhibition, and also in particular the left inferior frontal gyrus, which is strongly associated with language production. Functional imaging research, as well as test results from behavioural tasks have led to the conclusion that bilingualism has consequences for both linguistic and non-linguistic cognitive control (for review see Marian & Shook, 2012).

### 3.2.3. Bilingual language processing studies with younger learners

As the present study considers effects of multilingualism in learners aged 10-13, it is particularly relevant to consider previous studies in this particular age group. Only a handful of studies have actually considered multilingualism effects in young learners, and this section will in turn look at those focussing on word learning, grammar learning and literacy. In word learning studies, most have considered this in light of the *mutual exclusivity assumption* (Markman, 1990), which claims that child learners prefer to maintain one to one-mappings between labels and referents. This preference means that when faced with a new label, the learner will prefer to associate it with an unknown referent rather than a familiar one which already has a label. Some studies have however shown that multilingual children, already in infancy seem to differ from monolingual children in this respect. Au and Glusman (1990), Byers-Heinlein and Werker (2013) and Kalashnikova et al. (2014) observed differences between monolingual and bilingual children in their ability to accept lexical overlap in novel word learning, where bilingual children who knew many translation equivalents were more adept at assigning new labels to familiar referents and displayed more flexibility in creating many to one-mappings. This is explained by their experience with labels in different languages being mapped to one referent, and Kalashnikova et al. (2014) saw age effects in which the bilingual participants' ability to assign multiple language labels for a single referent increased with age- correlating with more bilingual experience. A bilingual advantage in tasks that required mapping labels to referents was also in studies where both children (Gross et al, 2014) and adults (Kaushanskaya et al., 2013) performed better than monolinguals in many to one-mappings. Hirosh and Degani (2018) interpret this as a direct influence of bilinguals' previous language learning experience, they are used to managing multiple expressions for the same referent, and they are thereby able to directly transfer this skill repeatedly to new situations with similar demands. Other studies reinforce the idea that the ways in which monolinguals and bilinguals learn new words are fundamentally different and can also rely more on pragmatic than perceptual clues in order to understand word meaning. This was observed in a study by Brojde et al. (2012) where toddlers were asked to point to objects with familiar or novel names. Monolingual toddlers depended heavily on similarities of shape to link novel name and object, but bilingual toddlers depended more on perceptual clues like the experimenter's eye gaze. Similarly, Yoshida et al. (2011) tested toddlers' ability to link artificial articles to textures on familiar objects and found bilinguals to have both better attentive control and cope more easily with the novel terms. In summary, studies conclude an advantage

for novel language word learning for bilingual learners, and although part of the explanation is attributed to a direct factor, a transfer of a familiar situation of acquiring new labels for an already named referent, it is obvious that there is also a strong connection to indirect, cognitive factors. There is an obvious link between mapping multiple meanings and the cognitive executive functions associated with bilingualism. Some studies have observed an increased flexibility of the phonological system and an increased ability to connect overlapping representations to the lexical-semantic system, both requiring cognitive management of ambiguity (e.g., Kaushanskaya and Marian (2009b), where adult bilinguals outperformed monolinguals in a word-learning task where novel words were phonologically unfamiliar to all participants; also Wang and Saffran (2014), where the outcome of a learning task with an artificial tonal language was found to be more affected by bilingual experience than prior experience with tonal languages. The conclusion is that bilinguals are aided in vocabulary learning in a novel language by both direct transfer of an understanding of a many to one-relational system and the attentional control abilities to manage the material.

It would be an obvious assumption that grammar learning would be one of the areas most salient for transferring experience from previously acquired languages. Still, this area is remarkably overlooked. A classroom study by Klein (1995) on the acquisition of English as an L2/L3 concluded that young bilinguals outperformed monolinguals in lexical and syntactic tasks. This particularly applied to grammaticality judgement tests, and the same effect was observed in a study by Abu-Rabia and Sanitsky (2010), where Russian-Hebrew bilinguals again outperformed monolinguals in syntactic judgement. Similarly, Sanz (2007) saw a correlation between balanced biliteracy in Catalan and Spanish and performance in English grammar tests. However, it should be noted that the few studies performed in this area have had certain methodological issues, Sanz (2007) lacked a monolingual control group, and it is generally, from the material at hand, difficult to say whether the observed effects are due to bilingualism per se, and not factors such as biliteracy. Furthermore, as pointed out by Hirosh and Degani (2018) it seems difficult to identify exactly what factors are part of the equation, whether they are effects of direct transfer and learners' experience with similar constructions, or whether they are indirect effects of enhanced cognitive and linguistic ability. This means that research on differences between monolinguals and bilinguals in grammar learning has to this point been fairly inconclusive- some effects have been observed, but due to study design and methodology, it is hard to pinpoint how these effects influence language learning.



An interesting insight is however provided by Grey et al. (2018), who combined behavioural and neural measures of syntactic processing. The study involved teaching an artificial language to Mandarin-English bilingual young adults and a monolingual English control group. Both groups were first explicitly instructed in the artificial language before being tested using a grammaticality judgement test with sentences containing word order violations created through switching positions of categories, e.g., nouns and adjectives. Electrophysiological (ERP) measures of processing were also collected. The analysis of the behavioural measures did not reveal any significant differences between the bilingual and the monolingual group. However, the data suggested a different trajectory of learning in the bilingual group, who reached higher levels of comprehension and production ability sooner than the monolinguals. Particularly in the early and final stages of learning, the bilingual group progressed much faster than the monolinguals. Interestingly, these results are backed up by the ERP data, which suggested that even in the lowest levels of proficiency, bilinguals used neural mechanisms that are commonly associated with syntactic processing in native speakers. The fact that the ERP data showed differences that were not reflected in the behavioural results is by the authors attributed to greater metalinguistic awareness. The artificial language used in this study was syntactically different from both English and Mandarin in order to avoid direct transfer from either language, and for that reason the only factor aiding the bilingual group in their acquisition was a more general understanding of syntactic structure. This was also shown in the ERP data in that an activation observed in the monolingual group only was linked to additional extra-linguistic attentional mechanisms. The fact that the pattern of activation was not observed in the bilingual group was by Grey et al. linked to the already established notion of bilinguals' superior attentional control and executive function. This study is particularly interesting in the sense that it shines some light on an area that is somewhat obscured by conflicting test results and opens up to the possibility that although differences are not that obvious in the results, they are important to the process. The authors concluded that even at a low level of L3 proficiency bilinguals appeared to use reanalysis mechanisms that were associated with native language processing, and these were not observed in the L2 learners until at a much higher level of proficiency.

It should nonetheless be noted that as Kroll and Bialystok (2013) point out, research on bilingual advantages and disadvantages are to a great extent dependent on explaining the unknown from its known components. Several studies on cognitive processing research use conflict tasks such as Stroop tasks and Simon tasks (a task type where the

participant reacts to visually presented stimuli by pressing keys on either the same or the opposite side to the stimulus), which are indicative of performance in one highly constrained situation, and it is difficult to conclude, but even more to deny larger connections on this basis. A study by Alario et al., (2012) argued that if the ability to select between nonverbal alternatives in a Simon task can be related to the ability to select between words in a naming task for bilinguals (Blumenfeld & Marian, 2011), then the same should apply to monolinguals. However, when Alario et al. did not observe any such correlation, they concluded that the explanation is incorrect also for bilinguals. This is viewed by Kroll and Bialystok as a “reductionist error” (2013: 501), and a failure to recognise the fundamental nature of the bilingual experience. They claim that “reducing performance to a few measurable components fails to capture the most crucial outcome of the experience, namely, the reconfiguration of these networks” (2013: 501). This means that a challenge in multilingualism research is that one attempts to understand very complex processes in light of smaller aspects of how we perceive them in total, which makes study methodology and design even more crucial to any final conclusion. Antoniou (2019) also points out that bilingual advantages are far from a universal fact, noting that “certain research groups consistently find support for a bilingual advantage, while other groups consistently find none” (2019: 397). Antoniou does however note that as bilinguals are different, it is unlikely that all advantages should apply to all bilinguals under all circumstances and discusses the fact that the only consistent findings in bilingualism studies have come from neuroscientific studies, where very few have yielded null results. This suggests that variations in performance may be down to two factors- firstly that bilinguals may have very different patterns of both language learning and use. And secondly, and equally important, all studies are also different, and in many of them measures of standardisation of recruitment and data collection are conspicuously lacking.

### **3.3. From bilingual to multilingual**

A central question in the present study is whether differences can be observed between learners of the same language as an L2 or L3, meaning between groups with different multilingual experience. As previous research has not always made clear the distinction between studies on actual bilinguals and multilinguals who are tested in two of their languages, it has in many instances been difficult to make clear judgements on the cognitive differences between the two groups (Higby et al. (2013). In groups of monolingual speakers of the same language, learning conditions and experiences are

most likely to have been relatively uniform and differences are likely to mainly be due to factors such as intelligence, learning difficulties and socioeconomic status to some degree. However, in bilingual groups, differences surrounding the acquisition of the L2 involves several additional factors. These may include age of acquisition, nature and the quality of instruction, motivation, language environment and perhaps a broader spread of socioeconomic status factors. Language acquisition in a bilingual has only two temporal possibilities, the acquisition of the two languages is either simultaneous or consecutive (Jessner, 2008). However, when a third language enters the picture, there are at least four possibilities, dependent on the order of acquisition:

- simultaneous acquisition of L1/L2/L3,
- consecutive acquisition of L1, L2 and L3,
- simultaneous acquisition of L2/L3 after learning the L1,
- simultaneous acquisition of L1/L2 before learning the L3.

(Jessner, 2008: 19; Cenoz, 2000).

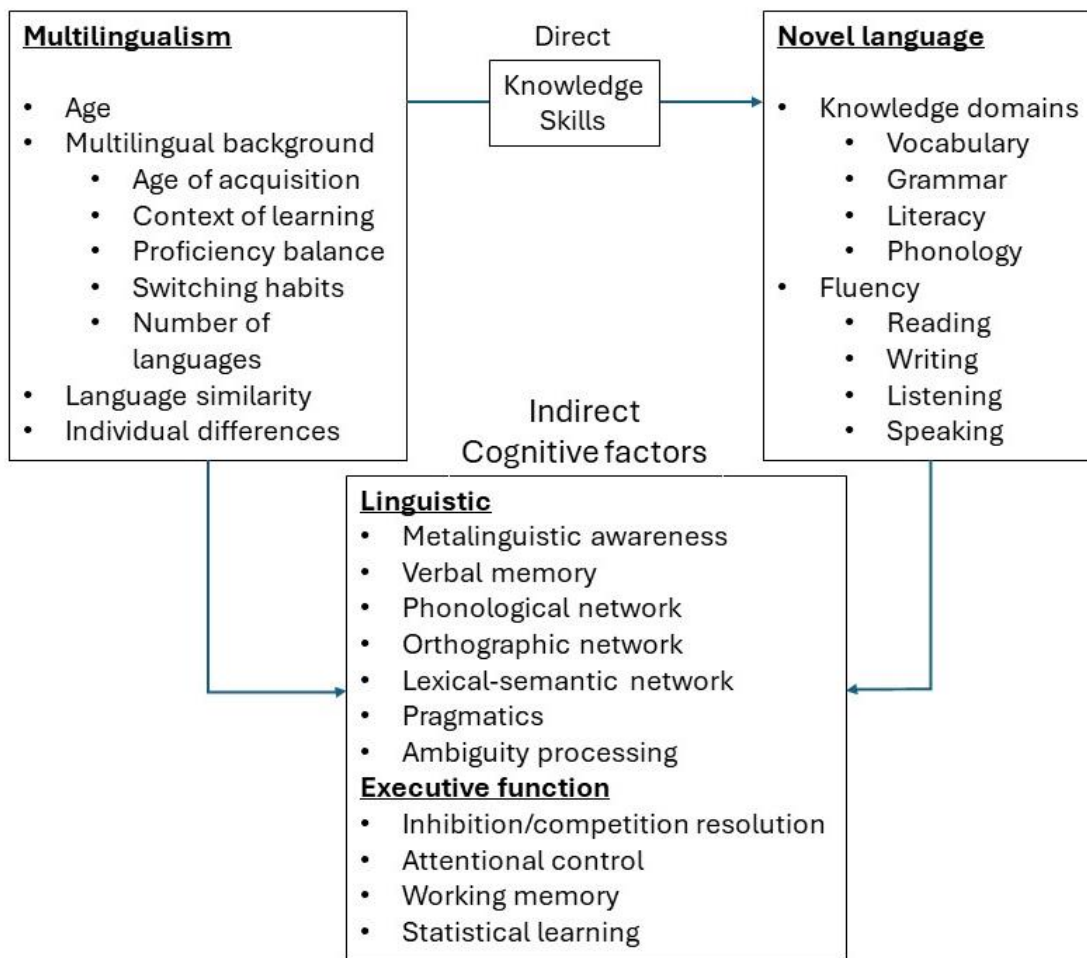
There is an array of studies of behavioural testing of bi- and multilinguals, and these have uncovered several factors worth considering. These studies can mainly be divided into two categories, studies on processing (e.g., De Bot & Jaensch, 2015; Kemp, 2007) and studies on L3 acquisition (e.g., Bardel & Falk, 2021; Puig-Mayenco et al., 2020; Takavol & Jabbari, 2016), many of the latter look specifically at transfer from the two existing languages. Unsurprisingly, processing studies on multilinguals largely have considered the processing advantages and disadvantages detected for bilinguals and considered how they apply to multilinguals, often in terms of potential additive effects when more languages enter the game (see Cenoz, 2003 for review; also, Bartolotti & Marian, 2017). Some studies have shown inconsistent patterns of language switch cost in trilinguals, although little research has been carried out in this area (see Higby et al., 2013). Other studies have shown that certain disadvantages seem to have a summative effect. For example, Proverbio et al., (2004) were able to show a correlation between number of languages spoken and reaction times in a semantic plausibility task. This observation was taken as support for the previously mentioned *Weaker Links hypothesis* (Gollan et al., 2008) claiming that as speakers of several languages use each language a certain percentage of their time, each lexical item will be used less frequently than by monolinguals, who speak one language 100% of the time. Thereby, the connections between lexical items are weaker in bilinguals. This hypothesis has gained support from

some neuroimaging studies, although the studies have not been conclusive as to exactly which brain regions are utilised for which language (see Higby et al., 2013). Nonetheless, it seems likely that if lexical retrieval is slowed down due to the partial use of two languages, it may be additionally affected by the introduction of a third language.

Studies providing defined neurolinguistic evidence on the matter are very rare. Kavé et al. (2008) reported higher scores in a cognitive screening task correlating progressively with the number of languages spoken by older adult participants; this applied even to illiterates. However, as both functional imaging and neuroimaging studies have often failed to clearly define participant groups, there is little conclusive evidence as to what are the structural consequences in the brain of multilingualism as opposed to bilingualism. Although current testing methods have not been able to provide conclusive insights into the cognitive differences between knowing two, or three or more languages, there are some insights from studies investigating differences between L2 and L3 learning. These are of particular interest to the present study as background for the investigation of performance differences in learners with different numbers of background languages.

### **3.4. Multilingualism and effects on language learning**

A comprehensive meta study by Hirosh and Degani (2018) on the effects of multilingualism on novel language learning explicitly defines bilinguals as speakers of an L1 and one other language and multilinguals as speakers of L1 and two or more other languages (2018: 899). This meta study distinguishes two type of multilingualism effects, direct and indirect, see fig. D. Direct effects are “those that transfer “as is” from earlier experience to the task at hand” (2018: 892), meaning transfer of knowledge and representations from the learner’s other languages, as well as being able to implement tried and tested learning strategies and skills. In contrast, the indirect effects are mediated by cognitive factors which again are products of previous experience. These cognitive factors can be the previously mentioned reorganisation that multilingualism contributes in the brain, such as increased levels of executive function and metalinguistic awareness.



D. Direct and indirect factors affecting language learning. From Hirosh & Degani (2018: 93).

However, the authors also point at the number of factors that need to be taken into account in order to give an informed picture of L3 acquisition, such as different ages of L2 acquisition, levels of proficiency, different L2 learning circumstances, linguistic overlap, etc. These may affect how learners utilise direct and indirect resources in novel language learning and what they bring to the L3 learning situation. This means that in studies on L2 vs L3 learning it is necessary to consider carefully how these direct and indirect factors are accounted for, and how well participants are actually matched.

Mesaros (2008) points out that both bilinguals and multilinguals are considered to have a different kind of competence and a learning advantage when compared to monolinguals (Grosjean, 1992; Cook, 1995; Cenoz, 2003a) This advantage is seen both in research on bilingual communities such as Catalonia and the Basque Country in Spain, where a considerable degree of the population have bilingual school instruction

(Cenoz, 1991, 1994; Cenoz & Valencia, 1994; Lasagabaster, 1997, 2000; Sanz, 2000), but also in studies on immigrants and monolinguals across a number of countries (Thomas, 1988; Bild & Swain, 1989; Brohy, 2001). These studies have suggested that in language learning, bilingualism is a better predictor of proficiency than other background factors such as intelligence, age, exposure or motivation (Mesaros, 2008). It should, however, be noted that numerous studies have also observed no measurable differences in proficiency between monolinguals and bilinguals in learning an additional language (e.g., Balke-Aurell & Linblad, 1982; Jaspaert & Lemmens, 1990; Sanders & Meijers, 1995; Schoonen et al., 2003). These studies considered the acquisition of English by monolingual Dutch speakers and bilingual immigrant students. Mesaros cites Cenoz' (2003) claim that there are certain *subtractive contexts* for language learning where bilingual advantages are not observed, or that as suggested by Gonzalez-Ardeo (2001), bilingualism may facilitate some aspects of language learning, but not all.

Cenoz (2013), however, questions whether it is appropriate to compare bilinguals and multilinguals in further language learning. She points out that bilinguals and multilinguals are different kinds of speakers, this also makes it viable to extend this to them being different kinds of learners. The distinction between active bilinguals and foreign language users is by Canagarajah (2007: 925) attributed to competence derived from 'multilingual life'. In psycholinguistic studies that compare active bilinguals and monolinguals (e.g., Bialystok, 2007), bilingualism is related to advantages in language learning, and that proficient bilingualism promotes overall academic performance (Toukomaa and Skutnabb-Kangas in Cummins, 1984, p. 52). This does pose multiple questions due to the wide range of bilingual experiences. Do the observed benefits also apply to learners who use their languages rarely, or even active bilinguals with limited or no literacy skills in one or more of their languages? The answer is that we are not at the present able to conclude, but Cenoz (2013: 81) nonetheless calls for a more general focus on multilingualism, claiming that "by focusing on the multilingual person as a speaker we can obtain a deeper knowledge of the different types of L3 learners and the effects of their prior linguistic knowledge".

Mesaros (2008) reviewed a number of studies on the facilitating factors of bilingualism in the acquisition of L3 English and summarised some major differences between L2 and L3 acquisition. Firstly, L3 learners have more experience in language learning, and for that reason have more learning strategies at their disposal, and generally have more

metalinguistic awareness (Cenoz & Jessner, 2000; Cenoz & Hoffmann, 2003). Bialystok (2007) also describes certain specific consequences in further language learning due to differences in metalinguistic awareness. For instance, balanced bilingualism tends to be associated with better performance in tasks demanding a high level of analysis. This means that bilinguals have been seen to outperform monolinguals when it comes to identifying grammatically correct anomalous sentences, (Bialystok, 1986, 1988; Bialystok & Majumder, 1998; Cromdal, 1999) however not necessarily grammatically incorrect meaningful sentences (Gathercole, 1997; Gathercole & Montes, 1997). Higher performance in both grammatical awareness, perceptual organisation and reading achievement was observed also by Ricciardelli (1992), but this was again mainly in highly proficient bilinguals. However, Cenoz (1991) observed that when controlled for factors such as socio-economic status, exposure to English, intelligence and motivation, bilingualism was a significant influence on most measures of English proficiency- however less important than intelligence and motivation. On the nature of a bilingual advantage in L3 acquisition, Todeva and Cenoz (2009) write that prior linguistic knowledge helps on all levels of language, thereby giving multilinguals opportunities for transferring in both grammar, pragmatics, lexicon, pronunciation, and orthography. It must, however, be remembered that this will be dependent on the nature of a learner's proficiency in their languages; it will most likely be more challenging to transfer knowledge which has not been explicitly instructed without a high level of metalinguistic awareness.

The overall evidence for L3 learners' advantages in relation to L2 learners of the same target language is at best conflicting, and several of the studies not to detect differences have considered immigrant children. Jaspaert & Lemmens' (1990) study of the acquisition of Dutch as an L2/L3 saw no differences in proficiency when immigrant L3 learners were compared to monolingual L2 learners. Similar patterns were seen in several other studies (e.g., Schoonen et al. 2003; Sanders & Meijers, 1995). It should, however, be taken into account that most studies looking at immigrants' acquisition of an L3 were either performed with adult participants or with immigrant children in bilingual or immersion education programmes. Because of this there is little empirical evidence on the performance of L3 learners who are either simultaneous or early sequential bilinguals due to either being immigrants or brought up in a household speaking another language than the majority national language. These learners will have learnt the national language in their country of residence either when starting school, by

formal instruction, or earlier on, through exposure alongside their home language. They are in classroom settings where instruction is in either an L2 or an L3, alongside monolingual speakers of the national language. This is also the case for Norwegian research, where most studies have considered immigrants' learning of either their own L1 or Norwegian as an L2, or majority language speakers' learning of a second foreign language (Olsbu, 2014). The few studies that do consider immigrants learning English as an L3 (Ness, 2008; Surkalovic, 2014; Krulatz & Dahl, 2016; Krulatz & Torgersen, 2016) have generally looked at the teachers' perspectives and neither surveyed nor tested the students' experiences, backgrounds, or performance. Nonetheless, Norwegian studies confirm the importance of L1 development in order to learn L2 Norwegian (Engen & Kulbrandstad, 2004; Haukås, 2014; Selj & Ryen, 2008) and that integration into society and the learning of L2 Norwegian are important background factors in L3 English acquisition (Ness, 2008). In summary, it is important to bear in mind that as Cenoz (2013) states, although studies comparing immigrant L3 learners and non-immigrant L2 learners tend to confirm bilingual advantages in learning an L3, results are less conclusive outside of bilingual programmes (1993: 75). Furthermore, she also points out the immigrant learners' potential disadvantage due to social and cultural factors.

For students with immigrant backgrounds, knowledge of both their language use and their views on language status constitute important factors. Several studies have looked at students with immigrant backgrounds and their views on heritage language both in light of language proficiency and further language learning. A comprehensive study by Kim and Chao (2009) looking at cultural identity, heritage language fluency and school effort in groups of first-, second- and third generation Mexican and Chinese teenagers in the US made several interesting observations. Firstly, as a general observation, heritage language skills were perceived as less important by the second- and third generation, along with the relation of language and cultural identity. Also, there was a marked difference between the two language groups in that the Chinese background group did not seem to put much significance on Chinese language fluency and did not see it a particularly culturally identifying factor, nor was it seen to correlate with school effort. However, the opposite was the case for the Mexican background students, where ethnic identity was seen to correlate strongly with both Spanish fluency and effort in overall school performance. They conclude that "U.S.-born Mexican youth with immigrant parents derive some benefit from exploring their ethnic identity, perhaps because such exploration reflects an awareness of race relations and their status as ethnic



minorities in the U.S” (2009: 36). Kim and Chao relate the differences between the groups partly to attitudes within the groups of whether identity is connected to language, but also to the status and accessibility of the heritage language in the host country. Similar results were observed by Fuligni et al. (2005), who concluded that for students with an immigrant background, the effort made to both explore their identity and sense of self through heritage language fluency may increase or enhance the motivation for overall academic performance. Brown (2007) discussed the issues of many multilingual students feeling a sense of shame about their origin, and Cenoz (2003) also discusses the negative impact on this on language learning, claiming that in order to further additive bilingualism in which both languages develop in parallel rather than one at the expense of the other, speakers of minority languages need to use and develop their L1,

It is nonetheless evident from experimental evidence that multilingualism has *the potential* to facilitate further language learning through several factors; some of which are cognitive and stem from the reorganisation of networks of representation and processing, some are structural and stem from the ability to transfer knowledge of linguistic templates and some are circumstantial and relate to learning experience and the ability for metacognitive awareness of learning. It is nonetheless important to consider the complex and dynamic nature of multilingualism meaning that caution should be used when making both in-group and between-groups comparison.

What most researchers agree upon is that those who are more multilingual have more language learning experience and with that experience comes certain potential benefits. Research on use of language learning strategies has also considered differences in language learning experience. A study by Moore (2006) used texts in an unknown language in collaborative tasks where multilingual children used strategies based on previous language learning experience to hypothesise about the unknown language as a system. This study built on evidence from studies with adult learners suggesting that more experienced language learners build metacognitive language learning strategies that differ from the strategies of those with less experience (e.g., Jessner, 1999; Rivers, 2001; Kemp, 2007; Sung, 2011) One of the few comparable studies in a Norwegian context, Haukås (2015), considered groups of adolescent learners of L2 English and L3 German and used an adapted version of *Strategy Inventory for Language Learning* (SILL), (Oxford, 1990) to identify the strategies most used by both groups. This study interestingly came to an opposite conclusion compared to previous research; the older L3 learners used significantly *fewer* LLS than the younger L2 learners, they also used

LLS less frequently. Haukås proposes several explanations for this, some of which are related to the differences between students in higher and compulsory education. The age and motivation of the participating groups may have had some effect on the outcome, as strategy use tends to correlate with age and increased motivation (Tragant, 2006). She also points out that the transfer of strategies is not an automatic process, it requires awareness on the part of the learner. This point is made by several studies on language learning in school settings, learners do not automatically experience, or even realise the benefits of multilingualism (e.g., Bono & Stratilaki, 2009; Moore, 2006). It seems likely that the students' own realisation of themselves as multilinguals are important in the learning situation, as is their knowledge of how this can be used to their advantage in the learning situation due to their previous experience with language learning.

### **3.5. Literacy as a background factor in multilingualism research**

Literacy in background languages has been shown to be a crucial factor in further language learning in several studies (e.g., Thomas, 1988; Bild & Swain, 1989). Specifically, students who are literate in their L1 outperform those without first language literacy in L3 learning (Swain et al., 1990; Cenoz, 1991; Cenoz & Valencia, 1994; Lasagabaster, 1997; Muñoz, 2000). This finding is relevant to the Threshold Hypothesis (Cummins, 1979), which claims that in order for bilinguals to cross the threshold where cognitive benefits in L3 acquisition develops, they need to be literate in the L1 and L2. L3 learning benefits due to literacy are claimed to be results of both higher metalinguistic awareness (Bild & Swain, 1989; Klein, 1995; Thomas, 1988) and of the development of a so-called “common underlying proficiency” (Cummins, 1979). This underlying proficiency constitutes language skills usually acquired in formal, instructed settings, such as literacy, that can be transferred from learners who have achieved literacy in their first language and are then taught in a majority language (Huguet & Vila, 1997; Olaziregi & Sierra, 1990; Verhoeven, 1994) or a minority language (Cummins & Swain, 1986; Genesee, 1983).

Several studies have looked at the link between multilingualism and literacy learning, but it soon becomes apparent that it is challenging to find studies that investigate multilingualism per se rather than multiliteracy. Van Gelderen et al. (2003) tested English reading comprehension in adolescent Dutch learners of L2 and L3 English, respectively, and found no bilingual advantage, rather the contrary; the bilinguals scored significantly lower than monolinguals. This did not, however, apply to their scores on

other tested measures, including vocabulary, word recognition, grammaticality judgement and metacognitive awareness; for all these no difference was detected between the two groups. What is worth noting in this study is that the L3 learner group were not biliterate, they were only speakers of an L2. A significant finding in a large body of research by Schwartz et al. (2007, 2014) is that there seems to be a dissociation between multilingualism and multiliteracy in effects on literacy acquisition. These studies suggest that bilingualism does not contribute significantly to literacy skills in an L3, indeed bilingual but monoliterate children in these studies generally performed worse than monolingual children. Some have observed that L1 literacy can aid L3 literacy, but only in instances of languages with similar orthographic principles (e.g., Kahn-Horwitz et al., 2011; Schwartz et al., 2014). In several instances biliterate Russian-Hebrew bilinguals outperformed monoliterate bilinguals and monolinguals in both accuracy and speed in English naming tasks as well as orthographic choice in recently learned English words. This effect is interesting in that it suggests that experience with two orthographic systems may facilitate the learning of a third system due to a general flexibility of the mental orthographic system, as it has similarly been proposed by Kaushanskaya and Marian (2009b) that multilingualism entails a more flexible phonological system. Hirosh and Degani mention instances such as the Russian letter H, which corresponds to the sound /n/, which means that a familiar letter must be mapped onto two sounds in two languages. Experience with multiliteracy may in these instances advance “the speakers’ ability to accept additional alternative writing systems to represent spoken language” (Hirosh & Degani, 2018: 908). A further study by Kahn-Horwitz et al. (2014) looked at English learning by Hebrew monolinguals and Circassian-Arabic-Hebrew multilinguals, the last group biliterate in Arabic and Hebrew. This study tested the acquisition of orthographic conventions that were shared or different across the languages and found that if a convention was present in one of the known languages, it was facilitated in English learning, but conventions new to all languages did not have a biliteracy advantage. In this instance, none of the languages had shared scripts so the fact that only shared conventions showed a multilingual advantage supports the direct transfer of available knowledge.

However, it should be noted that a considerable amount of the studies investigating literacy effects have looked at either population groups with a local and a national language, or immersion programmes in schools. Immersion programmes have by several researchers been noted for creating an artificial learning situation where students may be immersed in the language in a classroom situation but are unable to use the

language in communicative situations outside of the school environment, and some have therefore questioned the efficacy of school instruction alone (Baetens Beardsmore, 1993; Housen & Baetens Beardsmore, 1987; Johnson, 1996). As a result of this, Sagasta Errasti (2003) called for studies on the effects of additive multilingualism in different settings, both relating to instruction and social environment. Many studies have considered schools in the Basque Country, where Basque is used as a minority language, whereas Spanish is the majority, high prestige language, and English is taught in schools as an L3. Schools in this area have used different models of language instruction, but a number of studies have shown that students enrolled in schools with instruction in Basque exclusively, with Spanish taught as a separate subject for 3-5 hours a week score significantly higher in terms of Basque-Spanish bilingualism (Gabiña et al., 1986; Sierra & Olaziregi, 1989; Olaziregi & Sierra, 1990) and L3 proficiency (Cenoz & Valencia, 1994; Lasagabaster, 1997). Sagasta Errasti's research (2003) suggested that written proficiency in all three languages was interdependent, but that the students who mainly used Basque both in schools and socially had overall more production of written English, in addition to higher fluency, less error production and more complex vocabulary. Cenoz (2013) summarises the evidence from a number of studies stating that although the development of L1 proficiency and literacy is strongly associated with L3 advantages in both immigrants and minority language speakers, more studies are needed to finally establish the link, as L2 instruction without L1 literacy does not always hinder L3 acquisition (Wagner et al., 1989).

Nonetheless, the body of research on this topic suggests that knowledge about literacy level in a learner's languages is valuable information. Although a lack of L1 literacy does not always seem to hinder further language learning, the opposite seems to generally facilitate learning. Thomas (1988) investigated L1 Spanish immigrants in America who were L2 speakers of English and L3 learners of French. A significant correlation between L1 literacy and L3 learning was observed, and Thomas explains this as an understanding of language as a system which facilitates the skills associated with formal language learning, such as reading and writing. (Thomas, 1988: 240). Such transfer entails the recognition of specific linguistic knowledge that extends beyond purely typological similarities, but still does not extend to general metalinguistic effects. Mady (2014) investigated proficiency in French as an L3 in adolescent learners in Canada, where two bilingual groups were included- one group of lifelong bilinguals with English as their L2 and one group of immigrants who learned English in elementary school. When tested using a standardised *Diplôme d'études en langue française* test used

in schools both groups outperformed monolingual L2 French learners in written proficiency, but for speaking and reading only the immigrant bilingual group showed an advantage, whereas lifelong bilinguals and monolinguals performed equally. Through self-report and regression analysis, the authors claimed that the observed advantages were not results of indirect factors such as strategy use or metalinguistic awareness, nor were L1 and L2 proficiency reliable predictors. In summary, literacy skills seem mostly dependent on direct transfer of previous explicit linguistic knowledge rather than the indirect factors shown to influence other areas of language learning. As discussed in Chapter 2, the numbers of pupils with non-Norwegian backgrounds who receive first language instruction in schools has been decreasing steadily over recent years. This raises concerns as the evidence for effects of L1 literacy in further language learning is considerable. However, as this section has described, several studies have not made clear distinctions between effects of literacy and more general effects of multilingualism. For that reason, the present study addresses literacy in all the participants' languages through self-ratings and reported language use also in situations requiring literacy. Still, making clear distinctions in participant groups with varied linguistic abilities and experiences are very important in order to both validate and compare results.

### **3.6. Methodological concerns in multilingualism research**

As described in the previous sections, research on multilingualism has focussed on both cognitive processing, language production and language learning and attempted to ascertain differences between monolinguals and speakers of various numbers of languages. Results from either area have generally not been conclusive, and what Antoniou (2019: 409) refers to as “now you see them, now you don't-effects” have been frequent. Unreliability in observed effects can, however, in many cases, be explained through issues of methodology. In all types of research, results are very much dependent on the underlying premises for the study, and the many considerations behind a simple definition of multilingualism have strong consequences for study design. As discussed in section 2.2, as definitions of multilingualism vary, it is important to describe participants in a way that gives a comprehensive understanding of them as language users. The lack of consensus on a joint understanding of terminology is a challenge, as is an unclear presentation of participants in experimental studies- it is not always made explicit whether participants are literally bilingual, or multilinguals tested in two of their languages. This issue extends far beyond this particular area of study, challenges of terminology will also be discussed in the following chapter on transfer.

Kroll and Bialystok (2013) argue that initial bilingualism research often failed to portray the complexity of the issue being investigated. In response, the recent tendency as the field has spread into investigating populations who use multiple languages has been to take a more holistic approach. Cenoz (2013) discusses how the tendency to base research on “the analysis of specific elements rather than on the relationship among these elements” (2013: 10), such as directly comparing bilinguals to monolinguals and using a monolingual native speaker as a control in studies of language proficiency is potentially problematic. Cenoz discusses an approach that is more holistic in that it involves avoiding the reduction of general language processing to the understanding of specific aspects of processing. Specifically, it is mentioned that comparing the communicative skills of a multilingual to those of a monolingual does not take into account that the multilingual may use each language for completely different communicative purposes. Similarly, it is claimed that translanguaging and code-switching should be considered as a specific possibility and an aspect of creativity in multilingual language, and thereby not automatically be considered an error because they are not found in monolingual language practices. Cook (1992) proposed the term *multicompetence* in order to propose a better understanding of the idea that multilingual speakers possess a competence which is fundamentally different to that of monolinguals. This is due to a difference in language experience, which in turn has shaped their language use, affected their first language and restructured cognitive networks that are not limited to just verbal and linguistic processing. This holistic view, meaning that multilinguals possess a different language competence from that of monolinguals and for this reason, the same conclusions cannot automatically be drawn from performance results has to a large extent been adopted in multilingualism research (see e.g., Cenoz, 2013; Ginther & McIntosh, 2018; Jessner, 2008b; Dyssegaard et al., 2015), and has paved the way for new perspectives on both acquisition and testing in a multilingual context.

In the 1990s, Dynamic Systems Theory (DST) was introduced in language acquisition studies. Originally used in mathematics, the fundamental core of DST is viewing a process as a set of variables that interact over time, meaning that a change in one variable will affect the others to a varying, and somewhat unpredictable degree. (e.g., Karpf, 1990; Larsen-Freeman, 1997; Meara, 1999). The relevance of DST in a context of language was further reinforced by studies such as De Bot et al. (2007), which applied DST to morpheme order and sentence length experiments. Their conclusion was that in taking an all-or-nothing approach to the data, theories were often considered mutually

exclusive. They point out that a traditional view of statistics as a presentation of overall group performance should perhaps in very heterogeneous participant groups be accompanied by a more open view of data “look[ing] at the messy little details, the first attempts, the degree of variation at a developmental stage, and the possible attrition” (2007: 19). The Dynamic Model of Multilingualism was similarly proposed by Herdina and Jessner (2002). According to the DMM, the development of a multilingual system changes over time, it is non-linear, complex and reversible, as both language attrition and loss can be observed. In addition, it is highly variable due to its dependence on individual factors which can be social, psycholinguistic, and strongly dependent on the context of language learning. Jessner (2008) describes multilingual proficiency as “the dynamic interaction between the various psycholinguistic systems (LS1, LS2, LS3, LSn), crosslinguistic interaction (CLIN), and the M(ultilingualism)-factor or M-effect” (Jessner, 2008: 25-26). In summary, understanding the processing mechanisms of a multilingual learner or user first and foremost requires an understanding of the complexity of the phenomenon and awareness that it can’t be measured with the competence or performance of a monolingual as a yard stick. The overall impression is that although many components of the picture of multilingual competence are known, some of the links are still being hypothesised about, and as Antoniou (2019) points out, a more detailed theoretical model and testable prediction taking the unique complexities of multilingual competence into account can enable researchers to “predict which types of bilinguals would be more likely to show an advantage in a given domain and which would be less likely” (2019: 409). As mentioned, Li Wei (2000) identified no less than 37 subtypes of bilinguals. One of the most obvious distinctions is that between simultaneous bilinguals, who learn both languages at the same time, and sequential bilinguals, who learn one after the other. Add to that dimensions of age of acquisition, nature and circumstances for learning, proficiency and literacy to mention but a few, and it is clear that already with those who are pure bilinguals, as in speakers of two languages only, the interplay between the two languages can be infinitely complex and drastically different when comparing two cases.

Furthermore, when investigating learners with varying knowledge of several languages it is important to have a measure of proficiency in each language. As previously discussed, some definitions of bilingualism or multilingualism draw on measures of proficiency in the different languages. In a context of multilingual learning benefits, a number of studies have considered effects of L2 proficiency on further language

learning, with some confirming this (e.g., Sagasta Errasti, 2003; Sanz, 2007), while other studies have been less conclusive (e.g., Gallardo, 2007; Peyer, Kayser & Berthele, 2010; Dewaele, 2010). The specific measures of proficiency tested seem also to have an effect on the outcome, studies that have taken a broad approach often report clearer bilingual advantages than those with a narrow focus, perhaps unsurprisingly as bilingual advantages are not necessarily reported to be general (Cenoz, 2013). In bilingualism research, ratings of proficiency have mainly been based on either behavioural tests or on self-ratings. A challenge with behavioural tests is that they have to be as broad as possible, which makes them both demanding and time consuming both in design and execution. For that reason, many studies rely on self-ratings of proficiency. One of the main advantages with self-rating is that it provides a way of surveying a group which as mentioned earlier on can be very diverse and vary in myriad ways. Another is that it is demanding to conduct proficiency tests in languages the researcher does not speak, and in a classroom context it would be a far too extensive task. This has led to a considerable amount of research into self-rating methods that are reliable and valid as well as comprehensive enough to encompass the main concerns of the project. Reviewing existing material, Marian et al. concluded that “bilinguals’ language profiles are best captured by assessing language experience and proficiency across multiple linguistic domains” (2007: 942), and that bilinguals’ own assessment of proficiency and language history were seen to be consistent with their performance in behavioural tasks (e.g., Chincotta & Underwood, 1998; Flege et al., 1999, 2002; Jia et al., 2002). It should be noted that self-ratings have generally been used with older participants. However, age of acquisition has in a number of studies (e.g., Abrahamsson & Hyltenstam, 2009; Flege et al., 2002; Johnson & Newport, 1989) been shown to significantly predict performance in behavioural tasks, particularly in matters of L2 morphosyntax (e.g., Johnson & Newport, 1989; Abrahamsson, 2012). The same was also found in a number of studies that considered prior language exposure in both formal and informal contexts (e.g., Birdsong, 2005; Flege & McKay, 2004; McDonald, 2000; Flege et al., 1999), and for that reason Marian et al. (2007) found that language exposure across various contexts was also predictive of performance. Through two comprehensive studies, Marian et al. concluded that the most reliable correlations between self-rating and test performance were for L1 reading and L2 speaking proficiency. The results suggested that reading comprehension and morphosyntactic abilities were by most participants the measures that were given prominence in their self-ratings, but that L2 reading comprehension was also the one measure that tended in some instances to be inflated in self-rating. Language proficiency is often extended further to language dominance; however, this is a measure



which has been shown is more difficult to establish via explicit self-rating. Language use in various settings such as in the family and social settings, and also in introspective settings (talking to yourself, counting, etc) is expected to be informative about language dominance. A study by Gollan et al. (2012) showed in an extensive two-part experiment with both a younger and an older group of Spanish-English bilinguals that self-ratings of language dominance were difficult for participants to manage. Several of the participants performed better in the reported non-dominant language and overestimated their performance in the reported dominant language. This applied particularly in the younger groups of participants, where both Spanish- and English-dominant participants overestimated their performance in the reported dominant language. This is interesting in light of previous assumptions (e.g., Hakuta & D'Andrea, 1992) that a positive attitude towards L1 maintenance in an L2 environment would affect proficiency ratings in favour of L1, regardless of dominance. Gollan et al. (2012) still conclude that proficiency in the dominant language may be somewhat inflated, regardless of language status. The development of validated resources for ascertaining proficiency has been a methodological strength in newer multilingualism research. As it is now generally considered that multilinguals are able to reliably predict their own linguistic proficiency it is easier to consider proficiency effects on the measure being investigated, whether it is processing, production or learning.

The need for comprehensive knowledge of the backgrounds of participants in bilingualism studies, both relating their ratings of their own proficiency, their language habits and their language learning experience, has led to extensive use of background questionnaires in addition to behavioural tests. A number of different approaches have been taken in creating these questionnaires. One basic setup was proposed by Grosjean (1998), comprising six different overall factors aimed at providing a background profile of speakers of two languages:

- **Language history and language relationship:** Age of acquisition for L1 and L2, acquisition context, years of education in L1 and L2.
- **Language stability:** Process of acquisition, language restructuring (access to languages due to context)

- **Language use:** L1 and L2 spoken and used in home/school/work settings.
- **Language competence:** L1 and L2 skills in listening, speaking, reading and writing.
- **Language mode:** Percentage of L1 and L2 use in a monolingual and bilingual context.
- **Biographical data:** Age, socio-economic, educational status.

Many recent studies have used the groundwork of the Language Experience and Proficiency Questionnaire (LEAP-Q), created by Marian et al. (2007). This questionnaire was built on a comprehensive two-part study using extensive comparisons between questionnaire data and behavioural tests with the goal of establishing a “reliable and valid questionnaire for efficient assessment of bilinguals’ linguistic profiles” (2007: 942), which also employed standardised references making cross-study comparisons possible. Where previous studies had often put considerable emphasis on language dominance, the LEAP-Q considered language history as more predictive, and also easier for both participants and analysts to measure. In light of this, L2 acquisition is considered to be an interplay between experience and proficiency, and background factors are broken down into three main areas:

- **Language competence:** Proficiency, dominance and preference. Proficiency is rated for all four language competencies (reading, writing, speaking and understanding). Preference is considered task-specifically, as is dominance, in addition to a general perception of language dominance; understanding that speakers may differ depending on context and the task at hand.

- **Language acquisition:** Age of acquisition, both for first acquisition but also for attained fluency. Additionally, learning environments are also considered.
- **Language exposure:** Current exposure, both interpersonal and multimodal, as well as previous exposure in terms of time spent in countries, schools, workplaces and homes where the language in question is used.

Although intended for studies with participants who speak two languages, this questionnaire setup deals with each language separately, thereby providing opportunities for adding sections for speakers of more than two languages. In later years of bilingualism research, it has been argued that the former practice of comparing multilinguals and monolinguals probably does disservice to both groups, for several reasons. First of all, it has long since been established that multilinguals and monolinguals achieve different types of language competence, so for that reason they are not comparable as such in their acquisition of further languages (see e.g., Cook, 2003, 2007; Grosjean, 1992, 2008; Herdina & Jessner, 2002). Secondly, as argued by Cenoz (2013), many L3 acquisition studies look only at proficiency measures in that one language, after dividing learners into bilinguals and monolinguals. In spite of multilingualism studies' tendency to point out "the dynamic interaction between complex systems" (Jessner 2008: 26), little effort is often made to look into the relationships and interplay between learners' full linguistic resources. This means that although an L3 acquisition classroom study will involve both mono- and bilingual groups of learners, it is important to bear in mind the differences between them. Rather than use one group as a perceived standard to the other, one can look for the effect of important characteristics within each group, and extensive background information is critical.

Background profiling also provides information on numerous factors often observed to affect outcome in tasks relating to both processing, production and learning. Nature and frequency of use of each language are important to ascertain, particularly in acquisition studies. In a Norwegian year 7 class, L1 Norwegian speakers will have at least seven

years' experience with L2 English through school and will thereby by this stage be considered early bilinguals. However, as Cenoz (2013) points out, several studies have made a distinction between 'active multilinguals', who use two or more languages in their daily lives, and 'foreign language users', (see e.g., Cook, 2003, 2007; Grosjean, 1992, 2008) who have knowledge of other languages, but operate mainly in one language, dependent on situation. The difference between these groups is seen in language use and the extent of active switching between languages, and both can be significant in further language acquisition. As the multilingual advantages in language learning are generally considered to be related to cognitive flexibility (Au & Glusman, 1990; Byers-Heinlein & Werker, 2013; Kalashnikova et al., 2014), it is important to collect information on the learners' language use and whether their language habits constitute active bilingualism or occasional foreign language use. In the Norwegian context, the Ungspråk questionnaire is among first validated tool for exploring multilingualism, language habits and multilingual identity in a school setting (Haukås et al., 2021). The present study draws upon both the Ungspråk questionnaire and the LEAP-Q (Marian et al., 2007). Both these questionnaires are validated tools that provide extensive background information in a setup that allows for cross-study comparison. The former also had the advantage of being purpose made for both the age group and the Norwegian setting.

### **3.7. Summary and relevance for the present study**

In conclusion, there is ample evidence that multilingualism causes a restructuring of cognitive networks that in turn can lead to observable effects on both linguistic and non-linguistic processing. Some effects have been more consistent than others in experimental studies, but meta-analyses have also shown that multilingualism studies are susceptible to multiple factors that can affect the outcome of the study. These include definitions of what constitutes multilingualism, task effects, reductionist approaches to processing, and effects of background profile.

Traditionally, multilingualism research in Norway has tended to take a very specific approach, focussing on learners with either a migration background or speakers of national minority languages as the multilinguals and considering their language habits and learning experience, with particular emphasis on Norwegian as an L2. It is clear that Norwegian multilingualism research would benefit from a wider approach, working

from Haukås' (2022) assumption of all pupils as some degree of multilingual. As discussed in this chapter all multilingualism research needs extensive background profiling, but the area of performance differences between L2 and L3 learners of the same language is quite overlooked in the Norwegian context. Furthermore, considering as chapter 1 discusses, that learners in Norwegian classrooms often have a somewhat limited understanding of their own multilingualism and what it can do for them, and that teachers also express uncertainty on how to deal with multilingualism as a resource in the classroom, more research is required. Particularly beneficial in this context would be studies that take a full classroom perspective to consider the linguistic resources of each learner and how it affects their learning of English. This would provide insight into both the language ability and language habits of young Norwegian learners, but also how their language background affects their learning process. If one assumes that all learners at this stage are multilingual to some extent, one must also acknowledge that multilinguals can between them have different experiences and competencies, and that what we know in one language can affect how we acquire another. In order to facilitate the many benefits associated with multilingualism we must first of all understand the learners and then consider what strategies they have for transferring knowledge from one language to another.

The present study investigates the learning of morphosyntax in children who are either L2 or L3 learners of English and who have no formal learning experience with languages other than English and Norwegian. The study builds on an assumption that all the participants are multilingual, but that differences in their background profile can affect their language performance. For this reason, it is important to ascertain a number of background factors, including number of languages, proficiency across domains of each language, attitudes to each language and language use in given situations. The study thereby compares extensive language profiles of two subgroups of multilinguals, L2 and L3 learners, which in a Norwegian context is a novel approach. Additionally, the study considers the effects of background profile on language performance in several ways, not only effects of proficiency in the shared languages, but also effects of attitudes as well as L1 related effects. As multilingual language processing and production is considered inherently different to that of monolinguals, as discussed in this chapter, the present study views learner language performance against a continuum of multilingualism. This approach to learner performance is also novel in a Norwegian context and avoids using inappropriate comparison with monolingual performance when in fact, Norwegian learners of English are not monolinguals.

## **4. Language transfer**

### **4.1. Introduction**

Whereas previous chapters have focussed on multilingualism in both an educational context and linguistic processing, the focus of this chapter is the effects of previously acquired languages on the process of learning another.

The beginnings of transfer research were concerned with the effects of the chronologically first language on the acquisition of the second (Bley-Vroman, 1989, 2009; Epstein et al., 1996; Flynn, 1987; Odlin, 1989; White, 2003). Researchers have differed in their perceptions of the significance of the L1 (see e.g., Schwartz & Sprouse, 1996; Eubank, 1994; Vainikka & Young-Scholten, 1996; Epstein et al., 1996), but it is now generally understood that L2 learning will to some extent use the categories and structures of L1 as a starting point (Wirbatz & Buttkewitz, 2017; Odlin, 1989).

In this thesis, however, focus is on English learnt either as an L2 or as an L3, which opens up the possibilities of transfer from two previous languages. Transfer research has not been as extensive on L3 learning. One area of focus has been investigating which language exerts the most influence on L3 learning, L1 or L2. In what follows I discuss some of the different traditions in language transfer research. As different approaches have taken different foci, such as transfer effects in either learning, processing or production, this sets the scene for the present study.

Firstly, different types of transfer will be defined and examples of supporting evidence given, followed, followed by a discussion of the range of factors that have been shown to influence both the nature and extent of transfer effects. While the majority of research has focused on transfer from L1 to L2, the situation is yet more complex for learners of an L3. Research in this area is critical to this thesis and is reviewed in section 4.3. A critical difference between L2 and L3 learners is of course that L3 learners are more experienced language learners. A number of claims have therefore been made about the effect of increased metalinguistic awareness in this group. This chapter ends with a review of transfer research in Norway. This area of research has seen considerable advances in Norway over the course of the past five decades but has first and foremost studied adult learners of L2 Norwegian.

The present study was designed to extend our understanding of transfer in a number of key ways. Firstly, participants varied in L1 background, with particular interest in the five most common L1s, Norwegian, Arabic, Somali and Slavic and Baltic languages, all of which are typologically unrelated. Secondly, participants all shared two languages, Norwegian as an L1 or L2, and the target language English as their L2 or L3. Thirdly, participants were adolescent learners (ages 11-13) with no formal language learning experience other than Norwegian or English. Transfer effects were targeted through language tasks focussing on morphosyntactic contrast between English and the various L1s.

#### **4.2. Language transfer as a concept**

The notion of language transfer relates to observed effects of one language on the use or acquisition of another. Wach (2016) describes transfer as a kind of template or structure in L2 acquisition, where the L1 provides learners with a prerequisite source of linguistic conceptual knowledge, or a language template upon which the systematic foundations for a new language can be built. The L1 foundation encompasses both “knowledge *that*”, which is an awareness of the L1’s structure, and “knowledge *how*”, which encompasses the experience of how to communicate, if only through the most rudimentary combinations of forms. How the knowledge of one language influences both the acquisition and subsequent use of another has long been a topic of debate, both by the linguistic community and by language users. As mentioned in the introduction to this thesis, multilingualism is hardly a modern phenomenon, and there are noted mentions of the “mixed languages of Crete” in Homer’s *Odyssey*, and several philosophers and writers make derogatory remarks about foreigners speaking “bad Greek” (see Jarvis & Pavlenko, 2008: 1). The notion of the negative consequences of contact between languages have persisted and can be seen in the contentious attitudes toward many of the pidgin and creole languages developed as a result of colonialism, but also in contemporary youth language. In the Norwegian context, the term *kebab Norwegian*, coined by Aasheim (1995) about a variety of the Oslo dialect influenced by several immigrant languages became in subsequent years a derogatory term for a perceived corruption of standard language.

Jarvis and Pavlenko (2008) reviewed the scientific study of language transfer, starting as early as the mid-1800s. We can roughly distinguish four phases of research, according

to developments in primary research concerns. The first phase of research was concerned with how to recognise and investigate cases of transfer as a factor that affects other processes, often specifically L2 acquisition. In this stage, it was important to provide a methodology for both identifying transfer cases, defining the scope of transfer and quantifying its effects. A landmark study by Weinreich (1953) was the first to examine numerous types of linguistic transfer in detail. It also provided a discussion of the methods used for identifying and quantifying transfer, as well as the relationship between transfer and multiple aspects of bilingualism. This study was based on fieldwork in Switzerland with particular interest in the transfer of phonology within the bilingual German-Romansh speaking population. Weinreich referred to the phenomenon as *interference*.

The second phase shifts the focus on transfer from *explanans* to *explanandum*, now seeking to understand the constraints of transfer as well as its selectivity and directionality. This shift in focus was first seen in Selinker (1969), with a significant body of work being published later in the 1970s and 1980s. Selinker pioneered the field of experimental investigation of actual L2 learner behaviour, comparing experimental speech samples from young Hebrew-English bilinguals to samples of monolingual speakers of both languages, thereby seeking to verify observed behaviour through a specific methodological approach.

Works by Cook (1991, 2002), Flege (1995), Kroll and De Groot (2002) and MacWhinney (2005) mark the shift into a third phase, in which the primary concerns are now more theoretical. This phase involves the development of theoretical models explaining transfer in terms of both how, why and when it happens, as well as what types can be expected, giving rise to testable hypotheses. This phase is strongly connected to a general understanding of bilingual processing as the understanding of the interaction between mental representations of several languages, and consequently is associated with much of the work reviewed in section 3.2.

As further described in section 3.2, neurolinguistic research and the possibilities of various types of cerebral scanning have been crucial to the understanding of linguistic processing mechanisms. Jarvis and Pavlenko (2008) describe this as the fourth phase of transfer research, in which functional brain imaging technology is used to study transfer as a phenomenon that can be measured in the brain. This phase is still in its early stages,



but some studies have already provided valuable insights into the mental organisation of languages see e.g., Tolentino and Tokowicz (2011), Liu and Cao (2016).

#### 4.2.1. Definitions of transfer and theoretical approaches

In this study, the term *transfer* is used in its most general sense to refer to the influence of a language a person knows on their learning, knowledge or use of any other language (cf. Jarvis, 2017). In the literature this phenomenon is referred to by a number of terms. As mentioned, Weinreich (1953) used the term *interference*, which also is descriptive of the attitudes to the phenomenon in early research. Some researchers use the terms *transfer* and/or *crosslinguistic influence (CLI)* interchangeably (Jarvis & Pavlenko, 2008). In contrast, Rothman et al. (2019) distinguish between *transfer* and *cross-language effects (CLE)*, where *transfer* is understood as “a reduplication of a representation from previously acquired linguistic representations, as an initial hypothesis for a new domain” (2019: 24), or a blueprint of such, while a new target language is acquired. This involves copying familiar structures and categories that form the basis for one’s understanding of comparable structures and categories in the new target language. Instances of transfer are consistent and indicate that the actual representation is affected. *CLE*, however, is used to describe interference in the processing of a linguistic property where representations are stable and established. Psycholinguistic bilingualism research often refers to the phenomenon as *cross-language interference* (e.g., Marian & Spivey, 2003; Spivey & Marian, 1999). Examples of this can be producing false cognates due to influence from the non-target language, e.g., English *eventual* ≠ Norwegian *eventuell* (‘optional’), or incorrect use of morphology. Jarvis and Pavlenko write that one of the most important findings of pre-1990s research is the realisation that “errors are not the only outcome of [transfer]” (2008:11). The negative connotation of transfer as negative disregards the many instances in which transfer facilitates language acquisition and production through noticing and making use of linguistic similarities and differences.

Studies have considered the transfer phenomenon through different theoretical approaches, each representing a particular aspect of interest. Initially transfer research could generally be divided as either belonging to the generative or cognitive tradition. The generativist tradition was founded on the theories of Universal Grammar (UG) (Chomsky, 1982). The essence of this approach is the view that linguistic structure is

based on an innate set of principles (the UG), with which parameters are set according to the language experience of the language being learned. In transfer research, generativist approaches have traditionally focussed on access to UG, with particular interest in language learning situations later in life than in L1 acquisition and with little emphasis on external factors (Rothman et al., 2019). In the context of transfer in L3 learning, the primary interest in generativist research has been creating models of how previously acquired languages affect grammatical development in later language learning, with focus of *access* to structures in the UG. This has been considered both in initial stages of learning and in terms of implications for the general learnability of the target language. Proponents of generative approaches to transfer research include White (2003), Schwartz and Sprouse (1996), and in the Norwegian context Busterud (2014) and Jin (2007).

The cognitive approach to transfer research regards transfer not just in terms of access to grammatical structures but also considered the learner and learning situation in a wider sense. Hulstijn (2007) describes the cognitive approach to language acquisition as essentially being a *connectionist approach*, viewing linguistic knowledge as connections between language nodes that can either be strengthened or weakened by factors such as language dominance and proficiency, frequency of use and language exposure. The cognitive tradition in transfer research is strongly associated with the research done by Jarvis (2000, 2003, 2010, 2014) and considers how these effects, as well as e.g., language typology or sociolinguistic factors affect the connections between languages. In addition, research in the cognitive tradition has built on the ideas of Whorf (1956) and Vygotsky (1978) in which language-mediated concepts are seen as linguistic expressions of mental representations. Transfer of more perceptual and semantically related categories such as spatial relationships, personhood, gender and time have also been investigated, either as lexicalised concepts (concepts linked to words), or grammaticalized concepts (concepts linked to morphosyntactic categories such as number, gender, aspect or mood) (Jarvis & Pavlenko, 2008). The cognitive tradition has also included research in an educational context, with an interest in the role of transfer not just in the learning process, but also the teaching of languages (e.g., Esteve et al., 2017; Cummins, 2017)

More recently, transfer has also been considered in a more psycholinguistic context. In the psycholinguistic approach, language and thought are considered related, but independent phenomena (Claros, 2008). In this approach, aspects of generativism are

seen in the view of an organised mental lexicon, and aspects of cognitivism in an interest in how intrinsic and extrinsic factors affect linguistic processing. Intrinsic factors such as working memory, proficiency and attentive control, as well as extrinsic factors such as exposure, frequency of use and learning environment are seen as potentially affecting activation of the mental lexicon, both in language use and language learning. Traditionally, there has been a divide between psycholinguistics and educational sciences, but in more recent years perspectives and methods from psycholinguistics have been used to gain insights in the cognitive mechanisms underlying successful pedagogical practices (see e.g., Baker, 2001; Bosma et al., 2023).

The present study finds itself in this cross-section between psycholinguistic and educational research. Through investigating morphosyntactic transfer in non-L1 language acquisition, it clearly deals with language-specific settings in the mental lexicon, but language processing is also being investigated against the background of differences in participants' backgrounds relating to language experience and competence. It has not been the goal of the study to prove or disprove any particular theoretical approach or model, but rather to investigate both how transfer is observed and what the influencing factors are in a diverse multilingual group, and to consider the implications in an educational context.

#### **4.2.2. Recognising transfer**

When adhering to the definition that transfer is the influence of one language on another, it is also relevant to consider both the nature of transfer, as in which aspects of language are susceptible to transfer, as well as the directionality of transfer. To start with the former, Odlin (2003, 2003a) claims that transfer occurs in essentially all areas of language use (Jarvis, 2017). Jarvis and Pavlenko (2008) distinguish between linguistic transfer and conceptual transfer. Whereas the former relates to the structural properties of language, and thereby most relevant in the context of this thesis, the latter refers to conceptual and semantic representations of domains such as emotions, personhood, gender, number, time and space through language. These concepts are used in language to frame and contextualise, they are mediated through language and specific to a given language but are nonetheless not founded in structural interlingual differences. Within linguistic transfer, Jarvis and Pavlenko (2008) define four main categories: phonological and orthographic transfer, lexical and semantic transfer, morphological and syntactic

transfer, and discursive, pragmatic and sociolinguistic transfer. They do, however, note that although there is ample proof that transfer does occur within all these categories, it is not equally visible and detectable in all of them, and the likelihood of transfer occurring is in each category constrained by a number of factors, such as linguistic distance, proficiency, and task type. Factors influencing transfer will be discussed in section 4.2.4.

The main focus of this thesis is on morphological and syntactic transfer. Whereas lexical and phonological transfer were accepted as attested phenomena in early transfer research, the notion of morphosyntactic transfer has been treated with scepticism until relatively recent years, perhaps due to a very narrow understanding of how transfer manifests, and an unwillingness to consider interactions with other variables. As previously mentioned, overt errors are not the only result of transfer - avoidance, simplification and overgeneralisation may also be caused by transfer. For example, a study by Jarvis (2000) found that L1 Finnish speakers are more inclined to drop prepositions in their written English than L1 Swedish speakers. In Finnish, spatial relations are expressed through nominal suffixes rather than prepositions, as in both English and Swedish. The same study showed that L1 Finnish speakers with experience with L2 Swedish had higher mastery of English articles. Definiteness is also expressed morphologically in Finnish, and the similarities between definiteness marking in Swedish and English helped learners both recognise articles as obligatory and understand their use in English. Similar L1 effects have been observed on English tense and aspect, such as Collins' (2002) observation that L1 French speakers showed a tendency to prefer perfective verb constructions in written English to express simple past relations. English perfective verb phrases are morphologically similar to French *passé composé*, which expresses simple past. Interestingly, this tendency also increased with proficiency, showing that transfer is not only related to early stages of acquisition and does not decrease linearly, but can instead be used to an increasing extent as a strategy when a learner becomes able to make more complex interlingual identifications between the two languages. Such findings are consistent with interlingual identifications of grammatical morphology by language users and suggest that effects of morphological transfer are highly salient in cases of transfer of overt morphology, such as in the erroneous *passé composé*=simple past assumption. In other cases, however, the effects can be more subtle and only visible through purpose-made comparative analyses.

Clear evidence for syntactic transfer can also be difficult to find because transfer-induced over- and underproductions do not necessarily result in ungrammatical sentences. Syntax is flexible and provides users with ample possibilities to avoid using a challenging syntactic element. Syntactic transfer has been observed both in processing and production. Two studies on parsing strategies in monolingual speakers of L1 Spanish and English as well as Spanish-English bilinguals (Dussias, 2003, 2004) showed distinct preferences. When presented with temporally ambiguous sentences containing a complex noun phrase followed by a relative clause (e.g., ‘the son of a politician who came from Greece’), L1 Spanish readers attributed the relative clause to the first noun, and L1 English readers attributed it to the second noun, in accordance with attachment rules in the two languages. However, bilingual participants would, to a larger extent, attach the relative clause to the last noun in their L1 Spanish, due to influence from English. Syntactic transfer effects have also been observed in adverbial placement (Alonso, 2002) and the use of null elements (e.g., Jin, 1994; Xiao, 2004; Giirel; 2004). Alonso (2002) observed that instances of transfer were more frequent in less structured tasks, and less frequent in high-level learners, but also that lower-level learners tended to generally produce fewer adverbial constructions altogether, thereby avoiding potential interference. In the case of null elements, it was observed that in the acquisition of languages that allow null subjects, such as Chinese, speakers of L1s which do not allow null subjects consistently overproduce subject and object pronouns in the L2. These two examples demonstrate that effects of syntactic transfer in productive tasks might often emerge as avoidance or hypercorrection and can therefore be challenging to classify as cases of transfer as they do not necessarily constitute syntactic errors.

Effects of multilingualism have been observed not only in productive tasks, but also in perceptive tasks. Using grammaticality judgement tasks, Zobl (1992) first found differences between speakers of different L1s, but also that those who spoke three or more languages were on the whole more willing to accept ungrammatical sentences than monolingual speakers. Zobl hypothesised that the effect indicated that multilingualism meant that learners had a larger repertoire of linguistic resources to draw upon, and that the wealth of those resources represented an inverse relation to the conservatism of a language learning situation in which there was one rule and one answer.

Transfer is not L1-L2 unidirectional, though. As mentioned above, Dussias (2003, 2004) observed L2 patterns in the L1 of Spanish-English bilinguals. Altenberg (1991) and Köpke (2002) investigated L1 grammar in proficient adult German-English bilinguals

and adult L1 Germans who had migrated to Canada or France, respectively. Their studies found evidence of attrition of L1 morphosyntax due to L2 use. Jarvis and Pavlenko (2008) distinguish between forward transfer (L1-L2), lateral transfer (L2-L3) and reverse transfer (L2-L1). In cases of L2 learning there is obviously only two possibilities, the L1 can affect the L2 and vice versa. However, L3 or further language learning opens up multiple possibilities for various types of lateral and reverse transfer. It is generally considered that the L1 has a unique standing as a source language for transfer (Jarvis & Pavlenko, 2008; De Angelis & Selinker, 2001; Hammarberg, 2001). Transfer effects from post-L1 languages are generally seen as more influenced by factors such as age, proficiency, frequency of use and recency of acquisitions. These factors affecting transfer will be discussed further in section 4.2.4. Language typology is also considered particularly important in influencing transfer in multilinguals, this will be discussed further in section 4.3.1.

### **4.2.3. Evidence of language transfer**

Having established that transfer is found in all areas of language use (however more easily detectable in some areas than others) and can be multidirectional (although directionality is dependent on a number of factors), it is clear that some sort of framework is needed in order to detect cases of transfer. Jarvis (2010) proposes a criterion of intralingual contrast meaning that transfer effects must be traceable back to a degree of similarity or difference between the source language and the target language. Evidence of transfer can then, according to Jarvis, be found in three specific effects.

1. Intra-L1 group homogeneity in the performance of a group of learners with the same L1.
2. Inter-L1 group heterogeneity in the performance of groups of learners with different L1s.
3. Cross-language congruity between learners' performance in the L1 and target language.

Jarvis (*ibid.*) argues that transfer is conclusive when a) learners with the same L1 and TL performs systematically similarly, and b) learners with a different L1 but the same TL perform systematically differently. Furthermore, learners' perception and use of features in the TL must be c) traceable back to their use and perception of these features

in their L1. These criteria reflect how majority of transfer research takes a comparison-based approach, in which claims of transfer are based on a linguistic contrast between two languages. The researcher considers two groups of language users that are similar in L1 and whose L1 differs from the target language in one or more features which form the basis for investigation. For this type of study (e.g., Batsis, 2006; Busterud, 2014; Kamcev, 2013) more, or all of the mentioned transfer criteria should be observable.

The present study addresses each of the three transfer criteria above. Firstly, it is an experimental study in which a set of morphosyntactic variables are tested. The variables were selected based on contrastive analysis of English and four specified source languages. Participants were then tested in English and their performance results grouped according to L1. This allowed analysis of both intra-L1 group homogeneity (similar performance within L1 groups) and inter-L1 group heterogeneity (different performance between L1 language groups). Finally, due to selection of morphosyntactic constructions that were expressed differently between the selected source languages, the data allowed for different performance hypotheses for each L1 group, related back to the structure of each language. The selection of the specific variables will be described in the next chapter.

#### **4.2.4. Factors influencing transfer – data and studies**

As discussed in section 4.2, the first stages of transfer research were primarily concerned with detecting instances of transfer. Studies in the late 1970s turned the focus to determining what makes a structure transfer from one language into another in the first place, and this research argued that there are two main constraints. Transfer is firstly more likely to happen when the language user perceives the two languages as similar, and secondly, structures perceived as language-specific are less likely to transfer (Kellerman, 1983). Essentially, this means that unless the language user perceives that there is a category in the target language that corresponds to one in the source language, it is unlikely that transfer will happen. In addition to this, several other factors have been shown to interact with transfer. Jarvis and Pavlenko (2008) divide these into four general categories of interaction factors.

The ways in which transfer can be affected by the characteristics of the source and recipient languages are by Jarvis and Pavlenko (2008) considered *linguistic and psycholinguistic interaction factors*. The most obvious linguistic factor is crosslinguistic

similarity. Effects of crosslinguistic similarity are observed across language domains and can influence both learning, comprehension and production. However, measures of similarity are not objective. Subjective similarities, as in how the language learner perceives the two languages to be similar or different are a deciding factor in transfer mechanisms. Linguists' understanding of crosslinguistic similarity can differ from those of learners, and subjective similarity is often more asymmetrical, thereby causing transfer to go more in one direction than the other (Jarvis & Pavlenko, 2008). A study by Cenoz (2001) investigated oral production data from 9–11-year-old Spanish-Basque bilinguals who were L3 learners of English and found that perceptions of similarity between the languages changed with age and experience. Although Spanish and English are, in contrast with Basque, Indo-European languages and thereby more similar, only the older participants perceived the difference, and thereby the preference for transfer from Spanish was more noticeable in the older group than among younger learners, who showed no clear preference.

When considering psycholinguistic factors that influence transfer, a central notion is activation of linguistic processing systems. The understanding of these systems builds on the cognitive mechanisms of bilingualism, as described in section 3.2.2. Models of bilingual processing are based on the assumption that both languages are continuously active at all times in linguistic processing (e.g., Dijkstra et al., 1998, Dijkstra & Van Heuven, 2002), whether in receptive or productive tasks, and that language selection happens on the basis of degree of activation. This means that words and concepts in a person's linguistic repertoire are assumed to be interconnected across languages. Models such as the Bilingual Interactive Activation Model (BIA, later revised as BIA+, Dijkstra et al., 1998, Dijkstra & Van Heuven, 2002) suggest that dependent on the task at hand, competition will happen in a complex identification system that uses cues from lexical and sublexical orthography and phonology, based on similarities and differences between the languages in question. A study by Degani et al. (2011) tested adult English-Hebrew bilinguals (n=52) in a task of relatedness where participants were given the task of determining degree of semantic overlap between two English words. As the Hebrew word *kli* can mean both 'dish' and 'tool' in English, the BIA+ model assumes that joint activation of both possibilities will also result in an intralanguage association between 'tool' and 'dish', and the results of the study indeed showed that 'tool' and 'dish' were rated as more similar by the bilingual group than by the monolingual English control group. When expanded to a context of L3 learning and use, the notion of continuous parallel activation of all languages is interesting in that it raises the question of the



mechanisms determining the source language for transfer. Moreover, it also shows the psycholinguistic approach as an expansion of the generative/cognitive dichotomy in that it considers the mechanisms determining and providing access to the structures of one source language over another. This has been addressed in several transfer studies. A production study using description and retelling tasks as well as interviews (Poullisse, 1999) examined the speech of 45 Dutch-English bilinguals, ages 14-25, with proficiency levels related to age. The study found that 30% of their slips of tongue (e.g., *jas*, a blend of Dutch *ja* and English *yes*) reflected L1 influence, most of them from high-frequency words. This was considered to a result of word frequency in the L1 as an important factor in non-facilitative transfer- these words had such high activation that they were difficult to suppress, particularly in lower levels of proficiency. This also relates to another bilingual processing model, the Reversed Hierarchical Model (Kroll & Stewart, 1994; see section 3.2.2), which claims that at initial stages of learning, the L2 is accessed through the L1, and only with increasing proficiency can the L2 representations be accessed directly. Additionally, recency of both use and acquisition has also been observed to significantly influence transfer by having higher activation in the mental lexicon. Dewaele (1998) tested L1 Dutch university students (n=39) with French as L2 and English as L3 or vice versa using a free speech task where morpholexical errors were registered. The results showed effects that suggested that it was not the most recently acquired language that was the strongest candidate for transfer, but rather the one that had been acquired before the target language that held strongest activation, and that this was important in learners who are highly multilingual. A study by Jarvis (2002) used a written English summary task based on visual stimuli to test adolescent speakers of L1 Finnish (n=199) who were L2 English and L3 Swedish or vice versa. He observed more accuracy in the use of English definite articles in those with less learning experience with English and more with Swedish. This was attributed to how definiteness is functionally very similar in both languages, but more perceptually salient in Swedish.

*Cumulative language experience and knowledge factors* have also been found to affect transfer, and primarily those relating to age, language exposure and proficiency. Age effects on transfer have been researched primarily within studies on phonological transfer in speech development and accuracy (e.g., Guion et al., 2000), but to a lesser extent in other areas of transfer. One of the studies that did consider transfer in other language domains was a longitudinal study of overall oral and written proficiency in 200 learners of English ages 13-19 who were native speakers of Swiss German with school experience with Standard German. The overall results showed that those who

started English instruction at a later point had more instances of non-facilitative transfer from their background languages than early learners (Pfenninger & Singleton, 2017). That study linked age effects to effects of proficiency in that early learners had more experience and were therefore generally more proficient, and thereby showed less interference from the L1 in their language production. Although generally in transfer research, proficiency is a complicated measure to interpret. In studies on multilinguals, there are at least three languages to consider, proficiency can be domain-dependent and also vary in productive and perceptive tasks, such as reading comprehension and writing or speaking. It would be too complex to discuss all possible effects of proficiency in a transfer scenario in this section, but in multilinguals, proficiency effects have been observed in all their languages. Performance-related transfer has been observed to increase with proficiency in the L1 (e.g., Guion et al., 2000), high L2 proficiency has been observed to affect performance in the L3 (e.g., Dewaele, 1998; Hammarberg, 2001; Odlin & Jarvis, 2004) as well as the L1 (Tao & Thompson, 1991; Van Hell, 1998). In an L3 context, a recent study by Aribas and Cele (2021) investigated acquisition of articles in English. The study used a forced-choice elicitation task with a group of adolescent L1 Turkish L2 German bilinguals with varying L2 proficiency. The study concluded that L2 proficiency was a significant factor in facilitative transfer of articles from the L2, German to the L3, English. More recent studies have also explored reverse transfer (L2-L1) resulting in L1 attrition. Cuza (2010) investigated impressions of simple and progressive aspect present tense using both perceptive and productive tasks in a group of 19 adult L1 Spanish speakers who had emigrated to the United States and found that influence from the L2 had affected their L1 usage. Participants showed lower acceptance for and use of the continuous interpretation of simple present tense in Spanish, favouring progressive aspect as used in English. These insights have made it clear that the assumption of full L1 proficiency may not always be valid in multilingual transfer studies.

*Factors relating to the learning environment* describe primarily differences between formal and naturalistic learning environments, and learning focussing on either formal or communicative aspects of language. Effects of learning environment have been investigated in studies such as Witney (2015) and Pliatsikas and Marinis (2013). Witney (2015) investigated morphological and syntactic transfer in adult English/French/Spanish trilinguals. Particularly the more advanced learners regarded an instructed language-learning environment with a focus on interlingual identification of grammatical differences and similarities as beneficial. This group noted especially how

the use of metalanguage facilitated using L2 resources in L3 learning. Pliatsikas and Marinis tested processing of sentences with long-distance dependencies (e.g., ‘The politician who the journalist predicted that the government report would bother is calling a press conference’, 2013: 167) by groups of advanced adult Greek-English bilinguals, some with only classroom experience (n=30) and some with an average of nine years of naturalistic experience (n=26) in an English-speaking country. Compared to a monolingual English control group, none of the participants showed differences in comprehension, but learners with naturalistic experience processed the sentences more similar to the monolingual control group. Studies like these exemplify how both the learning environment can affect the actual cognitive language processing mechanisms as well as focussed attention to contrasts intended to induce facilitative transfer of comparable structures of the languages in question. As formal language learning often focusses on awareness of linguistic similarities and differences and encourages well-formedness in production, the situation is designed around increasing the opportunities of facilitative transfer.

In addition to the effects of the learning environment, *factors relating to language use* have also been seen to influence the possibility of transfer. These effects can relate to both the learners’ ability to use the target language as well as effects of task type in language use. In language learners who have little contact with the target language outside of the classroom, the gap between what the learner can comprehend, and produce is greater in learners of similar languages than in those who are acquiring a language very different from the L1 (Ringbom, 2007). For instance, L1 speakers of a Germanic language learning another Germanic language can usually comprehend more than they have learned or experienced in the L2 classroom although their productive abilities are often quite constrained by what they have learned. By contrast, an L1 German learner of Arabic will be more balanced in terms of comprehension and production as both are more directly dependent on explicit instruction. A study by Casado et al. (2023) explored the effects of short-term re-immersion in the L1 environment on 55 adult Polish-English bilinguals living in the UK using a picture-naming task. The results showed faster naming latencies after a two-week re-immersion period in Poland, thereby suggesting how activation levels for lexical items are quickly adapted to changes in language use. Use-related effects have also been noted on a more methodological level in transfer research (see e.g., Gass, 1980; Hyltenstam, 1984; Jarvis, 2000). A study by Jarvis (2000) using three task types, a retell task, a lexical listing task and a lexical judgment task to L1 Finnish and L1 Swedish-speaking adolescent learners of English (n=537) observed

clear L1 effects on all task types. However, the two groups differed more in their judgment task results than on the other two tasks, this task being the only perceptive task, requiring a different degree of analysis than the two productive tasks. Jarvis and Pavlenko (2008) note that effects of task type, unlike other effects type (e.g., linguistic and psycholinguistic factors) mostly relate to linguistic performance, rather than affect the actual learning process. It should also be remembered that the L1 can play a part in language learning beyond just a source of morphosyntactic or procedural transfer. Wach (2016) reports that several multilinguals described routinely translating L3 utterances into their L1 to gain psychological reassurance, and Iversen (2016, 2017) similarly reports that several multilingual informants used their L1 for reassurance in production because they felt their L2 proficiency was inadequate to be of help- despite the L2 being linguistically closer to the L3 in question.

In summary, although clear criteria can be set for the detection of transfer, the phenomenon itself cannot be viewed as isolated, but rather as susceptible to a number of factors known to influence transfer in both learning and performance.

### **4.3. Transfer and L3 learning**

As discussed above, it is generally agreed that in L2 learning, the L1 provides a foundation for both representational and procedural knowledge, the no-transfer option being generally rejected. However, while L2 learning offers in essence only two transfer scenarios—either it happens, or it does not—L3 learning opens up to at least four possibilities. These are no transfer, transfer is exclusively from either the L1 or L2, or transfer can come from either language, separately or simultaneously. Rothman et al., (2019) summarise the main models proposed for L3 transfer, the first one being the Default L1 Transfer Scenario (Hermas, 2010, 2015; Jin, 2009; Lozano, 2003). This model type suggests that the L1 has a cognitively privileged status and is supported by evidence from studies usually combining order of acquisition and language dominance, often showing that as many sequential bilinguals have acquired their L2 later in life, they remain L1 dominant. The authors do still note that very few studies claim an L1 default effect, particularly as later models have taken other factors such as language typology into account. However, studies by Lozano (2003) and Ranong and Leung (2009) have looked at morphosyntactic L1 transfer effects, and their findings suggest a default status that nonetheless needs further research in order to be conclusive.

The second transfer scenario is the L2 as the singular source of transfer. Williams and Hammarberg (1998) observed a native speaker of English who was fluent in German, advanced in French and had basic knowledge of Italian. During the acquisition of Swedish, this learner used the L1 English mainly in an instrumental way, i.e., mainly as a facilitatory tool through metalinguistic commentary and to ask for help. The role of primary linguistic supplier was the L2 German, which was used primarily for lexical construction and was observed in the majority of language switches categorised by Williams and Hammarberg as without identified pragmatic purpose. Jessner et al. (2016) note that this tendency is evident in multiple studies looking at multiple languages. This forms the basis for a hypothesis referred to as *The L2 status factor*, defined as “a desire to suppress L1 as being ‘non-foreign’ and to rely rather on an orientation towards a prior L2 as a strategy to approach the L3” (Hammarberg, 2001: 36f). The cognitive basis for this hypothesis comes from the *Declarative/Procedural Model* (Paradis, 2009), which proposes different memory systems for the grammars of native and nonnative languages. More specifically, the model claims that L1 grammar is found in procedural memory, whereas lexicons for all languages and grammars acquired after puberty are stored in declarative memory. De Angelis suggests that there is an “association of foreignness” resulting in a stronger cognitive association between foreign languages (2005: 12). Several studies have claimed that particularly in learners with limited metalinguistic knowledge, the L2 status factor is a reliable predictor of the direction of transfer: This has been observed in studies on both L3 learning in heritage language speakers (Polinsky, 2018) and in L2 or L3 learning with adult learners with varying degrees of L1 metalinguistic knowledge (Falk & Bardel, 2011; Falk et al., 2013; Garcia Mayo & Alonso, 2015). The procedural/declarative memory distinction, however, does make assumptions about age and order of acquisition, and revisions have been necessary due to possible selection problems in more complex learning situations. Distinctions are not straightforward, for instance in simultaneous bilinguals, whose L3 represents the acquisition of their first nonnative language but their third grammar, or L3 learners with high metalinguistic knowledge of their L1. Bardel and Sanchez (2017) propose the possibility of differences in attention control and working memory as potential determiners for which grammar has primary influence, but as Rothman et al. (2019) points out, this makes for considerable individual differences and relationships that are difficult to model.

The third and final transfer scenario, viz., that transfer can occur from either the L1 or the L2, separately or simultaneously, is proposed by a number of models, each with a

somewhat different focus. The *Cumulative Enhancement Model (CEM)* (Flynn et al., 2004) considers that L2 and L3 acquisition are sufficiently different to be treated separately and was the first model to claim that the effect that language learning experience has on subsequent acquisition is highly restricted rather than random, which is now fundamental to all contemporary models. Building on this principle, the CEM argues that in L3 acquisition all previously acquired languages can affect the process, but only in a facilitative manner, thereby the term ‘enhancement’. This shifts the focus from other models that primarily addressed nonfacilitative influence of L1 and L2 on L3. Flynn et al. (2004) assume that transfer is not wholesale, but happens property by property, i.e., only when L3 input calls for it and only for the specific property required for parsing in a given situation. However, as nonfacilitation both can and does happen, the *Linguistic Proximity Model (LPM)* (Westergaard et al., 2017) claims that transfer is not restricted to the L1 or L2 and happens property by property when necessary, however misanalysis gives opportunity for nonfacilitation. This model maintains that there is a difference between competence (knowledge of a language) and performance (language use in actual situations) and considers L3 behaviour and previous language experience as inherently dynamic but is vague on which actual mechanisms cause misanalysis and errors. Westergaard et al. (2017: 671) claim that misanalysis happens when learners “mistakenly assume that a property is shared between the L3 and either or both of the previously acquired languages”, but the question remains what determines when and why it happens. Nonetheless, the LPM makes an acute observation in its emphasis of the dynamic nature of language interplay. As previously mentioned, L2 acquisition has two temporal possibilities, it is either a simultaneous or sequential learning process, the acquisition of further languages adds to a greater complexity of learning routes. Herdina and Jessner’s (2002) revised Dynamic Model of Multilingualism (DMM) uses Dynamic Systems Theory principles and was a novel approach in that it does not consider the learner’s resources as individual languages, but rather a complex psycholinguistic system. This model distinguishes three different aspects of crosslinguistic effects. Firstly, *transfer*, which is restricted to transfer of equal structures of L1 to L2 and may be either facilitative or nonfacilitative. *Interference* is used to describe language processing, rather than structure. And finally, *crosslinguistic interaction* is used to describe the interplay of two or more language systems.

Jessner et al. (2016) define crosslinguistic interaction as encompassing not only the traditional ideas of transfer and interference, but also code switching and borrowing (i.e. intentional use of the non-target language) and emphasise how it refers to a bidirectional

interplay between all language systems. They describe how influence works in all directions, thereby it is not only a matter of L1 influence on the L3, but also vice versa, in fact, all languages can have some degree of influence on any of the others. With this in mind, they argue that as the number of languages involved increases, “the more the relationships between the language systems have to be considered, since the number of possible interactions in multilinguals increases with every additional language” (2016: 197-98). If one considers a traditional view of what Jessner et al. (2016: 198) refer to as “non-native transfer”, this has been observed in several of the traditional domains. De Angelis (2007) mentions specifically syntax (e.g., Klein, 1995), morphology (Jarvis & Odlin, 2000), phonetics and phonology (Hammarberg & Hammarberg, 1993; Williams & Hammarberg, 1998) and lexis (Ringbom, 2001).

#### **4.3.1. Factors influencing transfer in L3 learning**

As discussed above, whereas L2 learning allows for transfer in two directions, L1-L2 and L2-L1, L3 learning provides multiple possible directions for transfer. Directionality and degree of transfer in L3 learning have been primary areas of interest in L3 transfer studies. Results have shown that the two most influential factors affecting transfer in L3 learning are metalinguistic awareness and language typology, and some key studies and results will be discussed in this section.

The notion of metalinguistic awareness is frequently mentioned in studies on third language acquisition. Positive correlations between bilingualism and metalinguistic awareness in L3 acquisition has long since been established (see e.g., Thomas, 1988; Lasagabaster, 1997; Jessner, 1999). As previously discussed, the Dynamic Model of Multilingualism (DMM, Jessner et al., 2016) describes multilingual learning and language use as a highly dynamic process of transfer effects, language attrition, language maintenance and highly complex interactions in the linguistic processing system. L3 learners display higher language learning skills than L2 learners, and Herdina and Jessner (2002) describes multilingual language use as a balancing act between communicative requirements and language resources. In the DMM, Jessner et al. describe the “M-factor” (M for ‘multilingualism’) (2016: 203) as a function of the interaction between several language systems. A key component of the M-factor is metalinguistic awareness and cross-linguistic awareness, which in the DMM is considered the key effect of multilingual learning, with measurable effects on the

learning curve in language learning (Herdina & Jessner, 2002: 17). The level of metalinguistic awareness seems to increase with the number of languages involved, and this has been observed even in child learners. Hofer's (2017) research in South Tyrol tested 84 children (average age nine years old), where half were enrolled in multilingual education and the other half in traditional education, using tests of metalinguistic awareness and language abilities in all their languages (L1 Italian, L2 German, L3 English). Hofer found that the pupils in multilingual education showed significantly higher levels of structural awareness and analytical skill than those in traditional education. They also made frequent use of comparisons between their languages through metalanguage. Similarly, a study by Woll (2016) investigated facilitative lexical transfer from L2 English to L3 German in L1 speakers of French (n=66) using a translation task, think-aloud protocols and a test of metalinguistic awareness. Two independent models of regressions showed that metalinguistic awareness was by far the strongest predictor of facilitative transfer. In fact, only one of the analyses showed a significant effect of English proficiency. Studies by both Jessner (2006), Megens (2011) and Graus (2014) found that use of supporter languages in multilingual language production occurred more often than not alongside the use of metalanguage, indicating a tacit "awareness (...) of the interaction between the languages" (Jessner et al., 2016: 208). They link this to a claim by Bono stating that "For L2 influence to become a learning accelerator, [cross-linguistic interaction] needs to be coupled with metalinguistic awareness" (2011: 25). In summary, metalinguistic awareness has been seen to increase with the number of known languages, thereby providing an advantage in novel language learning, but even in multilinguals levels of awareness are predictive of ability to transfer knowledge between languages.

As mentioned previously in this chapter, language typology is another important factor influencing language transfer, and it is to an even larger extent in L3 learning. Wach (2016) states that successful L3 learning is very much dependent on the learner's level of explicit knowledge of language structures but points out that L3 learning also seems heavily affected by language typology and psychotypology in an interplay between the learners' total language resources that can either facilitate or inhibit learning. This supports claims from Cenoz (2001) that linguistic distance is a stronger predictor of transfer than L2 status. A study by Bardel (2006) considered morphosyntactic transfer in adolescent learners of L4 Italian who were asked to give an oral description of a cartoon-type story. In this study, groups of learners with L1 (Swedish) and



L2 (English) were considerably different in the errors they made regarding post-verbal negation and non-thematic verbs. The predicting factor was the L3, where both Germanic and Romance languages were represented throughout the group. If a learner's total previous language resources were Germanic, more errors were produced than by learners who had also studied a Romance language, despite the uniformity of the language background prior to that. Mesaros (2008) summarises several perspectives on transfer and considers that language typology is instrumental to language transfer, in that learners transfer words and structures from the language(s) typologically closest to the target language (Cenoz, 2001; Möhle, 1989; Singleton, 1989; Cenoz & Genesee, 1998), or at least the languages perceived to be closest (Wach, 2016).

Still, studies investigating the source languages for transfer in L3 learning provide conflicting conclusions. Some studies report that the L1 has a particular position as source language for transfer, whereas others have observed other effects. Based on a corpus of 150 English language essays written by adolescent speakers of L1 English, Swedish and Finnish Ringbom (1987) concluded that particularly in early stages of learning, transfer was most likely to occur from the L1 rather than from subsequent languages. The status of the L1 was nonetheless a less significant factor than the typological relationship between the target language and the other known languages. A review by Dyssegaard et al. (2015) observed that transfer seemed to be most salient in languages that were typologically close. This review considered 58 studies on adolescent L3 learners and found evidence that L1 typology was related to the development of both speaking, writing and listening skills, as well as reading comprehension in L3. Brohy (2001), Swain et al. (1990), Bérubé and Marinova-Todd (2012) and Cenoz & Gorter (2011) observed increased skills in all these types of proficiencies for L3 learners with a typologically related L1. Brohy (2001) noted that all groups of students used transfer strategies in the acquisition of L3 French, but the students who were L1 speakers of Romansh, which is more closely related to French, nonetheless had overall better competences than L1 German speakers. The L1 Romansh speakers were seen to process more information and were able to construct more complex sentences. Lindqvist (2006) considered transfer from L1 Swedish and L2 English in oral production of various L3s and found that virtually all transfer came from L1. However, the study also concluded that L3 proficiency was a major influence on the degree of transfer; with increasing proficiency the number of cross-linguistic lexemes decreased significantly. In a more complex study, Cenoz (2003) found that adolescent

learners of L3 English used L1 Basque as the default supplier for their interactional strategies in speaking English, however it was their L2 Spanish that they used in non-intentional language switches, Spanish being typologically closer to English. Mesaros (2008) also discusses the effect of recency- meaning that learners are more likely to transfer from languages they actively use than from others they may know but do not use regularly.

Contrastingly, studies such as Wirbatz and Buttkewitz (2017) found no clear signs of syntactic transfer from L1 or L2 in L3 learners, but postulate that the developmental level of the learner may be more influential in transfer than structure of the native language. Dahl et al. (2022) came to similar conclusions in their study of L1 Norwegian high school students (n=154) with L2 English and L3 German. Here acceptability ratings for verb placement showed no evidence that any wholesale transfer from neither language had taken place in the early stages of L3 acquisition. There was, however, an effect of structures that were internalised through high proficiency in the L2. They found that these structures transferred more easily into the L3. Also, high L2 proficiency predicted increased performance in the L3, regardless of differences in the tested structures.

What these studies show, and all attempt to explain, is that cross-linguistic effects are observed in L3 language learning, that they are not always consistently attributable to the L1 or L2 in the way that consistent L1 effects are observed in L2 learning. Language typology has been found to play a part, but which mechanisms are at work in the selection process remains the question. This is addressed in the *Typological Primacy Model* (TPM) (Rothman, 2010; Rothman et al., 2019). In order to understand how L3 competence is developed, this model acknowledges the dynamic nature and the different possible learning trajectories by considering “what the potentially different starting point of grammatical departure is in each case” (Rothman et al., 2019: 154). Essentially, the TPM focusses on the initial stages of establishing an L3 grammar and claims, like the Cumulative Enhancement Model and Linguistic Proximity Model, that in early stages of L3 acquisition, transfer from both the L1 and L2 are possible, but that the probability of which language will be involved in the transfer from is both highly constrained and predictable, and restricted to one over the other. The theoretical rationale for the model is that when L3 acquisition starts, the learner already has experience with bilingualism, and particularly sequential bilinguals will have an understanding of how language learning can be aided by previous experience rather than start from scratch

each time. However, the learner has not at this early stage developed the understanding that “wholesale transfer”, i.e., a complete transfer of the grammatical properties of another language can result in nonfacilitation and that reanalysis and readjustment will be required along the way. Based on language typology, the most closely related language is transferred “wholesale” as a basis for morphosyntactic representations. Rothman et al. do point out that this is based on the learner’s perceptions of similarity as they are parsing input of a novel language. As also discussed by Jarvis and Pavlenko (2008), learners do not necessarily make their judgments based on the same criteria as linguists, and the perceived accuracy may depend on e.g., maturity and metalinguistic awareness. Rothman et al. (2019) claim that in order to determine which language to transfer from, learners first examine lexical similarity, which can be relatively accurate in cases of genetically related languages. However, in cases of little or no lexical overlap, the learner can, in turn, consider phonetics, phonology and phonotactics, failing that morphological form and encoded features, or as a last resort, syntactic structure in order to determine linguistic proximity. The rationale for this hierarchy is based on first of all children’s mechanisms for dealing with language (e.g., Clark, 2003; O’Grady, 2005; Snyder, 2007; Guasti, 2017) where meaning is prioritised at early stages. Also, at this stage, the experience from having acquired two different systems already will argue for how an overlap of meaning will make a transfer of the associated structures seem rational and economical. However, in cases where lexical similarity cannot be determined because the three languages are either too different (let’s imagine L1 Arabic, L2 Norwegian, L3 Korean) or too similar (L1 French, L2 Italian, L3 Portuguese), then phonetic clues make for a second option, because again they are experimented with also in children’s linguistic development prior to an awareness of grammatical structure. Finally, morphological or syntactic structure form the final set of determiners, also requiring the highest level of awareness and having the clearest link to experience from bilingualism. Rothman et al. (2019: 160) cite 9 studies from 13 researchers between 2009 to 2018 on learners with either English or Spanish and L1/L2 and Brazilian Portuguese as L3. Between them they found evidence for transfer of 11 domains of morphosyntax, always from the typologically closest related language, Spanish, regardless of it being L1 or L2. The authors thereby argue that if 11 morphosyntactic features are transferred, this should be sufficient evidence to claim that initial transfer is “wholesale”. What happens then if a transferred structure turns out to be nonfacilitative? In this case, experience from bilingualism is again important to resolution. When the parser discovers that restructuring is needed, a category can be transferred from the other language in its place, working in a property-by property- approach to resolve the

conflict, again similarly to the CEM and LPM. This secondary type of transfer occurs only as L3 competence itself develops, and the learner experiences that new input cannot be sufficiently accounted for by the imported representations already selected. This model is particularly interesting in that it acknowledges that in an L3 acquisition process, the mind is already bilingual and has developed some explicit metalinguistic competence that causes the learner to use previous experience to economise the process as well as resolve any subsequent cognitive conflict when faced with input that cannot be parsed through previously selected representations. Furthermore, if judging by this model, then learners with a bilingual background of Norwegian and another of the most common language backgrounds in Norwegian classrooms should do a wholesale transfer of Norwegian grammatical representations when starting to learn L3 English, as it is the typologically closest language (see section 1.1). However, in cases where young learners have a non-Norwegian L1 and start learning Norwegian and English simultaneously when starting school, the question is whether the L1 then forms the basis for learning both languages.

In summary, most transfer studies suggest that it is not possible to identify one of a multilinguals' languages as a primary source of transfer, it is rather a case of an interplay between their total linguistic resources, and is also heavily influenced by metalinguistic awareness, linguistic relatedness and perceived similarity. Although a number of models attempt to explain how transfer is used in L3 acquisition, many are based on evidence from adults, and particularly sequential bilinguals. This calls for further research on younger learners, particularly in cases where two languages are learnt simultaneously.

#### **4.4. Previous Norwegian studies on language transfer**

In the Norwegian context, two meta studies have reviewed over four decades of research on transfer in Norway, including those written as part of a masters' or PhD degree. Golden et al. (2007) reviewed works from 1980-2005, and Gujord and Ragnhildstveit (2018) reviewed those published between 2006 and 2017. The most noticeable trend in the Norwegian transfer research field is that it has almost exclusively concentrated on investigating Norwegian as a second language and how this is affected by other language backgrounds. Golden et al. (2007) have focussed their review on what they refer to as "Norwegian L2 research" (my translation), in which "mother tongue influence" is one of the central areas covered. They describe this period as formative within the field of

L2 research in Norway. Among the 97 works written as part of an academic degree within that period, 73 were written within the last decade, and in that same decade L2 research became increasingly formalised in Norwegian institutions of higher learning. Out of the total bulk of reviewed material, Golden et al. found 17 MA theses and three PhD theses investigating some form of transfer. Most of these took a contrastive approach to transfer with the majority focussing on aspects of morphosyntax, not unlikely inspired by the publishing of several works of contrastive grammar where Norwegian was compared to grammars of several languages spoken among immigrant populations, such as Vietnamese (Bruland et al., 1979; Andenæs, 1984; Rosén, 1999) and Albanian (Husby, 1999). In all studies published in this period, Norwegian is the target language, and in the first stages of this period the role of the L1 was to explain errors in target language, rather than to predict target language errors. In most of these studies Corder's (1974) view of errors was central. This theory will be discussed further in the next chapter, but Corder essentially viewed errors as indicative of representations in learners' interlanguage. Of the published works in this period that considered morphosyntactic transfer, the majority investigated the use of one or two constructions, such as *it*-sentences and inversion (Andenæs & Golden, 1980), Norwegian non-pro-drop status and V2 word order (Mangerud, 1988; Nistov, 1989; Toledo, 1995; Salomonsen, 1995; Saarik, 2006; Vikøy, 2006). Some theses also look at transfer as a more conceptual phenomenon, such as Moskvil (2004) and Helland (2005), comparing the acquisition of verbal morphology in L1 Turkish and Vietnamese learners of Norwegian with focus on the grammaticalization of conceptual categories such as tense, mode and aspect. Golden et al. (2007) note that a general impression, particularly in the early works of the period, is that theoretically speaking, early transfer research was characterised by some theoretical dilemmas due to shifts in focus. The anti-behaviouristic movement of the 1960s in American research meant that the role of the L1 in L2 acquisition was given minimal attention, due to a perceived association between transfer and behaviourism (Gass & Selinker, 1992). Norwegian research at this time was driven by students who based their research on their own experiences as teachers, as exemplified by three classroom studies by Hvenekilde (1985, 1986, 1987) and the link between the classroom and the research field is by Golden et al. (2007) noted as a reason why the European linguistic community was not as dismissive of transfer research as the American scientific community. Nonetheless, one challenge in Norway was the lack of data, making statistical analyses difficult, although this changed with the establishment of a second language corpus, *ASK*, which formed the basis for several MA theses in the early 2000s (e.g., Saarik, 2006; Vikøy, 2006; Moskvil, 2004;

Helland, 2005). However, in the aftermath of the anti-behaviourist movement, many of the early works found themselves in the crossfire between theories of error analysis and interlanguage on the one hand, and identity theory (Dulay & Burt, 1974), which rejected the notion of transfer and argued that L1 and L2 acquisition are identical processes relying heavily on the notion of language learning as socialization, on the other. Golden et al. (2007) stress the importance of Corder's (1974) view of errors as a theory of developmental patterns, in that way being similar to identity theory, but acknowledging that the trajectory of L2 acquisition was in some ways affected by the L1. They summarise that the early transfer studies provided a shift from an inductive to a more deductive approach to the role of the L1 and served also to cement a new theoretical foundation for linguistic comparison and an understanding of linguistic development.

Out of the 53 transfer studies from 2006-2014 reviewed by Gujord and Ragnhildstveit (2018) only 14 were not conducted as part of a degree, 32 of the total 53 were MA theses and the remainder PhD dissertations. They describe the typical Norwegian transfer study as a comparative, intersubjective study of forward transfer of a grammatical feature in adult L2 development, based on written cross sectional data, probably from the ASK corpus, and often with a cognitive approach. The importance of the *ASK* corpus cannot be underplayed in this context, the authors note that 55% of Norwegian transfer research in this period is based on this corpus. As noted, every single study in this period used adult informants from a total of 27 L1 backgrounds, of which the five most frequent were English, Norwegian, German, Russian and Vietnamese. Twenty nine of 53 studies focus on morphosyntactic transfer, and in all reviewed studies, the target language was Norwegian. In terms of theoretical perspectives some studies took a generative perspective, e.g., Busterud (2014) and Skifjeld (2016) who both investigated the acquisition of syntax among adult L2 learners of Norwegian. Other studies took a cognitive approach, e.g., Malcher (2011) and Szymanska (2010), who both studied transfer in descriptions of spatial relations. All comparative studies used linguistic contrast as their point of departure, and except for three studies, all of them considered forward (L1-L2) transfer. The other three (Jensen & Steien, 2017; Batsis, 2006; Zilmer & Laanemets, 2006) studied lateral transfer, i.e. transfer effects between several languages. Gujord and Ragnhildstveit summarise some trends observed in transfer research during this period. Firstly, cognitive research approaches have often been seen as theoretically more challenging, as theories of L2 acquisition and theories of transfer are so intertwined that they can be difficult to separate (MacWhinney, 2005; Ellis, 2008). This poses particular challenges in cases of researching conceptual transfer, and several

studies note that in order to successfully investigate this type of transfer it is necessary to use experimental data in addition to production data, as has been the tradition through the *ASK* corpus. It has been the explicit goal of the *ASKeladden* Project at the University of Bergen to investigate conceptual transfer, but studies such as Golden (2017), Gujord (2013, 2017), Szymanska (2010), Kamcev (2013), Poljakovic (2013) and Malcher (2011), who all investigate this type of transfer in many cases report the need for additional data types. Methodically speaking, the authors note that many of the studies reviewed have been clearly influenced by Jarvis' four transfer effects (2000, 2010). Having a common methodical framework in combination with the use of inferential statistics has ensured more generalisability transfer studies internationally.

Gujord and Ragnhildstveit (2018) do note some challenges in Norwegian transfer research and suggest some directions for future research. Firstly, previous research has found it challenging to detect and eliminate the potential effects of factors that interact with transfer. Although many studies have collected proficiency data and further background data, the authors note that few have used this information systematically, and even fewer by means of inferential statistics. The use of statistical analyses is mentioned specifically as a field where Norwegian transfer research has some way to go, although the authors acknowledge the challenges of developing valid methods of analysis that can give a correct impression of transfer-related interactions. Although focus has shifted from qualitative- to quantitative-based studies with much larger groups of participants than was the case in earlier studies (an average of informants in studies from 2006-2017 is 200-300) due to more extensive use of corpus data, data analyses can still be challenging.

Furthermore, the authors also note that transfer research in this period is to a very limited degree directed towards educational needs, and there is a general lack of didactic approaches. It is also notable that although the most common non-Norwegian language backgrounds are Arabic, Polish and Somali, only 10 and six studies consider Arabic and Polish L1 backgrounds, respectively, and none investigating Somali. Except for the previously mentioned three studies (Jensen & Steien, 2017; Batsis, 2006; Zilmer & Laanemets, 2006), only cases of L1-L2 transfer were investigated, and Gujord and Ragnhildstveit (2018) note that the international trends of considering L3 acquisition in light of transfer, meaning investigating lateral transfer between two or more previously acquired languages had at that point not been included in a Norwegian research context. This has been addressed in the *Cross-linguistic Influence in Multilingual Acquisition*

Project (CLIMA, 2021-2026) at The Norwegian University of Science and Technology. This project is aimed at researching transfer effects and learner-internal factors in L3 acquisition, specifically in the acquisition of finite verb placement. This is a large-scale project where multilingual participants whose linguistic repertoires are various combinations of three out of five of the languages Norwegian, English, German, French, and Spanish, and is presented as unique in both scale, focus on previous languages and use of experimental methods. The project aims to test both receptive and productive language through a number of judgement-, reading-, gap-filling- and elicited imitation tasks. However, the fact still remains that the project aims to test adults in the target language Norwegian, and the selected L1 backgrounds are not particularly well suited for new insights in Norwegian education according to the present L1 background.

There are, however, some examples of transfer studies in a Norwegian context who have considered other target languages than Norwegian, most of them, however, published after the meta studies by Golden et al. (2007) and Gujord and Ragnhildstveit (2018). An early example is Haukås' (2001) study on the acquisition of German conditional constructions by L1 Norwegian learners. This study observed one of the effects noted by Jarvis (2010), that high-frequency constructions were transferred from Norwegian, although does not take into account any potential transfer from participants' L2, English. A word order study by Westergaard (2003) investigated V2 errors in young L1 Norwegian learners' (n=100) production of English and found that an 'unlearning' of the V2 rule was necessary in order to produce correct SVO sentences in English. Word order was, in addition to subject-verb agreement also investigated by Jensen et al. (2020), who observed that their participants struggled more with identifying ungrammatical agreement than ungrammatical word order. This study, however, had two participant groups of different age groups, from primary and upper secondary school. Although the authors note a significant correlation between age and general proficiency in English, there is no mention of any effects of age (and thereby experience) on judgment scores. This is, however, addressed by Javorovic (2021) who in a corpus study of written English texts by first-year upper secondary school students (n=43) found that L1 transfer effects of V2 word order persisted also in late stages of acquisition. Contrastingly, Dahl et al. (2022) investigated potential word order effects in Norwegian-English bilingual learners of German, also using grammaticality judgements. As Norwegian and German both have V2 word order, the authors tested for transfer effects of L2 English SVO word order, but found none, even in participants with considerably higher L2 proficiency. Some recent studies have also used a comparative



approach to transfer into English. Westergaard et al. (2017) compared grammaticality judgment of verb movement in English on three groups of young learners: Norwegian monolinguals, Russian monolinguals and Norwegian-Russian bilinguals. The results showed that the L1 Norwegian group accepted far more ungrammatical sentences than the other groups. Although Norwegian is typologically more similar to English, Russian and English shared some structural similarities not found in Norwegian, and Westergaard et al. (2017) thereby argue that structural similarity must also be considered facilitative in L3 learning. A similar issue was investigated in Encheva's (2021) study on the acquisition of articles in L2 English by L1 speakers of Norwegian and Bulgarian, respectively. This study also used a grammaticality judgment task with learners aged 11-13 and found a facilitative transfer effect of Norwegian, which is structurally more similar to English in having overt articles. Another comparative study by Kush et al. (2023) investigated use of filler-gap dependencies in embedded questions, which are allowed in Norwegian, but not in English or Swedish, the latter in spite of the even closer relatedness to Norwegian. Examples of this condition is Norwegian 'Hvem tror du *at* har gjort det', English \*'Who do you believe *that* has done it' and Swedish \*'Vem tror du *att* har gjort det'. In a written elicited response task with adult speakers of L1 Norwegian or Swedish, Norwegian participants overwhelmingly used filler gaps in the test condition, whereas Swedish participants almost never did.

Norwegian transfer research then, has to a large extent consisted of research projects completed as part of a higher academic degree, and has mostly considered Norwegian as the written L2 of adult learners, with data collected primarily from learner language corpuses, although more recent studies have also expanded the field into other target languages and provided more comparative studies. Results from some of these studies have been particularly interesting as reference material for the present study. Helland (2008) looked at use of aspects of temporal marking by L1 speakers of Somali and Albanian and concluded that patterns in differences between the two groups were clear evidence of L1 transfer. Similar studies by Nordanger (2009, 2010) and Ragnhildstveit (2009, 2010a, 2010b) looked at aspects of L1 transfer in native speakers of Russian, and all studies have observed this, some to a significant degree. Particularly interesting is Moe (2010) whose study of complexity in student texts considered L1 speakers of English, German, Spanish, Russian and Vietnamese on two different levels of proficiency. The L1 Vietnamese students stood out in L1 effects and produced fewer words and dependent clauses per sentence. Significant differences were also observed between proficiency level B1 and B2. Similarly, Tveit (2009) tested the acquisition of

inversion in L1 speakers of German and Polish, and found that a significantly higher number of errors were made by native speakers of Polish, which as opposed to German and Norwegian does not have inversion. Contrastingly, a study by Sørland (2010) which looked at noun phrases in written texts by native speakers of Polish, Somali, Arabic, Bulgarian, Thai and Karen saw the participants produce two distinctive patterns, but Sørland was not able to relate this to L1 structure. Paulsen (2009) and Holmeide Batsis (2006) both collected their own data from university students. Paulsen (2009) considered the use of definiteness in texts by nine adult native speakers of Russian, Chechen, Tagalog and Chinese, and found the use of definite marking in relation to adjectives particularly challenging. This study saw evidence of L1 influence, but this seemed to diminish with increasing proficiency. Interestingly, however, the total number of errors did not overall decrease, but the construction in question was to an increasing degree just left out. One of the most interesting studies is Holmeide Batsis (2006), which considered the Norwegian written production of five adult native speakers of Greek, who in addition had various combinations of English, German, Spanish and Swedish as other languages. This study saw a greater influence of the other, non-L1 languages in terms of form-related errors, with the language most closely typologically related to Norwegian being the most influential. L1 transfer was observed almost exclusively in transfer of meaning. Although this study had a very small selection of participants, it is nonetheless interesting due to the combination of uniformity in L1 but varied L2 backgrounds which makes the individual differences clear. It also affirms the claims in Mesaros (2008) and Wach (2016) that language typology in a learner's total linguistic resources is instrumental to direction of transfer.

#### **4.5. Impact of the present study**

Over the few last decades transfer research has established itself in Norway primarily through the study of Norwegian as an L2, both in written and spoken language. Widespread use of Jarvis' (2010) criteria for transfer effects has provided the field with comparability to international research and uniformity in methodological approach.

However, research objectives have throughout these decades been consistently uniform, both in terms of target language and age of participants. Studies investigating target languages other than Norwegian are rare, although interest has increased in more recent years. Most studies have investigated one or two linguistic features, most of which have

been based on conceptual transfer in corpus data. Both Golden et al. (2007) and Gujord and Ragnhildstveit (2018) note some challenges going forward. Firstly, the field has been characterised by a divide between cognitive and generative approaches to transfer, which to an extent can limit the breadth of the approach. Furthermore, background data have to very varying degrees been used as integral elements of studies. As the majority of studies have used corpus data rather than experimental data the possibilities of using statistical analyses in order to assess interactions between background profile and performance data have been limited. Finally, although schools are the primary arena for language learning, and most pupils learn both an L2 and an L3 in schools, this environment is not to any great extent explored in Norwegian transfer research. This is particularly noteworthy as it is known that both the national curriculum emphasises the role of transfer in language learning in schools, and that speakers of different languages achieve different results in language subjects in schools (see Chapter 1). Although still not widespread, research on transfer in L3 learning is has been investigated through the CLIMA project as well as e.g., Haukås (2001); Dahl et al. (2022) and Westergaard et al. (2017). But to a varying degree directed towards educational needs. The present study addresses this research gap in several ways.

Firstly, the study is built around an educational context in that it focusses on young learners of English who are not only speakers of Norwegian, but also other languages commonly represented in the Norwegian population. The study investigates written English, which dependent on language background can be either an L2 or L3 to different participants. Rather than just test one or two morphosyntactic categories in English, as has been commonplace in most transfer studies up until this point, a wide range of categories have been selected in order to distinguish transfer through structural contrasts between the different background languages. These include features of a more conceptual nature, such as aspect and some purely morphological and syntactic features, such as agreement marking in verbs and word order. Through an experimental study design where receptive and productive language abilities are assessed through judgement tasks and elicitation tasks, unlike the majority of studies who have relied heavily on one task type, usually judgment tasks. Finally, the study uses statistical analyses to consider is background factors are predictive of performance in both receptive and productive tasks. Thereby, the present study addresses several of the calls for further research pointed out by Golden et al. (2007) and Gujord and Ragnhildstveit (2017). By introducing both a theoretical perspective and methods from psycholinguistics in the first investigation of English L2/L3 learning in young

Norwegian learners of this scale and breadth, the aim is to achieve new insights in both language acquisition and language didactics.



## 5. Linguistic contrast

### 5.1. Introduction

As discussed in chapter 3, most studies of linguistic transfer are based on the differences in linguistic structure of a multilingual speaker's languages. Transfer research is based on a view of intralingual contrast as effects on learner performance that stem from the degree of correspondence between features of the source language and the target language (Jarvis, 2010). It is important to again remember Jarvis and Pavlenko's (2008) reminder that errors are not the only outcome of transfer. Transfer can in many cases facilitate language acquisition and it is not necessarily the case that differences between source and target languages lead to confusion, learning difficulties or errors. Differences that are easy to perceive can rather facilitate acquisition (Kleinmann, 1977), and similarities between two languages can help learners make interlingual identifications (Odlin, 1989; Andersen, 1983; Jarvis & Pavlenko, 2008).

The present study set out to investigate performance differences in written English by learners who speak different home languages, for some of which English is an L2 and for others is an L3(+). It is expected from previous studies that multilinguals have learning advantages due to increased metalinguistic awareness and a larger repertoire of linguistic resources to transfer from. Learners in this study are either L1 or L2 speakers of Norwegian, which is typologically related to English, unlike the other most common L1s in the Norwegian population, i.e., Arabic, Polish and Somali. Performance differences between learners can then be a result of several transfer-related scenarios, as discussed in the review of transfer models in section 4.2. Learners can either not manage to transfer the relevant structures in order to facilitate language production, or they can transfer the wrong structures or from the wrong language. Thereby, the study considers English performance both in terms of successful output and instances of breakdown, and to what extent breakdown can be attributed to transfer from one of a speaker's background languages.

This chapter will first discuss the notion of linguistic contrast, giving examples of different types of linguistic contrast before describing its relevance to the field of language typology. As described in the previous chapter, contrastive analyses of languages were fundamental to the early stages of transfer research, and this field will also be reviewed briefly.

Following a discussion of the view of errors in different approaches to linguistic research, focus will turn to the languages and morphosyntactic structures investigated in this study. Choice of test variables have been based on contrastive analyses of the five languages as well as works on learner performance in the various L1s. A description of each morphosyntactic category in each of the four languages will be described before concluding with the predictions for errors based on a speaker's L1.

## **5.2. Theoretical perspectives on linguistic contrast**

Certain features are shared between all human languages, so that differences are systematic rather than random. Essentially, languages are systems of representations that can hold various functions within a structure. In describing a number of universal factors pertaining to all human languages, Fromkin et al. (2014) argue that languages have many things in common. Similar grammatical categories are found inherent to all human languages, rules of a similar kinds govern the formation of words and sentences in all grammars, and all languages have ways of using these structures in a functional way, such as negating, asking questions, and referring to time, etc. In this view, grammar is seen as a universal part of language. The syntax of a language describes the relationships between constituents in an utterance through arrangements and orderings of those constituents; and the morphology assigns these constituents to various classes and details their potential for taking on functions in the utterance. Two languages may to a lesser or greater degree overlap in these categories and functions. There are various approaches to the organisation of languages, each of them emphasising different aspects.

The notion of transfer between languages is dependent on an understanding of functions and categories that are shared between languages but may be executed differently across languages. These differences cause morphosyntactic contrasts, in which the mechanisms for expressing the same meanings and relationships differ from one language to another. This notion is what Chomsky's (1982) Government and Binding theory explains, now often referred to as *Principles and parameters theory* describes this theory as an idea that Universal Grammar (UG) is seen as a biologically determined mental organ that represents the principles that language is based on. Each principle is then associated with a parameter which is open-ended and whose value is set with experience. Fukui gives a specific example of parameters, the head-parameter which is associated with the principle of word order. In an example from English and Japanese, Fukui (2006: 102)

uses a verb and its complement to illustrate the different setting of *head parameter* in the two languages:

1.	Eat	an apple	V-Comp	English
	Ringo-o	tabe-ru	Comp-V	Japanese

Example 1 suggests a setting of this parameter for English as head-initial, and for Japanese as head-last, and then further evidence of that can be obtained from considering noun phrases in the two languages. Whereas English has head-initial structure in NPs, Japanese has head-last structures here as well, as shown in example 2:

2.	[[a student	N]	of physics	Np]	English
	[buturigaku-senkoo-no	[gakusei	N]	Np]	Japanese

The different setting of the head parameter for each language affects the execution of the word order principle. The principles and parameters theory was later revised as the Minimalist programme (MP) (Chomsky, 1995), and the objective of this was two-part. Firstly, it was considered a more economical approach, providing principles for how analysis is constructed, thereby making derivation easier and reducing computational complexity. This means that whereas Principles and parameters work very much top-down, where Universal grammar is the starting point, MP takes more of a bottom-up point of departure (Al-Horais, 2013). As this present project does not concern itself with stances on the nature of grammar, the approach taken for this project has rather been founded on a more psycholinguistic understanding of linguistic contrast. Perani et al. (1998) note how the parameter setting approach has become the leading approach in many studies within this field, investigating what happens in the instances where the acquisition of two languages require different settings for the same parameter. For example, in English, noun phrases are modified from right to left, whereas in Italian they are modified from left to right. The question then arises of how parameters for one language can influence both the processing and the production of another, knowing that, as discussed in chapter 2, all of a multilingual speaker's languages are active at all points of language processing. The notion of 'parameters' can in this sense have quite a wide



interpretation, where some consider parameters in a traditionally morphosyntactic sense (e.g., Laka et al., 2012; Wagner & Hoff, 2012; Tan et al., 2019) but also in other language domains such as phonology (e.g., Diaz et al., 2016). Psycholinguistic approaches to second language acquisition may differ in terms of specific models and theories, but as summarised by Steinberg & Sciarini (2013), the primary question is on UG and the degree to which it is accessible to L2 learners. This relates to a notion that certain aspects of language must be universal. Harley (2014) claims that within a psycholinguistic context, there are four possible reasons why language universals might exist. The first is that some universals seem part of grammar as an innate concept, in that parameters seem to set features of language that otherwise seem unrelated. An example of this is that head-initial languages use prepositions, whereas head-last languages use postpositions. Secondly, Harley (2014) argues that language universals might stem from universals of cognition. As even babies are sensitive to conceptual contrasts (e.g., loose-tight, wide-narrow), and language learning is then a way of describing and ordering distinctions that are related to our understanding of the world. Third, language evolves so that it becomes easier to process, and finally, languages do, although in different ways and to different degrees, make use of distinctions in the environment around us. Harley cites Wexler's (1998) observation that children as young as 18 months show a great deal of knowledge of the inflectional structure of their native language, and that parameters of word order are set from the earliest observable age.

The present study focuses on contrasts in areas of morphosyntax, and to set the scene for the discussion of these contrast, first differences in the types of contrast are outlined below. The first distinction is between *congruence* and *equivalence*:

3.	Czy	lubisz	jabłka?	Polish
	do	like-2-SG	apple-ACC-PL	
	Do	you like	apples?	English

The constructions in example 3 are mutually translatable and are for that reason considered *equivalent*- their constituents carry the same meaning.

4.	Kan	du	lese	dette?	Norwegian
----	-----	----	------	--------	-----------

Can            you            read            this?                                    English

The constructions in example 4 are equivalent, but they also have the same number of words in the same order and are for that reason also *congruent*- their constituents are equal in terms of meaning and also follow the same order and arrangement.

Willim & Manczak-Wohfeld (1997) divides syntactic contrast into three categories; *structural*, *categorical* and *functional*. They describe *structural* differences as a structure without a congruent counterpart in the other language due to a difference in the rules of phrase structures in both languages, as shown in the following examples:

5.	Lā	jaktub	Arabic
	not	write-3-M-SG-PRS	
	He does not	write	English

Sentence 5 in Arabic has no overt subject, as the verb is marked for person, gender and number, and in addition, the negation particle precedes the verb, whereas in English, the negation particle is placed between the auxiliary and the lexical verb. It would be impossible to produce a congruent English counterpart to the Arabic sentence because of the syntactic requirements of the English language. Thus, Arabic and English are said to differ structurally.

Contrasts that relate to corresponding elements in a structure that belong to different categories, on the other hand, is described as *categorical*.

6.	Cali	waa	bare	Somali
	Ali	DECL	teacher	
	Ali	is	a teacher	English

In the two sentences in example 6, two different mechanisms are used to construct a declarative sentence. Whereas English uses the copula verb *be*, the corresponding Somali sentence is verbless, and instead employs the declarative type marker (DM) *waa*, thereby using members of different syntactic categories to express the same function, namely that of a declarative utterance.

A *functional* contrast relates to counterpart elements that have different syntactic functions across languages. In the following sentence pair, *Mary* is the object of the Polish sentence, and in *the* English sentence it is the subject:

7.	Marii (dO)	zginęła (V)	portemonetka (S)	Polish
	Mary-GEN	lose-3-SG-F-PST	wallet	
	Mary (S)	has lost (V)	her wallet (dO)	English

All of these examples show that although all languages have the same universal grammatical categories forming the principles of each specific language, the principles are expressed through parameters which are language-specific, and the number of possible settings create contrasts between languages.

### 5.3. Contrastive analysis

Although the term *comparative grammar* has been used since the early 1800s (Pierce, 2006; Cannon, 1990), the field of contrastive linguistics developed in tandem with transfer research. During this period contrastive analyses of languages based on typological criteria were primarily seen in connection with second language acquisition as a programme intended to facilitate learning through emphasis on structural similarities. After a period of enthusiasm in the 1960s and 1970s, however, contrastive linguistics was confined to a “somewhat modest, if not marginal, existence” for the decades to come (König, 2012: 3). The reason for the decline of the contrastive approach can be found in its basic assumptions:

- L1 and L2 acquisition are fundamentally different, especially in cases of L2 acquisition after full L1 mastery.
- Similarities between L1 and L2 cause positive transfer, and differences cause negative transfer. The learning task is therefore the sum of the differences between the two languages.
- A systematic comparison between the L1 and L2 will reveal both similarities and differences.
- This comparison makes it possible to predict or rank difficulties and make language learning more efficient.

(Adapted from König & Gast (2012: 1))

Although the basic assumptions of this approach may seem plausible, they ignored several important factors. Firstly, they failed to acknowledge that there are differences between various types of language acquisition- it may be natural or mediated, sequential or simultaneous, we may be talking about L2, L3 or L4 acquisition. Also, as described in the previous chapter, a number of factors affect the relationship between the L1 and the target language in language learning. Importantly also, contrastive linguistics were not at that time built on solid descriptive foundations (König & Gast, 2012). Contrastive grammars at that time did not have the depth required and were also based on purely theoretical contrasts rather than actual learner behaviour in order to focus on the most salient areas of contrast (see e.g., Moulton, 1962; Kufner, 1962; Lohnes & Hopkins, 1982). When subsequent empirical works showed very little evidence for the predictive power of the contrastive approach and that material had been interpreted in highly subjective ways (Al-Khresheh, 2015), the disappointment caused the field to be regarded as peripheral or even redundant in the years to come.

In more recent years two new directions in particular have been instrumental in reviving the significance of contrastive approaches; firstly, advances in works of language typology and secondly the use of corpora. Hawkins' (1986) *A Comparative Typology of English and German* was the first work to regard the contrastive analysis of two languages as a work of language typology rather than a purely pedagogical work. König and Gast (2012) emphasise the need for contrastive works to first of all be comprehensive and to focus on the linguistic *system* rather than on language *use*. Subsequent comparative works of language typology (e.g., Comrie, 1989; Croft, 2003; Song, 2010; König & Gast, 2012; Moravcsik, 2012; Aikhenvald & Dixon, 2017) have contributed to an understanding of languages as a system of properties involving correlations and implicational relations- "If a language has property A, it will also have property B" (König & Gast, 2012: 2).

Secondly, the use of corpora has given the opportunity of ascertaining empirical evidence for theoretical contrasts. The ASK corpus was, as discussed in the previous chapter, a turning point in Norwegian transfer research, and works such as Johansson's (2007) *Seeing through Multilingual Corpora* provided examples of what could be achieved through corpora-based contrastive research. Johansson used the English-Norwegian Parallel Corpus, containing original texts in English and Norwegian and

translations into the other language in various genres and degrees of formality. This corpus investigates both functional aspects such as lexical correspondence between words for abstract concepts in both languages (e.g., ‘mind’, which lacks a single translation equivalent in Norwegian, or verbs of emotions like ‘love’ and ‘hate’), but also more structural aspects. Johansson includes an extensive discussion of distribution of English *not*- and *no*-negation and the equivalents in Norwegian, noting the wide range of syntactic constructions and lexical collocations used to correspond to the English construction. Johansson (2007) thereby showed the wide range of possibilities contrastive analysis could provide not only in language acquisition, but also in fields like translation studies and intercultural understanding. The revival of the contrastive analysis in recent research thereby emphasises these two changes in the approach to the field; that language comparison must be based on a deep and systematic understanding of linguistic contrast, and that it must involve behavioural data- assumptions particularly on language learning cannot be made based on a theoretical understanding of linguistic contrast. Using experimental tasks in contrastive studies is still not very common, although it does provide the opportunity of eliciting learner language based on structural contrasts. Whereas corpus studies often require large amounts of material because of learners’ possible avoidance strategies, experimental studies can target, and test specific constructions based on predictions of errors due to linguistic contrasts.

#### **5.4. The role of errors**

As criticism of contrastive analysis (CA) mounted in the 1970s, other approaches were attempted in order to explain CA’s lack of predictive power. As it became obvious that it simply was not the case that all L2 errors were the product of L1 interference, error analysis theory became a dominant approach in the L2 acquisition field for some time after. As in transfer research in general, error analysis developed as a reaction to behaviourism. It investigated learners’ performance not simply to see the result of acquiring a new set of linguistic principles, but rather in order to consider the cognitive processes involved in dealing with L1 input in L2 acquisition (Erdogan, 2005). Error analysis was built to a large extent on Corder’s *The Significance of Learner Errors* (1967), which viewed errors in several novel ways. Firstly, rather than focus on *possible* errors, Corder emphasised the importance of focussing on *actual* errors in language produced by learners. Secondly, from previously viewing errors as bumps in the road needing to be flattened, researchers now understood that by looking for patterns in the

errors learners make, new information on the actual learning process could be ascertained. Through an emphasis of the linguistic and cognitive processes involved in L2 learning, error analysis grew into the study processes of determining “the incidence, nature, causes and consequences of unsuccessful language” (James, 1998: 1). As the impact of L1 structures were acknowledged, error analysis built on contrastive analysis, but served two purposes, one theoretical and one applied. The theoretical purpose was essentially to check the validity of theories of language transfer through using performance data to understand the processes of nature of language learning. The applied purpose had pedagogical impact, through considering particular areas of interest in language teaching, and also which error types were most detrimental to the ability to communicate (Dulay et al., 1982). As contrastive analysis had been heavily criticised for failing to observe theoretically predicted transfer effects, an important assumption in error analysis was that errors could be caused by a number of factors in addition to L1 influence.

Essentially, error analysis involves four steps. After initial collection of material, errors are identified, described and explained (Ellis, 1994). An important foundation for this work is a clear understanding of what errors *are*. Ellis’ psycholinguistic view of errors (1994) distinguishes errors and mistakes, where the former reflect competence and the latter performance. This distinction is used by many researchers (see also e.g., Sabbah, 2015; D. Brown, 2007; Ellis, 1997) who view errors of competence as reflective of gaps in the language user’s knowledge, occurring because the user does not know what is correct- consequently they cannot be self-detected or self-corrected. Selinker and Gass (2008) regard competence errors as “red flags” signalling potential patterns in lack of L2 knowledge. Mistakes, on the other hand, are performance-related and occur as occasional lapses or “slips of the tongue” (Sabbah, 2015). They can generally be self-detected and self-corrected and occur in learners irrespective of L1- Ellis (1994) attribute them mostly to processing problems and problems with communication strategies. Errors of competence can be divided into three categories, transfer errors, intralingual errors and unique errors (Ellis, *ibid.*). Transfer errors occur when characteristics of another language interfere with constructions in the target language (TL). These errors have several characteristics; they are unlike developmental errors and are the results of use of support languages at low levels of proficiency as a means of hypothesising about the TL. They occur because of an inability to separate one language from another and reflect L1 habits and interlingual generalisation (Zobl, 1980). It is important to note that error analysis regards transfer errors as a part of the learning

trajectory, considering them indicative of the learner's processes of "internalising and investigating" a new linguistic system (Erdogan, 2005: 265). Intralingual errors, on the other hand, are described as errors that do not originate in structural interference from another language, but rather from the TL itself. They reflect the learner's competence at that point and are to an extent similar to the errors observed in L1 acquisition (Al-Khresheh, 2015). They have some distinguishing features compared to transfer errors in that they are similar to those made by native speakers at similar points of acquisition. They result from learners attempting to hypothesise and create rules for the L2 in a way similar to that of native speakers and reflect the general characteristics of linguistic rule acquisition. Lastly, they may be results of strategies like generalisation, simplification and grammatical reduction (Zobl & Liceras, 1994). Thereby, we can distinguish error types that are results of L1 structures and others which are the results of TL structures, where only the latter can also be observed in native speakers of the TL. Unique errors are those who fall into neither category, as unrelated to structures in either language.

Much like contrastive analysis, error analysis has also been the subject of criticism. One main criticism points out that as learners often consciously avoid or omit TL constructions, they are unsure of or find particularly challenging, error analysis failed to see the full image of learner's abilities (Schachter & Celce-Murcia, 1977). This partial picture was further criticised for focussing only on errors and leaving out what learners actually managed to do correctly (Jiang, 2009; Larsen-Freeman & Long, 1991; Brown, 2000; Gass & Selinker, 2001). Later development of the field has addressed the criticism in several ways. Firstly, the issue of avoidances has been considered more carefully in recent studies, and the use of quantitative approaches with large numbers of participants has also made individual differences in avoidances clearer. Also, newer works in the error analysis field emphasise that errors are important both in a learning perspective and a research perspective- they are the product of learners testing their hypotheses about the target language and therefore a precise understanding of learner errors are the foundations of the feedback needed in the learning process. But they are also indicative of a breakdown in a cognitive process that can provide evidence about the actual language learning process. A meta-study on 60 error analysis studies over four decades (Wood, 2017) has considered the diversity, and sometimes divergence, of results on using this method in transfer research and makes some interesting observations. The majority of studies in this field have investigated errors made by young adults, mainly using translation exercises, interviews and repetition exercises. The number of errors analysed varied from 80 to almost 30,000. The L1s in studies were most often Spanish,

French, Japanese and Chinese, and the target language was most often English, followed by French, German and Spanish. In terms of method, more than half the studies used data triangulation, but only one third defined clearly the impact of bias, the conditions of the data collection and how errors have been corrected (Wood, 2017). In addition, theoretical foundations seem also to impact results, according to the analysis. The studies that used what Wood (*ibid.*) defines as “operational cognitive foundations which concerned the different cognitive strategies” generally reported a partial to strong influence of the L1, whereas the studies based theoretically on “order of acquisition, universal sequences, and the innate faculty for basic linguistic structures” showed little to no influence of the L1. Wood (2017) concludes by calling for L2 error analyses focussing on the cognitive processing involved in acquisition, that are based on sound understanding of the L1 and that is methodologically grounded in bias control and data triangulation.

In summary, criticism of error analysis has in many ways mirrored that of the criticism of contrastive analysis. First of all, that the validity of the results is dependent on the theoretical and methodological foundations of the study, particularly a sound understanding of the structures of the languages in question and the use of inferential statistics. Secondly, early stages of both approaches often neglected the complexities of the situation of language learning and production. Contrastive analysis was too theoretical, ignoring performance, and error analysis was too focussed on errors rather than a fuller perspective of language production. The revival of both these two approaches has been based on a wider understanding of learner behaviour as indicative of cognitive processes. Contrastive analysis can provide insights on learners’ access to, and activation of linguistic representations in their languages, and error analysis can demonstrate where linguistic processing happens successfully and where it breaks down. They can also be combined with a wider approach to the phenomenon investigated, Byram (2004) acknowledges that error analysis should be used in a wider context of learner performance analysis. Newer studies in the field have taken these concerns into account. Kazazoğlu (2020) performed an error analysis on 30 English essays written by intermediate learners of English who were L1 Arabic or Turkish. Contrastive analysis was then used to compare the two languages and consider which errors stem from L1 transfer. This study concluded that although participants were native speakers of languages typologically unrelated to both each other and the target language, the majority of lexical errors were unrelated to L1 influence. There were, however, significant differences in grammatical errors, where L1 Arabic users displayed a higher



frequency and a wider range of errors. The most common error type in each group, i.e., capitalisation errors for L1 Arabic speakers and definiteness marking errors for L1 Turkish speakers, were barely observed in the other group. Masood et al. (2020) used a contrastive analysis framework in a study of spoken English in a group of 30 Pakistani BA students who were L1 Urdu/L2 English sequential multilinguals. Based on structural differences an error analysis of definiteness marking, preposition use and agreement was carried out, showing significant syntactic transfer from Urdu. Based on their results, the authors discuss the importance of understanding production errors in learners whose L1 and target language are typically unrelated and whose exposure to native speakers of the target language is limited. They note the significance for language teaching, but also discuss how the approach can be expanded to other linguistic skills such as phonology, morphology and lexis and expanded other language domains such as writing, listening and reading.

The approaches from Kazazoğlu (2020) and Masood et al. (2020) are similar to those taken in the present study. In order to investigate transfer from other language in written English, this study builds on contrastive analysis between Norwegian, Arabic, Polish and Somali and English, through using both previous learner error studies and comparing linguistic structures in each language. This analysis has then informed a test battery for subsequent error analysis. Many error analyses utilise the Taxonomy of Error Analysis (James, 1998), which gives the following categories for error analysis:

- Syntactical errors (i.e. errors related to sentence structure)
- Lexical errors (i.e. word choice errors)
- Substance errors (e.g., punctuation, capitalisation, spelling)
- Morphological errors (e.g., derivatives, inflectional and derivational affixes)

The analysis for this study has considered syntactical and morphological errors. The reason for this is partly that contrastive analyses between the various L1s and English are to varying degrees available, and these error types are among the most discussed. Also, these error types are very much categorical. They can be assessed as either correct or incorrect and represent understanding of that specific category. This means that production is easier to assess than more conceptual aspects of language. The rest of this chapter will describe choice of test variables and give an analysis of each structure in each language, emphasising the implications for English learning.

## **5.5. Selection of languages**

In their meta study of Norwegian transfer research, Gujord and Ragnhildstveit (2018) note that the bulk of the reviewed material does not take a particularly educational focus and mention specifically that very few studies have used L1 Arabic participants, in spite of Arabic being a very common L1 among pupils in Norwegian schools. In the present study, the morphosyntactic test battery has been developed based on the most common language backgrounds found in Norwegian classrooms. This means that results are transferrable to an educational context to a greater extent than what has been the case in previous studies. As described in section 2.5, the majority of the Norwegian immigrant population in 2021 came from Poland, Lithuania, Somalia, Pakistan, Sweden, Syria and Iraq (although the balance is in later years likely to have shifted, particularly due to immigration since the start of the war in the Ukraine) (Statistics Norway, 2023). There are no official statistics in schools on pupils' home languages. Based on statistics on immigrant groups, we can still assume that the most likely languages to be represented in Norwegian classrooms are, in addition to Norwegian, Polish, Somali and Arabic. As the numbers of the Polish-speaking population in Norway is closely followed by Lithuanian (and in later years also Ukrainian), it was necessary to consider language structures that were common in both Baltic and Slavic languages, but for the purposes of this chapter, the description of variables will focus on Polish. The selection of languages represents four different language groups, with only one of them being closely related to as English, viz., Norwegian. This meant that there were very different degrees of structural overlap between the various L1s and English, and this was used as foundations for creating a test battery.

### **5.5.1. Choice of test variables**

In the present study, all participants shared two languages. The target language English, as well as the background language Norwegian, however with different possible combinations, either

- L1 Norwegian, L2 English
- L1\_, L2 Norwegian, L3 English.

The test battery was created with Jarvis' (2010) transfer criteria in mind, meaning that instances of transfer should be based on a contrast between the base language and the

target language, and that differences should be observable between participants with different base languages. As Norwegian was a shared base language among all participants it was therefore important to choose variables that contrasted with English in ways that could distinguish whether transfer occurred from Norwegian or from another language in the case of L3 learners. The initial approach to this was theory-independent and driven by findings from earlier studies on learner languages. A survey of available literature on errors in written English by learners with the four specific L1s was carried out to ascertain the errors most frequently observed. This formed the basis for the selection of a wide range of morphosyntactic categories where each was considered a particularly salient source of errors among learners from one or more of the specific L1s. Studies on learner errors were available for the different languages to varying degrees and were also varied in their research focus. Whereas some took a specific transfer-related focus (e.g., Westergaard, 2003), others were to a greater extent observations of frequent error types, often from an educational context, which did not necessarily attribute errors to L1 transfer (e.g., Korver, 2013). In those cases, the specific error had to be examined in light of L1 structure, which in some instances showed plausible cause for considering it a transfer effect.

Finally, the five following morphosyntactic categories were chosen:

- Word order
- Subject-verb agreement
- Aspect
- Definiteness marking

Each category will be described in turn below before a general presentation of each language followed by a description of each of the five morphosyntactic categories in that language and noted implications for English learning.

#### **5.5.1.1. Word order**

Languages generally distinguish two main types of *word order*; free word order or fixed word order, distinguished by the mechanisms used to signify syntactic relationships with the constituents of the sentence. In fixed word order languages, constituents are ordered in an established sequence, usually relating to the sequence of subject, verb and object

in declarative sentences. Tomlin (1986) groups about half the world’s languages into the SOV category, a third as SVO languages, and then, in order of prevalence, VSO, VOS, OVS and OSV. Free word order is generally most observed in languages that have either case marking or a system of prominence marking. Some languages also use a system called pragmatic word order, in which word order is determined by pragmatics and each permutation has a somewhat different emphasis or focus. As a general concept, word order is challenging because small changes generally render a sentence either nonsensical or with a different meaning, dependent on language. In this study, command of English SVO word order has been tested.

### 5.5.1.2. Agreement

Hall (2005: 310) defines *agreement* as “the morphological phenomenon by which two words in a syntactic relationship are jointly marked for some inflectional category”, such as number, gender, etc. Agreement is found in many languages, most commonly between subjects and their corresponding verbs, but also in some cases between objects and verbs, or between nouns and adjectives, as in the example below:

8.	Compro	peras	en vez de	durzanos	porque	son	más	barratas	Spanish
	buy-1-	pear-	instead of	peach-	because	be-	more	cheap-	
	SING-	F-PL		M-PL		3-		F-PL	
	PRS					PL			
	‘I buy pears rather than peaches because they are cheaper’								English

The function of agreement is then syntactic, as it links parts of sentences (in this case a noun and an adjective) in order to show syntactic relationships (in this case reference), but it is achieved by morphological marking, linking constituents of the sentence by marking them as equal in a characteristic such as number or gender. Some languages have very limited systems of agreement, whereas in others can be quote complex, dependent on language structure. In this study command of agreement between subject and verb in English has been tested.

### 5.5.1.3. Aspect

In the category of verbs, temporal aspects of verb phrases are usually divided into location and duration. *Aspect* describes duration or ongoingness of a described activity, as opposed to *tense*, which places the activity on a timeline (Huddleston & Pullum, 2005). In contrast to the previously discussed categories, tense and aspect are not generally found in all languages, many Sinitic languages have no verbal system for expressing time reference (Huang, 2015) and depend on adverbials or time phrases to express temporal relationships. Some languages distinguish only past and non-past tenses, and others have more nuanced distinctions in past or future, distinguishing near or remote locations in time. Aspect is generally distinguished as the contrast between progressive or continuous, denoting ongoingness, and perfective, denoting completion (Finch, 2000). Tense-marking languages may express this property through the use of specific verb forms or through the use of auxiliary verbs or clitics. Similarly, aspect may be either marked morphologically through verb inflection, through affixation or through obligatory aspect markers. This study has tested command of progressive aspect in English as obligatory in, and restricted to sentences that denote an action being in progress at a certain point in time.

### 5.5.1.4. Definiteness

*Definiteness* can be described as “distinguishing between entities that are specific and identifiable in a given context and entities which are not” (Tavakol & Jabbari, 2016: 190). Expressions of definiteness are a feature of noun phrases and have different realisations in different languages, but essentially the purpose is to express noun reference either as established (definite) or newly introduced in the context of current discourse (indefinite) (Hall, 2005: 166). Tavakol & Jabbari (2016) consider these expressions of definiteness to reflect the speaker and hearer’s presupposition of a unique individual’s existence in a set denoted by an NP. Definiteness can be marked either by using a separate category of words, determiners, or it can be marked morphologically, through affixation, as in the examples below:

9.	der	Junge	German
	the	boy	English

10.	dial-i		Albanian
	boy-DEF		
	‘the boy’		English

In the present study use of both definite, indefinite and zero articles have been tested, as English requires all three, dependent on type of noun and reference.

### 5.5.1.5. Prepositions

Finch (2000) describes *prepositions* as a class of words which relate two parts of a sentence in a relationship typically of time, place or logic. As a class they are considered content words and are in a more general sense a subtype of adpositions, based on the structure of the phrases they form. The adposition can either precede or follow its complement, as exemplified below:

11.	sur	la table	French
	on (preposition)	the table (complement)	
	‘on the table’		English
12.	benimle		Turkish
	my(complement)-with(postposition)		
	‘with me’		English

In a sense of contrastive grammar, adpositions are complex for a number of reasons. Firstly, as a category, they are not found in all languages. Secondly, some languages have a categorical overlap between adpositions and other categories, as seen in the examples below:

13.	wǒ dào	Běijīng	qù	Chinese
	I	preposition of movement towards	Beijing	go

	‘I go to Beijing’		English
14.	wǒ dào	le	Chinese
	I arrive	COMPL	
	‘I have arrived’		English

In the examples from Chinese, the word ‘*dào*’ is a preposition in 13) and a lexical verb in 14). This also means that there may be categorical contrasts in the way spatial and temporal relationships are expressed from one language to another. Finally, use of adpositions is complex in language acquisition due to varying degrees of lexical overlap, as seen in the examples below:

15.	Jeg går	<b>på</b>	skole	Norwegian
16.	I go	<b>to</b>	school	English

These two sentences are congruent, but they do not use corresponding prepositions. English uses *to*, a preposition equivalent to Norwegian ‘*til*’ in this sentence, and Norwegian uses *på*, the equivalent to English ‘*on*’. In the present study, the use of the category prepositions tested, rather than the choice of the correct lexical form.

## 5.6. Languages in this study

Based on previous literature, five morphosyntactic categories were chosen for the present study, subject-verb agreement, aspect, word order, use of prepositions and definiteness marking. As the most common L1s in Norwegian classroom are Norwegian, Arabic, Somali and Slavic and Baltic languages, it was crucial to choose categories that contrasted structurally with both English and each other. This bidirectional contrast meant that it was possible to investigate language-specific patterns of transfer from each L1 into English. Selection of morphosyntactic categories was made primarily based on existing literature on learner errors. For some of the languages a very limited amount of learner language studies could be found, and for that reason literature on contrastive analysis was also consulted. The following section presents the morphosyntactic categories for each language and provides a review of the noted learner errors that have

informed the choice, as separate sections on learner implications. As shown in Table 1, the largest immigrant group by far are the Polish, but there are also a number of groups of speakers of other Slavic and Baltic languages making up substantial parts of the Norwegian immigrant population- even more so after the onset of the Russian-Ukrainian war. For that reason, the examples in this following section will be in Polish, but morphosyntactic categories were chosen that were valid also for other Slavic and Baltic languages due to a high degree of structural overlap. The following language presentations and descriptions of morphosyntactic categories for each language are adapted from the World Atlas of Language Structures (Dryer & Haspelmath, 2013), Carling (2017) and from reference grammars on English (Huddleston & Pullum, 2005; Dypedahl & Hasselgård, 2018), Norwegian (White et al., 1994; Holmes & Enger, 2018), Somali (Saeed, 1999; Husby, 2004), Arabic (Fehri, 2012; Badawi et al., 2013), Polish (Swan, 2002), Latvian (Balode & Holvoet, 2001) and Lithuanian(Mathiassen, 1996).

### **5.6.1. English**

- *Classification:* Indo-European, Germanic, West Germanic.
- *Closest related languages:* Frisian, German, Dutch.

This survey will focus on features of standard variants as they are taught in Norwegian schools. Traditional focus has been primarily on Standard Southern British English, but Standard American English is a variety also widely used in education.

As English is the target language for the study, the morphosyntactic categories will first be described for English as a point of reference, and then for the four other languages before discussing the contrast and the implications for learners. Morphosyntactic descriptions of English are adapted from Dryer and Haspelmath (2013), Carling (2017) Huddleston and Pullum (2005) and Dypedahl and Hasselgård (2018).



### 5.6.1.1. Word order and verb systems in English

#### 5.6.1.1.1. Overview of verb system

An overview of the English verb system is shown in the table below.

#### 5. Verbs in English

Basic tenses	Compound tenses	Compound formed by	Aspect	Mood	Voice	Conjugation	Agreement	Word order
Present	Present perfect	Auxiliary	Progressive	Indicative	Active	Weak/strong	Person	SVO
Past	Past perfect		Perfective	Subjunctive	Passive		Number	
	Future			Imperative				
	Future perfect							
	Conditional							
	Conditional perfect							

In English grammar, the verb is considered the core and the only obligatory constituent of the main clause. As verbs are governed by complex systems that vary greatly from language to language, this review will consider four major aspects of verbs: position in the clause, agreement, tense and aspect.

#### 5.6.1.1.2. Word order

English has fixed word SVO word order, and syntactic roles are primarily determined by their position in the clause. Extraposition of clause elements is permitted under specific circumstances but is primarily done for specific focus given by context.

#### 5.6.1.1.3. Agreement

All English verbs except for modal auxiliaries show agreement with their subjects in the present tense, and the copula verb *be* agrees also in past tense. Subject-verb agreement depends on the subject's number and grammatical person. The 3<sup>rd</sup> person singular verb form is marked with the suffix *-s/-es*, where distribution is phonologically determined,

and all other persons take unmarked verb forms. Verbs also agree with the subject's number in a singular/plural dichotomy. Number agreement in English is complex due to several nouns and quantifying expressions having either fixed or ambiguous number. A plural interpretation will then result in a plural verb form, whereas a singular interpretation results in a 3<sup>rd</sup> person singular verb form. Examples includes nouns with fixed number, e.g., *money*[sg], *pants*[pl], collective nouns with number dependent on interpretation, e.g., *family*, *people* and quantifying expressions with fixed number, e.g., *none of*[sg], *all of*[pl], as well as measure- and partitive expressions. A particular challenge in terms of agreement in English are subjects realised by coordinated NPs with uneven number. These are often misinterpreted by learners due to proximity to the verb, such as in sentences like *\*the picture on the postcards are of a mountain*.

Further adding to the complexity is the fact that common verbs used as both auxiliaries and lexical verbs, e.g., *have* and *be*, have irregular paradigms with forms that distinguish both number and person.

#### 5.6.1.1.4. Tense

English distinguishes two basic tenses, present and past. Past tense is inflectionally marked in regular verbs by adding *-ed* to the infinitive form. Present tense normally denotes present time, with the exception of interpretations of future reference in specific cases, where future events that are scheduled or conditional are marked by specific adjuncts, as in the following examples.

17.	The train	arrives	this evening	English
	S	V-3-SG-PRS	A-Time	
18.	I	will help	you if you need it	
	S	V-PRS	dO A-Cond	

Past tense in English can be interpreted as both perfective and imperfective, this is usually derived from context and is in instances of importance denoted by marking

aspect. All other tenses are compound tenses formed by the combination of an auxiliary verb that is marked for tense, and a non-finite form of the main verb.

### 5.6.1.1.5. Aspect

English has two aspects. Progressive aspect denotes imperfectiveness, or ongoingness at one specified point in time, which may be either present or past. Characteristic to the use of progressive aspect in English is the implication of the situation having some degree of duration and also being dynamic, and for that reason progressive aspect is traditionally limited to dynamic verbs. Progressive aspect is formed by the auxiliary *be* marked for tense, person and number, and the present participle of the main verb. Progressive aspect is primarily used to describe ongoing actions of limited duration in present tense as in 19), or ongoing actions in the past which were not completed, as in 20):

19. I am writing an article at this time English

AUX-1-SG-PRS PTCP-PRS

20. I was writing an article when I became ill

AUX-1-SG-PST PTCP-PRS

Contrastively, the perfective aspect, formed by auxiliary *have* marked for tense, person and number, and the past participle of the main verb, denotes a completed action. Perfective aspect is used primarily to describe completed actions relevant to present or future events, as in 21), or completed actions in relation to other events in the past, as in 22):

21. I have written an article that you will find interesting English

AUX-1-SG-PRS PTCP-PST

22. I had written an article that later was published

AUX-1-SG-PST PTCP-PST

The use of aspect in English is often challenging to new learners because it not only requires mastering a complex verb form which combines irregular auxiliaries and secondary lexical verb forms, both depending on having memorised unpredictable verb paradigms. It also requires an understanding of the very specific meanings denoted by the two aspects, and how they stand out from primary tenses unmarked for aspect.

#### 5.6.1.2. Definiteness in English

In English, definiteness is expressed through the use of articles, which are a subclass of determinatives, and they hold initial position in noun phrases. English distinguishes between the definite article *the*, which “indicates that the head of the NP is considered sufficient in the context to identify the referent” (Huddleston & Pullum, 2005: 91) and the indefinite article *a/an*. The indefinite article indicates that the head of the NP is not considered defined or unique in the context, and the distribution of *a* and *an*, respectively, is phonologically conditioned. As English does not have grammatical gender, articles do not show grammatical agreement.

#### 5.6.1.3. Prepositions in English

Prepositions is a closed word class in English, and it includes approximately 100 prepositions. In English, prepositions are usually defined as having the following characteristics:

- They have NP complements, and in a traditional analysis this can cause them to share form with words from other word classes. Traditionally, the word *beneath* can be considered a preposition (‘*He hid **beneath the covers***’, [Prep+Np[Comp]]) or an adverb of place (‘*Something lies **beneath***’[A]), dependent on the complement situation.
- They do not inflect.
- They indicate relations in space and time, although these are not exclusive meaning interpretations.
- They function as heads of a wide range of dependents, such as NPs or VPs, particularly the copula verb *be* in the range of meanings mentioned above (‘*I am in my office*’, ‘*it was in the nick of time*’).

Challenges related to the use of prepositions in English are mainly twofold. They are first and foremost related to lexical and pragmatic knowledge of which preposition to use in which given context, but also in a more functional sense. The learner must also know which heads require prepositional phrases as a dependent. As previously mentioned, focus for this study is the use of prepositions as a category, rather than lexical choice of preposition.

### **5.6.2. Norwegian**

- *Classification*: Indo-European, Germanic, North Germanic.
- *Closest related languages*: Swedish, Danish, Faroese, Icelandic

Norwegian is spoken in Norway by nearly 5 million native speakers. Modern Norwegian dates back to the 19<sup>th</sup> century, when it was established as an official language after a long period of Danish being used as an official language due to political union with Denmark. Norwegian has two equal written standards, *bokmål*, based on Danish, and *nynorsk*, based on traditional dialects in the western area. The two variants are mutually intelligible, and differences are primarily lexical, although with some minor morphosyntactic differences. *Bokmål* is used by 80% of the population, with *nynorsk* primarily being used along the west coast and southern inland areas. A variety of regional dialects are used across Norway, with varying degrees of similarity with the two written standards. There are some grammatical differences between the two written standards, but as participants for the present study were recruited from the southern and eastern parts of the country this section will use bokmål as its point of reference, as it is the variety most widely used in that area. Morphosyntactic descriptions of Norwegian are adapted from Dryer and Haspelmath (2013), Carling (2017) White et al. (1994) and Holmes and Enger (2018).

#### **5.6.2.1. Word order and verb systems in Norwegian**

##### **5.6.2.1.1. Overview of verb system**

An overview of the Norwegian verb system is presented in the table below:

## 6. Verbs in Norwegian

Basic tenses	Compound tenses	Compound formed by	Aspect	Mood	Voice	Conjugation	Agreement	Word order
Present	Perfect	Auxiliary	Perfective	Indicative	Active	Weak/strong	-	V2
Past	Pluperfect			Imperative	Passive			
	Future							
	Future perfect							
	Conditional							

### 5.6.2.1.2. Word order

Like English, Norwegian has fixed SVO word order, however with V2 position, meaning that the finite verb can only be preceded by one other constituent. This means that in clauses with complex verb phrases and other fronted constituents, such as adverbials, the finite verb will always hold second position:

23.	Jeg	skal	lese	denne	boken		Norwegian
	I	will	read	this	book		
	‘I will read this book’						English
24.	I morgen	skal	jeg	lese	denne	boken	
	Tomorrow	will	I	read	this	book	
	‘Tomorrow I will read this book’						English

In these two instances, the two clauses in Norwegian and English are equivalent in 23), and congruent but not equivalent in 24) due to the difference in word order, and this is a characteristic feature of Norwegian word order.

### 5.6.2.1.3. Agreement

Although Norwegian has grammatical gender, verb forms are universal and do not display agreement with their subjects.

#### Tense

Like English, Norwegian distinguishes two primary tenses, present and past. Norwegian verbs are commonly classified as being either weak or strong, where weak verbs follow a predictable paradigm in which tenses are marked by adding a tense marking suffix to an infinitival stem, e.g., the infinitive form *hoppe* ('jump') is changed to *hopper* in present tense and *hoppet* in past tense. Strong verbs are more heterogenous, but generally have internal stem vowel shifts similarly found in other Germanic languages (e.g., *rive- rev*, 'tear-tore'). The past participial forms of regular verbs are identical to their past tense form and are used in combination with auxiliaries to form compound tenses. The present participle form, ending in *-ende* is only adjectival in Norwegian. Present tense is used to denote actions either in the present time or at a specific time in the future, whereas past tense refers to actions at a specific time in the past. Similarly to English, compound tenses combine auxiliaries '*ha*' 'have' for perfective tenses (e.g., *har lest*, 'have read') or '*vil*'/'*skal*' (lit. 'will'/'shall', in this meaning 'be going to') for future and conditional tenses (e.g., *skal lese*, 'is going to read') with either past participle or infinitive forms, respectively, of the main verb.

### 5.6.2.1.4. Aspect

Unlike English, Norwegian verb phrases are either marked for perfective aspect or unmarked for aspect. Norwegian perfective aspect denotes a stronger sense of non-ongoingness than necessarily completion, as this is derived from context. Similarly, ongoingness is signalled not through verb form, but rather by context or specific verbal constructions such as *holde på å* + [lexical verb] (lit. 'carry on with + lexical verb'). Similarly, certain verbs denoting changes in state have separate forms with imperfective interpretation, e.g., *å sove* 'to sleep' vs *å sovne* 'to fall asleep'.

### 5.6.2.1.5. Implications for L1 Norwegian learners

Westergaard (2003) investigated V2 errors in L1 Norwegian learners from year 2 to year 7 and concluded that acquisition of English SVO word order was challenging as it required unlearning two Norwegian word order principles, but V2 errors have otherwise

not to any extent been explicitly investigated. Several Scandinavian studies have investigated agreement errors in learner language, as this is a particular area of divergence between Scandinavian languages and English. Agreement errors may happen due to differences in countability of nouns between languages (Thagg Fisher, 1985). Agreement has been observed to cause frequent errors in grammaticality judgment (Jensen, Slabakova & Westergaard, 2017) where even advanced learners of English had error rates of almost 50%. Findings from two corpus study of young L1 Norwegians' written English (Olsen, 1999; Garshol, 2019) showed that in affixal agreement, overuse of 3<sup>rd</sup> person -s was common in written production, and in suppletive agreement proportional overuse of the plural forms of was common. Garshol (2019) notes the phonological similarity between the Norwegian forms of BE in the present and past tense, *er* and *var*, and the English *are* and *were* respectively and hypothesises that this might be a reason for overuse of these forms among L1 Norwegian speakers. When comparing agreement errors by L1 background, Garshol (2019) found that learners from similar language backgrounds such as Swedish background overproduced the same forms as L1 Norwegian speakers. Speakers of non-Scandinavian L1s (e.g., German), however, tended to omit 3<sup>rd</sup> person -s forms. Overuse of progressive aspect was another frequent error type observed by Olsen (1999), hypothesising that learners perceive certain constructions unfamiliar from the L1 are particularly characteristic features of the TL, thereby leading to overuse and hypercorrections. Overuse of progressive aspect is noted also by Johansson (2008), Hasselgård et al. (2004) and Johansson and Stavestrand (1987). Similarly, a PhD dissertation by Wold (2017) concluded that although the picture was somewhat nuanced by factors such as age, years of instruction and proficiency, L1 Norwegian learners did use progressive aspect more than L1 English peers.

#### **5.6.2.2. Definiteness in Norwegian**

Like English, Norwegian expresses definiteness through the use of articles. Definite articles in Norwegian follow the noun as suffixes or enclitics according to how you classify them. Indefinite articles precede the noun as in English. Norwegian articles, however, show gender agreement with the noun they modify, as shown in the table below:



## 7. Definiteness in Norwegian.

	Number	Gender	Example	English
<b>Indefinite bare</b>	Singular	Masculine	<i>en bil</i>	<i>a car</i>
		Feminine	<i>ei dør</i>	<i>a door</i>
		Neuter	<i>et hus</i>	<i>a house</i>
<b>Definite bare</b>	Singular	Masculine	<i>bilen</i>	<i>the car</i>
		Feminine	<i>døra</i>	<i>the door</i>
		Neuter	<i>huset</i>	<i>the house</i>
<b>Definite modified</b>	Singular	Masculine	<i>den nye bilen</i>	<i>the new car</i>
		Feminine	<i>den nye døra</i>	<i>the new door</i>
		Neuter	<i>det nye huset</i>	<i>the new house</i>
		Plural	All genders	<i>de nye bil- /dør-/husene</i>

### 5.6.2.2.1. Implications for Norwegian learners

For L1 Norwegian learners, it is unlikely to see a high degree of transfer-related errors in definiteness marking. As the Norwegian system includes both a definite and an indefinite article, and although definite articles are suffixes, the English system is easier to navigate due to the absence of grammatical gender. Johansson (2008) mentions only one instance of frequent error in regard to definiteness marking, found in English learner corpora from all Scandinavian countries- erroneous definite marking of the word *nature*. Scandinavian languages use definite marking for generic reference of this word (*'naturen'*) in addition to certain other abstract concepts (e.g., art, history, death), and this is a very frequent transfer error.

### 5.6.2.3. Prepositions in Norwegian

As both English and Norwegian are Germanic languages, encoding of spatial relationships is quite similar. Austad, Andersen & Peel (2004) devote several chapters to prepositions in their textbook for upper secondary school. However, the two main problem areas they define are the collocations *prep+V[ing]* in English and *prep+that* in Norwegian, neither of which are used in the other language, the former being replaced by *prep+ to-infinitive* and the latter by *prep+V[ing]* in the opposite language. Similarly, Lysvåg and Johansson (1995) give a thorough description of differences of use in

preposition, pointing out that the main issue is what they call “bound prepositions” (my translation, p 118), by which they mean prepositional particles attached to verbs, adjectives and nouns.

#### 5.6.2.3.1. Implications for L1 Norwegian learners

Generally, noted errors in prepositional use in L1 Norwegian written English are incorrect choice of preposition (e.g., *in to* instead of *into*, *besides from* instead of *besides/apart from*), as well as errors in preposition use. Johansson (2008) describes prepositional errors as frequent, but mainly a result of preposition use often being bound and fixed in certain expressions and therefore susceptible to transfer (e.g., *\*critical against* (literal translation from Norwegian *'kritisk mot'*). Out of the instances of preposition errors in Nacey & Graedler (2015), 90.5 % fell within the congruent condition (where both languages require a preposition), and 37.6% were errors attributed to L1 transfer. The study notes that although it is impossible to unambiguously prove transfer, the degree of congruence in these cases strongly suggest this. A newer corpus study with a similar age group comprises an MA thesis by Selliseth Bakken (2017), which observed a majority of errors in prepositions functioning as complements or modifiers of verbs, but she argues that a majority of the errors are results of L1 transfer, the origins visible to those with an understanding of the Norwegian representation of the spatial relations in question. Nacey & Graedler (2015:59) question the notion of “preposition use as a “nightmare” for learners, a judgement which may arise from the view of preposition errors as highly salient, on a par with lexical errors in general”, pointing out that in their corpus, inappropriate prepositions were only produced in less than 5% of cases.

To summarise, literature of learner errors in L1 Norwegian learners have discussed the complexity of unlearning V2 word order, but few studies have investigated this. Agreement errors are frequent among this group, but unlike learners from many other L1 backgrounds, Norwegian learners tend to overuse 3<sup>rd</sup> person and plural forms rather than omit agreement marking. Overuse of progressive aspect is also noted in several studies. Preposition errors are observed in several studies, but generally related to choice of form and thereby not considered relevant in this study.

### 5.6.3. Somali

- *Classification:* Afro-Asiatic, Cushitic, East Cushitic, Lowland East Cushitic.
- *Closest related languages:* Oromo, Afar.

Somali is the second largest language within the Cushitic family and is the native language of some 16 million speakers, primarily in Somalia, Ethiopia, and Djibouti. There is also a large contingent of diaspora speakers of Somali in Norway. It is, alongside Arabic, the official language of Somalia. As a written language, Somali dates to 1972, prior to which mostly the Arabic script was used (Husby, 2004). As part of a literacy project, a written norm was established in which the Latin alphabet was chosen. Due to the short history of written Somali and the turbulent domestic conditions of the country literacy skills within the population have been seen to vary considerably. Both establishing consistent grammatical rules and spelling norms have been challenging due to strong oral tradition, meaning that literacy has been limited among the population, especially the diaspora. Morphosyntactic descriptions of Somali are adapted from Dryer and Haspelmath (2013), Carling (2017), Saeed (1999) and Husby (2004).

#### 5.6.3.1. Word order and verb system in Somali

##### 5.6.3.1.1. Overview of verb system

An overview of the Somali verb system is presented in the table below:

#### 8. Verbs in Somali

Basic tenses	Compound tenses	Compound formed by	Aspect	Mood	Voice	Conjugation	Agreement	Word order
None as such	Present	Affix Auxiliary	Simple	Declarative	Autobenefactive	Weak/strong/ copula	Person	SOV
	Past		Progressive	Optative	Passive		Number	
	Future		Habitual	Potential	Causative		Gender	
				Conditional				
				Imperative				

### 5.6.3.1.2. Word order

Basic unmarked word order in Somali is SOV. However, Somali has a complex system of marking both focus and sentence type, and this can affect word order. Sentence type is generally marked through a combination of verbal inflection and a morpheme particular to that sentence type. A declarative sentence without specified focus is marked by the declarative marker *waa*, and generally describes a description of a fact. Due to the declarative marking, Somali allows positive verbless declarative clauses without a copula verb in statements like ‘A = B’:

6.	Cali	waa	bare	Somali
	Ali	DECL	teacher	
	‘Ali is a teacher’			English

Due to the marking system, both positive and negative declarative clauses and interrogative clauses have the same word order, they are differentiated by sentence type marker. Saeed (1999) provides extensive examples of the interplay of marker words and word forms in various sentence types, as shown in the table below:

#### 9. Sentence types in Somali.

Sentence type	Polarity	Marker	Negative marker	Verb form	Meaning
<b>Declarative</b>	+	waa		sugaa	(He) waits
	-		má	sugó	(He) doesn't wait
<b>Interrogative</b>	+	ma		sugaa	Does (he) wait?
	-	ma	áan-u	sugin	Didn't (he) wait?
	-	sòw	má	sugó	Doesn't (he) wait
<b>Imperative</b>	+			súg(sg)/súga(pl)	Wait!
	-	ha		súgin/suginína	Don't wait!
<b>Conditional</b>	+	waa		súgi lahaa	(He) would wait
	-		má	sugéen	(He) would not wait
<b>Optative</b>	+	há		sugo	May (he) wait!
	-	yàan-u		súgin	May (he) not wait!
<b>Potential</b>	+	show		sugee	(He) may wait

Focus words which are not sentence type markers generally draw focus to constituents such as NPs. They are *bàa*, *ayàa* and *wáxa(a)*. These are all considered empty morphemes where the two first follow the element in focus, and the last one may also precede it.

### 5.6.3.1.3. Agreement

As shown in the table above, Somali also has a complex system of conjugations. Verbs fall into one of three categories. Most verbs are considered weak, and these are conjugated by means of suffixes only. The four strong verbs in Somali, *jidhi* 'say', *yimi* 'come', *yil* 'be in a place' and *yiqiin* 'know', follow an older pattern of conjugation with prefixes and vowel changes. Finally, the third category is the copula verb *yahay*, which morphologically is halfway between the two former categories, dependent on tense and aspect it can be both a prefixing and a suffixing verb. In addition to this, verbs are also subject to numerous *sandhi* changes, which are sound changes at word or morpheme borders.

According to Husby (2004), regular verb conjugation follows the pattern Root+ AFF + PNG + TMA, where AFF means derivative affixes, PNG is person, number and gender agreement and TMA tense, mood and aspect. In addition to this, verbs also have negative forms, as shown above. The verbal system is very complex, but for the purpose of this study it is important to know that in terms of agreement, verbs agree with their subject in person, number and gender. Through combinations of subject clitic pronouns and verb forms eight grammatical persons can be differentiated, and verb forms alone differentiate five through affixing. Agreement in number is either plural or singular. However, like many Cushitic languages, Somali has an elaborate system of number in nouns; they are defined as either countable, mass, collective or transnumeral.

If the subject is not a NP or pronoun focused in the sentence by means of a focus morpheme, it will be realised as a clitic subject pronoun, which will attach to the verb group, thereby identifying a gender distinction. Grammatical gender is a polar distinction in Somali, all nouns are either masculine or feminine, and this is similarly marked through affixes. It should also be noted that many Somali nouns change gender in plural, such as the word *inan* ('boy'-M), which in the plural is *inammo* ('boys'- F).

#### 5.6.3.1.4. Tense/ aspect

Contrary to English, Somali verbs do not have bare infinitive forms in the sense of an unmarked base form. Verbs combine with suffixes to form infinitive forms, which then combine with auxiliaries to form complex tenses and moods in a conjugated auxiliary + infinitive paradigm. Somali differentiates past, present, and future tense in addition to simple, progressive and habitual aspect, which then combine to form tense/aspect forms. However, not all combinations of tense, aspect and mood are possible, tense and aspect are for instance only marked in declarative sentences, and the possible combinations are shown in the table below:

10. Tense and aspect in Somali.

<b>Tense/aspect</b>	<b>Meaning</b>	<b>Form</b>	<b>Negative form</b>
<b>Past simple</b>	Action completed in past	NA	Invariable
<b>Past progressive</b>	Action in process at past time referred to	Suffix with reduced auxiliary	Invariable
<b>Past habitual</b>	Repeated ended action in past	Auxiliary 'jir'+ past simple	Invariable
<b>Present general</b>	NA	NA	NA
<b>Dynamic verb</b>	Repeated action still occurring	NA	Agreement
<b>Stative verb</b>	State at time of speaking	NA	Agreement
<b>Present progressive</b>	Action occurring at time of speaking	Suffix with reduced auxiliary	Agreement
	Proximate future	NA	Agreement
<b>Future</b>	Certain future	Auxiliary 'doon' + infinitive	Invariable

One of the more common sentence types in Somali uses the imperative mood, and in contrast to English this mood is not considered to be unfriendly or denote commands. It is rather considered a direction (Saeed, 1999) and is often perceived as a suggestion. This sentence type is not considered impolite even in formal discourse and is very common.

### 5.6.3.1.5. Implications for L1 Somali learners

Eno (2017) surveyed secondary school students in Mogadishu's perceptions of learning L2 English in terms of their own primary areas of weakness in acquisition ( $n=198$ ). The vast majority considered that production difficulties were a much larger obstacle to their acquisition than issues of understanding. Participants claiming to experience difficulties with reading and listening made up 21% and 11% of the sample respectively, whereas 86% and 91% reported weaknesses in writing and speaking, respectively. Although the relatively low numbers who reported struggling with reading and listening decreased drastically from elementary to advanced level, for the other two language skills they still remained high. Eno's questionnaire data reveal that students expressed primarily difficulties relating to situations that require verbatim linguistic negotiations; and adjusting syntax and grasping complexities of morphology are specifically mentioned.

Published material on L1 Somali learner errors is scarce, mostly consisting of material intended as teachers' guides. Some teacher's guides do exist. Two MA theses by Korver (2013) and Durkee (2018) have noted how few studies have investigated learner errors, particularly considering the extensive groups of Somali immigrants in Western countries. Past studies have investigated L1 Somali speakers' pronunciation errors in English (e.g., Conway, 2008; Börjesson, 2014), but issues of morphosyntax have hardly been mentioned. Kahin (1997) attributes the majority of grammatical errors made by L1 Somali speakers to the application of L1 syntactical rules to English. As word order in Somali is only semantically or pragmatically significant, Somali learners are likely to transfer the free word order of Somali to their English sentences due to a lack of understanding of how word order in English has syntactic significance. This is noted in all the literature reviewed for this study (Kahin, 1997; Durkee, 2018, Peters & Mayer, 2016), but word order errors are not considered a notably frequent error type in Kover's (2013) corpus study or in Philipsson's (2007) grammaticality judgment test. The latter found much higher accuracy rates for word order than for verb morphology. Verb morphology errors are also noted in other studies. Kahin (1997) notes a tendency to omit agreement marking due to an unfamiliarity with marked forms. Both Kahin and Peters and Mayer (2016) discuss a tendency to replace verb forms marked for aspect with simple tenses, particularly with perfective aspect verb phrases. They attribute this to the absence of perfective verb forms in Somali which makes many learners struggle with both form and meaning, and Peters and Mayer (2016) suggest the use of timelines in English teaching to create an understanding of the semantic and pragmatic dimension

the use of English perfective aspect actually adds. Use of progressive aspect is not explicitly mentioned in previous literature but has been tested in the present study.

### 5.6.3.2. Definiteness in Somali

All determinatives in Somali are suffixes which attach to nouns, and are categorised as articles, demonstratives, interrogatives and possessives. As Somali has grammatical gender, all determinative suffixes have a masculine form, marked by an initial *k-*, and a feminine form marked by initial *t-*. These are however subject to phonological *sandhi* changes when suffixed, which can be other assimilative or dissimilative but will not be discussed in any greater detail here. Determinatives are not marked for plural.

Somali has no indefinite article. In instances where an indefinite article is used to distinguish number (e.g., *I have a book, you have two*), the numeral *kow* ('one') is used. Somali does however have definite articles, which are conjugated for gender and distance, both in space, time and discourse. Due to *sandhi*, there are several variants of each form, dependent on phonological environment and case, as demonstrated in the table below:

#### 11. Definiteness in Somali.

Gender	Non-distant	Distant
<b>Primary forms</b>		
<b>M</b>	-ka	-kii
<b>F</b>	-ta	-tii
<b>Sandhi forms</b>		
<b>M</b>	-ku, -ga-, -gu-, -a, -u, -ha, -hu	-gii, -ii, -hii
<b>F</b>	-tu, -da, -du, -dha, -dhu, -sha, -shi	-dii, -dhii, -shii

#### 5.6.3.2.1. Implications for Somali learners

For L1 Somali learners, the primary issue at first glance is the absence of an indefinite article in Somali. The system of definite articles is also more complex than that of English, but learners are expected to be unfamiliar with marking indefiniteness, and for



that reason omissions of indefinite articles are expected, according to Kahin (1997). He thereby predicts both erroneous omission of definite articles as well as omission of articles in general, but particularly the indefinite article. The same conclusion is reached by Peters and Mayer (2016: 5), who point out that to many L1 Somali learners, the English use of articles seems arbitrary, and often leads to incorrect insertion or omission altogether of the category. Durkee’s (2018) MA thesis was based on teaching experience with L1 Somali students and emphasises the importance of teaching English singular and plural nouns, based on frequent omissions of indefinite articles in learner texts. Similarly, Korver (2013) comes from a pedagogical point of view but is based on an error analysis of 20 essays written by L1 Somali learners of L2 English. In this corpus, errors relating to prepositions and determiners accounted for nearly 50% of the tokens. Omission errors accounted for 39% of the total number. She describes the high number of omission errors as surprising, expecting to find them primarily in early stages of language learning, however noting that in her corpus, the pattern was consistent even in more advanced learners. In the total number of determiner errors, 72% were omission errors. Although findings in Korver (2013) are conspicuously unrelated to matters of Somali grammatical structure, the error patterns still confirm preliminary suggestions confirming transfer- learners are likely to produce errors primarily by omitting articles and prepositions, both of which are either rarely or not used in Somali.

### 5.6.3.3. Prepositions in Somali

Somali lacks prepositions as such, and that the functional equivalents which express relations in time and space are very limited in number. Somali does have other ways of marking spatial and temporal relations in the way prepositions do in English. One is through a borrowed Arabic preposition *iláa* (‘until’), which in all respects functions as a nominal preposition. Additionally, location can be described by means of suffixed possessive determiners which attach to NPs, as in the example below:

25.	gúri-ga	hóor-tiisa	Somali
	house-M-DEF	front-F -its-DET-POSS	
	‘In front of the house’		English

Like several other related languages, Somali uses verbal adpositions to express relationships expressed by nominal adpositions in languages like English. These pre-verbal morphemes have prepositions as their translation equivalents, and they perform similar roles, such as marking nominals as location, source, beneficiary, manner, etc. Saeed (1999: 109) gives this list of adpositions and their English equivalents:

- ú: ‘to, for’
- kú: ‘in, into, on, at, with (by means of)’
- ká: ‘from, away from, out of’
- lá: ‘with (in company with)’

These adpositions have three characteristics, they are invariably in pre-verbal position regardless of the position of the NP they govern, the case of the NP is unaffected by the choice of adposition, and the number of NPs in a clause can give rise to ambiguity, which must be resolved by contextual information. Saeed also discusses how Somali adpositions share another similarity with English prepositions in that they are required as particles of certain verbs, e.g., *kú (...)* *ríd* (‘put in), and for that reason fulfil a similar syntactic role to that of prepositions.

#### **5.6.3.3.1. Implications for L1 Somali learners**

For L1 Somali learners, the lack of a corresponding L1 category is an obvious error source in the acquisition and use of English prepositions, and it is also predictive of the type of learner errors. Kahin’s teacher’s guide for Somali students (1997) mentions the scarcity of Somali adpositions and their preverbal position as challenging, in addition to the semantic significance of English prepositions. He claims that a primary error type is simply omission of the preposition in English. Peters and Mayer (2016) point out several issues similar to those mentioned in Kahin (1997), specifically challenges with prepositions as crucial to the meaning of the utterance. They also mention specifically that the use of prepositions often seems arbitrary to learners of any language, and as Somali uses adpositions to a much more limited degree than English, learners often struggle with both mastering the form but also understanding their semantic significance in the sentence. The second unit in Durkee’s (2018) suggested curriculum of English for L1 Somali learners focusses on prepositions, noting the discrepancy in number of prepositions between the languages- however not mentioning specific signs of this in

learner language. Also, as mentioned above, errors relating to prepositions and determiners accounted for nearly 50% of the tokens in Korver (2013). In the preposition category, 58% of errors was due to omission, and only 27% were general errors of incorrect use. Although findings in Korver (2013) are not explicitly related to matters of Somali grammatical structure, the error patterns still confirm preliminary suggestions confirming transfer- learners are likely to produce errors primarily by omitting articles and prepositions, both of which are either not or rarely used in Somali. In the case of prepositions, typical L2 form choice errors are also observed, but to a much smaller degree than omissions. Korver cites a claim by Dulay et al. (1982) that omission errors are infrequent except in very early stages of acquisition. Although Korver does not make an explicit connection to L1 transfer, this unorthodox pattern nonetheless seems likely to be affected by the absence of a Somali structural equivalent to English prepositions.

To summarise, works on learner errors have observed frequent word order errors in English, as learners are likely to transfer Somali principles in which word order only has pragmatic significance. In several other categories relevant for this study, typical Somali errors are errors of omission. As Somali learners are unfamiliar with perfective aspect from their L1, they have been noted to replace these verb phrases with simple past. Due to absence of the categories in Somali, frequent omissions of indefinite articles and prepositions have also been noted in previous literature.

#### **5.6.4. Arabic**

- *Classification:* Afro-Asiatic, Semitic, West Semitic, Central Semitic.
- *Closest related languages:* Hebrew, Aramaic.

Arabic is spoken by some 310 million people, primarily in the Middle East and Northern Africa, with significant language minorities worldwide. Written Arabic, usually referred to as Modern Standard Arabic (MSA), is a somewhat modernised version of Classical Arabic which is largely unchanged since the Middle Ages and used across all Arabic-speaking countries for written communication. Spoken Arabic, often referred to as Non-standard Arabic (NSA) is divided into two main areas, Eastern Arabic, spoken in Egypt and eastward, and Western Arabic, spoken from Libya and westward, with little mutual intelligibility between the two variants. A specific feature of Arabic is the difference

between the written and spoken form, where the written variant is considered so different from the spoken that it is learnt in school similarly to a foreign language. Morphosyntactic descriptions of Arabic are adapted from Dryer and Haspelmath (2013), Carling (2017), Fehri (2012) and Badawi et al. (2013).

### 5.6.4.1. Word order and verb system in Arabic

#### 5.6.4.1.1. Overview of verb system

An overview of the Arabic verb system is shown in the table below:

#### 12. Verbs in Arabic.

Basic tenses	Compound tenses	Compound formed by	Aspect	Mood	Voice	Conjugation	Agreement	Word order
None as such	Perfect	Affix Auxiliary	Incorporated with tense	Indicative	Active	-	Person	Standard: VSO Non-standard: SVO
	Imperfect			Subjunctive	Reflexive		Number	
	Future			Jussive	Passive		Gender	
				Imperative	Reciprocal			
					Intensive			
					Causative			

#### 5.6.4.1.2. Word order

Modern Standard Arabic distinguishes between two sentence types, nominal and verbal sentences. Nominal sentences are verbless and consist only of a subject (usually a NP or pronoun) followed by a predicate consisting of a NP, a pronoun, an adjective or adverb. These sentences denote present tense, but it should be noted that they do not require a copula verb, as exemplified below:

26.	ana	ṭālibun	Arabic
	I	student	
	‘I am a student’		English
27.	ʾal-waladu	hunāka	Arabic
	boy-M-DEF	there	
	‘The boy is there’		English

Verbal sentences have VSO word order, but personal pronouns are usually omitted as subjects, for reasons explained below.

#### 5.6.4.1.3. Agreement

Arabic verbs follow a complex system of agreement in which verbs show agreement for gender, person, and number. In addition, subjects distinguish personal and non-personal entities, and dual or multiple persons or entities, and these distinctions are also reflected in the agreement of the verb. Due to the verb being clearly marked, personal pronouns are not normally used as subjects, as mentioned over. The agreement of the verb will show clearly which type of subject is referred to:

28.	yauul	Arabic
	say-3-M-SG	
	‘he says’	English
	taqul	Arabic
	say-3-F-SG	
	‘she says’	English

#### 5.6.4.1.4. Tense

An important distinction between Arabic and Indo-European languages is that Arabic lacks tenses that describe events in a precise timeframe. The two main tenses in Arabic are usually described as corresponding to the Indo-European understanding of perfect and imperfect, although not fully corresponding to those terms as they are employed in English. Also, Arabic has no infinitive form, and the third person masculine singular perfect tense is usually referred to as the base form of the verb. The perfect verb form is usually considered to correspond to English past tense, and it denotes a past state, a completed action, or an established fact.

The imperfect form, on the other hand, expresses actions that are incomplete or habitual, ongoing or continuous states. For this reason, it normally refers to present time, and is hence different from the English notion of imperfective, which refers to past actions or states. An Arabic imperfect verb form will most often be functionally equivalent to simple present or present progressive in English.

Other expressions of tense in Arabic are derived from context, or by using verbal moods or marker particles, e.g., the particle *qad*, which combines with a perfect verb form to denote completion, or an imperfect tense verb to denote uncertainty or possibility, much like the English modal verbs *might/may*:

29.	qad has (past tense marker)	yahduru be present-3- M-SG	l'-ustāḍu teacher-M-DEF	ḡadan tomorrow	Arabic
	‘The teacher might come tomorrow’				English
30.	qad has (past tense marker)	šariba drink-3-M- SG	l-ḡalība milk-DEF		Arabic
	‘He already drank the milk’				English

#### **5.6.4.1.5. Aspect**

The system of tense in Arabic is actually, in comparison to Indo-European languages, a system of aspect rather than tense in a chronological sense. For this reason, completion or ongoingness is understood to be an integral part of the verb form, rather than something that is marked; it is rather the placement in present or past that must be marked or derived from context.

#### **5.6.4.1.6. Implications for L1 Arabic learners**

One primary issue with both contrastive analyses and error analyses of L1 Arabic learner language is that Arabic is, as previously mentioned, a diglossic language where features can vary considerably between Modern Standard Arabic (MSA) and Non-Standard Arabic (NSA), dependent on which spoken variant is used in the learner's country of origin. Early contrastive works assume that learners were likely to transfer from MSA in written language and NSA in spoken language (Thompson-Panos & Thomas-Ruzic, 1983; Scott & Tucker, 1974; Abdulmoneim, 2000). Mahmoud (2000) surveyed English translations of MSA and NSA texts and free compositions from a total of 74 secondary school students. This survey revealed that 20% of errors were results of transfer from MSA, 37% from NSA, and 43% from either variant. Additionally, the errors due to transfer from MSA would not have occurred had the learner transferred the constructions in question from NSA, which has closer correspondence to English. AbiSamra (2003) saw more or less a dichotomy of errors in the categories of grammar (48.2% transfer, 51.8% developmental) and syntax (45.7% vs 54.3%). In areas such as lexis and semantical errors, transfer errors accounted for 73% and 100% of total number, respectively.

Due to morphosyntactic divergence between MSA and NSA issues of L1 transfer from Arabic to English are complex, and Thompson-Panos & Thomas-Ruzic (1983) point out four major morphosyntactic sources of potential errors; omission of copula, verbal aspect errors, misuse of tense and errors in relative clause formation. The rationalisation behind these potential errors is the absence of the copula verb 'be' in Arabic, resulting in omission both as a lexical and an auxiliary verb, the absence of chronological time reference in Arabic verbs and the Arabic use of particles and invariable auxiliaries in expressing aspectual reference. Learner studies have been able to verify some of these

claims (Diab, 1996; Sabbah, 2015). Diab (1996) found several transfer-related syntactic errors, of which word order errors accounted for 52,8%, coordination 29.5% and omission of copula 17.6%. Word order errors were mainly due to misplacement of adjectives after the nouns they modify and adverbs after the adjectives they modify. Diab (1996) also observed instances of omission of the copula both as lexical and auxiliary verb. Sabbah (2015) gives a comprehensive review of errors relating to the verbal system, again mentioning specifically omission of the copula verb, or substituting ‘to do’. This is further complicated by the absence of auxiliary verbs in Arabic, which can cause issues particularly in interrogative clause formation. Secondly, Sabbah claims that due to Arabic verbs being only marked explicitly for aspect, and not tense, many learners struggle with producing progressive and perfective aspect in English, instead preferring to use simple present, as all interpretations of tense and aspect are encompassed in two basic verb forms in Arabic. Word order errors are not to any significant degree addressed in the literature, but as word order varies from MSA to NSA, these error types are likely to be dependent on the learner’s background; in samples with mainly second-generation Arabic speakers, it is likely that a majority have limited knowledge of written Arabic.

#### **5.6.4.2. Definiteness in Arabic**

In Arabic expressions of definiteness vary dependent on the context. Although an indefinite article suffix *-un* exists in written Arabic it is not used in spoken language. This means that the written forms *waladun* (‘a child’) and *kutubun* (‘books’) only exists in written language, whereas in spoken language, the absence of the suffix will give an indefinite interpretation. An exception from this is seen in spoken Moroccan Arabic, which uses the numeral *wāhed* (‘one’) to express indefiniteness, such as in *wāhed l-weld* (‘the boy’). It should however be noted that this construction has a double definiteness marking, as it also uses the Arabic definite article *l-*, which precedes the noun it marks. This article is invariable regardless of gender and number, and this gives the Moroccan Arabic use the literal translation *\*one the boy* for English *the boy*.

##### **5.6.4.2.1. Implications for L1 Arabic learners**

Literacy could play an important role in transfer errors since written Arabic marks both indefinite and definite nouns, however spoken marks only definiteness. According to a contrastive analysis by Mejdell (1978) a tendency in the English production of native



speakers of Arabic is to either misinterpret all articles preceding the head noun as an expression of definiteness, or to simply omit articles in general, such as ‘\*I arrived in village’. Frequent instances of definiteness marking errors are attested in literature on learner language also. AbiSamra (2003) mentions particularly two areas that resulted in a considerable amount of transfer errors, prepositions, and articles. Diab (1996) found that article errors comprised 27.7% of the total number of errors in L1 Arabic university students’ written production of English. Thompson-Panos & Thomas-Ruzic (1983) concluded that at least half definiteness marking errors were instances of L1 transfer. Omission errors are specifically noted in all these studies, particularly omission of the indefinite article. Diab (1996) and AbiSamra (2003) also observed frequent erroneous insertions of definite articles. A review paper by Sabbah (2015) surveyed a number of previous error analysis studies, and although not listing specific error types in order of frequency, the review still points out the major patterns occurring within each error type. Sabbah detects three patterns in article errors: Firstly, omission of the indefinite article is frequent, as it does not exist in Arabic. Secondly, insertion of the definite article as mentioned by AbiSamra (2003) and Diab (1996). Thirdly, Sabbah also mentions omission of definite articles in noun phrases with prepositional postmodifiers denoting possession (e.g., *the kindness of strangers*), as this would be expressed by genitive case in Arabic. An article by Crompton (2011) looking exclusively at article-related errors in a 43 000-word corpus of texts written by L1 Arabic university students confirm this pattern. Out of the total number of errors, omission errors 13.9%, and incorrect insertion of definite article made up 77.9%.

#### 5.6.4.3. Prepositions in Arabic

Arabic has a wide range of prepositions, but their functions are somewhat different from in English. In nominal sentences, four Arabic prepositions are frequently used to denote possession; *ma’á* (‘with), *inda* (‘by, with’), *ladá* (‘with, at, by’) and *li/la* (‘for, to, because of’, suffix). By use of these prepositions, different aspects of possession can be expressed, such as general possession or possession with temporal aspects:

31.	inda	ṭ-ṭālibi	sayyāratun	Arabic
	with-POSS	student-M-DEF	car-F-INDF	
	‘The student has a car’			English

32.	ma`a with-TEMP	t-ṭālibi student-M-DEF	sayyāratun car-F-INDF	Arabic
	‘The student has his car with him’			English

#### 5.6.4.3.1. Implications for L1 Arabic learners

As Arabic has a wide range of prepositions that are placed in the same position as English, contrastive analyses have not considered English prepositions as challenging for L1 Arabic learners (Thompson-Panos & Thomas-Ruzic, 1983). Diab (1996), however, found that prepositional errors counted for 44.2% of grammatical errors, and both Mahmoud (2000) and AbiSamra (2003) list prepositional errors as the most frequent type in their study. Sabbah (2015) concludes that although prepositional errors are frequent, they stem from two factors, the lack of definitive prepositional equivalents across the two languages, and the lack of definite usage and meaning for all prepositions in the two languages. Sabbah provides examples of certain preposition errors typical for L1 Arabic speakers (e.g., “ashamed from, composed from, object on, blame on” (2015: 274)), but notes that without knowledge of Arabic, these errors are difficult to recognise as transfer.

To summarise, the most frequent error types noted in L1 speakers of Arabic are aspect errors, due to two separate causes. Firstly, as Arabic is marked only for aspect and not tense, learners have been seen to use simple tenses, as they interpret them as aspectually marked. Secondly, as Arabic does not use copula verbs, this can also cause errors in use of progressive aspect through omission of the auxiliary. Two types of definiteness errors have been observed, omission of indefinite article and insertion of definite article. As with L1 Norwegian learners, preposition errors in L1 Arabic learners can be frequent, but generally lexical errors relating to choice of preposition rather than use of the category.

#### 5.6.5. Polish

- *Classification:* Indo-European, Slavic, West Slavic, Lechitic.

- *Closest related languages:* Czech, Slovak.

Polish is spoken mainly in Poland, with large minority populations in neighbouring countries such as Ukraine, Belarus and Lithuania, making up a total of some 41 million speakers worldwide. Polish uses the Latin alphabet, unlike many other Slavic languages that use the Cyrillic alphabet. Poland has previously had significant regional variants, but due to modern education and the movements of the population during and following World War II, the standard variant Contemporary Standard Polish, originating in the Warsaw area has mostly displaced the regional variants. Morphosyntactic descriptions in this section are adapted from Dryer and Haspelmath, (2013), Carling (2017), Swan (2002), Balode and Holvoet (2001) and Mathiassen (1996).

### 5.6.5.1. Word order and verb system in Polish

#### 5.6.5.1.1. Overview of verb system

An overview of the verb system in Polish is shown in the table below:

#### 13. Verbs in Polish.

Basic tenses	Compound tenses	Compound formed by	Aspect	Mood	Voice	Conjugation	Agreement	Word order
Past	Imperfect future	Auxiliary	Perfective	Indicative	Active	4 conjugations	Person	SVO but flexible
Non-past	Pluperfect		Imperfective	Conditional	Passive		Number	
				Imperative	Reflexive		Gender	

#### 5.6.5.1.2. Word order

In Polish, semantic and syntactic roles are not primarily signalled by word order, as is the case in English, but rather through a system of case endings. This gives the opportunity of using word order to mark focus, which to a lesser degree is possible in written English, as it is more dependent on intonation. According to Swan (2002: 377) Polish word order is essentially governed by the principle that “the closer the item is to the end of the sentence, the more informative the item is, and the more logical emphasis

it carries”. This means that sentence-final constituents tend to hold the topic or the answer, and more peripheral information, such as adverbials, are often placed sentence-initially. In sentences with all new information, the subject normally follows the verb, with a non-DO complement preceding it. In cases of structurally ambiguous sentences, semantic logic will usually determine which noun constitutes the S and which is the DO, but if not possible to deduce by context, the left-hand NP is normally interpreted as the subject.

### 5.6.5.1.3. Agreement

Polish verbs agree in person, gender, and number; however, the agreement system is also dependent on tense making it quite complex. Non-past tense verb forms agree with subjects in person and number, and past tense verb forms agree in gender and number which will be explained in more detail below.

### 5.6.5.1.4. Tense

Polish distinguishes two primary tenses, past and non-past. The ‘non-past’ label is used because present tense of perfective verbs (see description of aspect below) typically has future reference. Polish verbs follow four conjugation patterns dependent on phonological features, in which present tense endings are added according to the subject with which they agree. Past tense forms are based on an infinitival stem to which past tense endings are added, but as the base form is considered participial, past tense verbs only agree with their subjects in gender and number. As mentioned, future tense is generally denoted by non-past tense imperfective verbs, or in imperfective verbs by a compound future tense expression consisting of the auxiliary *bede* (future-referring form of *być*, ‘going to, intend to’) and the 3<sup>rd</sup> person past form of the main verb. Due to the agreement system, personal pronoun subjects are superfluous, leading to sentences like the examples below:

- |     |             |               |        |
|-----|-------------|---------------|--------|
| 33. | bede        | czytał        | Polish |
|     | be-1-SG-FUT | read-M-SG-PST |        |

‘I am going to read’ English

34. będzie czytała Polish  
be-3-SG-FUT read-F-SG-PST

‘She is going to read’ English

#### 5.6.5.1.5. Aspect

Aspect in Polish is more complex than in English, both morphologically and semantically. Polish, like Slavic languages in general, differentiates verbs that have incomplete and completed actions, i.e., imperfective and perfective aspect, respectively. For most Polish verbs, this is primarily marked by prefixation of perfective verbs, although both suffixation, vowel change and unaffixed perfective verbs are also used. Simplex verb forms are mostly considered imperfective, to which a number of prefixes can be added to form perfective forms. The prefixes are many and varied, and their distribution is not rule-governed but lexicalised. Some verbs are considered inherently imperfective, whereas others are biaspectual and can be either. Semantically, the addition of a perfective-forming prefix will change the base verb’s meaning, but these changes are also not rule-governed. As an example, the base verb *kazać* ‘to order’ can through the addition of prefixes take such varied meanings as ‘to show’ (*pokazać*), ‘to condemn’ (*skazać*) or ‘to hand over’ (*przekazać*), typically changing a stative or actional verb to one denoting accomplishment or result. When a perfective-forming prefix drastically changes the base meaning of a verb, this meaning can then be formed into an imperfective form by adding a suffix. This exemplifies a complexity of the nature of the aspectual system, both in the fundamental understanding of the concept, as well as the system governing it.

It should further be noted that in addition to the dichotomy completed/uncompleted as observed in English, the Polish use of aspect includes a distinction of whether the completed action denotes a change or not. For this reason, perfective forms refer specifically to actions that are completed and result in a change in affairs, whereas imperfective aspect is used to refer not only to ongoing or habitual actions, but also completed actions without a change in affairs. This can be exemplified by the following

paradigm of the verb ‘write’, which has the unprefixated form, *pisać* (imperfective) and *napisać* (perfective) with the prefix {na-}, as shown in the table below:

Table 14. Aspect in Polish.

	Imperfective		Perfective	
	Ongoing	Generic/habitual	Completed	Resultative
<b>Present</b>	<i>piszę</i>	<i>piszę</i>		
<b>Past</b>	<i>pisałem/pisałam</i>	<i>pisałem/pisałam</i>	<i>pisałem/pisałam</i>	<i>napisałem/napisałam</i>
<b>Future</b>	<i>będę pisał(a)</i>	<i>będę pisał(a)</i>	<i>będę pisał(a)</i>	<i>napiszę</i>

This table shows the difference between the two aspects in that the perfective form denotes completion with result, such as the writing process being completed due to having finished the project altogether. This is a clear contrast with English perfective forms which do not necessarily denote this interpretation. The English present and past perfective forms (*I have/had written*) can be expressed by either Polish aspect. However, if the English expression uses an {-ing} form of the main verb, then the imperfective form will be used in Polish.

#### 5.6.5.1.6. Implications for L1 Polish learners

As English teaching in Poland traditionally was not characterised by comprehensive language production, analyses of learner language have been infrequent in a Polish context (Krzyzanowski & Drozdial, 1978). Arabski (1968) analysed entrance examination papers from the English department of the University of Poznan. This study provides a comprehensive overview of the kinds of errors, although with a very prescriptivist view. This study observed frequent errors related to the use of the Polish words *jest*, which dependent on context can mean either *is*, *it is* or *there is*, and *nie*, which covers both *be+not* and *have+not*. According to Arabski (1968), this led to both agreement and word order errors. Furthermore, the number and grammatical gender of nouns in Polish, which is frequently transferred to English, was also seen to cause errors in agreement and pronoun reference, respectively. Arabski, also found many instances of subject omissions. The error category Arabski defined as “external passive interference errors” (1968: 84), also includes omission of auxiliary verbs and errors related to verb forms. Arabski specifically mentions mixing simple past tense and non-finite verb forms, as well as erroneous preference for third person singular forms. More recently, Piotrowska’s (1995) error analysis of a corpus of English essays written by 27 L1 speakers of Polish, at all levels of language competence notes instances of word order

errors. Also, 3<sup>rd</sup> person singular ending errors made up 60.4% of the total number of observed errors. Lewandowska (2013) frequently observed syntactic errors related to word order, mainly in cases of adverbial fronting or incorrect placement. Interestingly, Lewandowska (2013) comments that tense/aspect errors were very rare. She argues that the tense and aspect systems of Polish and English are very different and are usually given considerable emphasis in English teaching.

### 5.6.5.2. Definiteness in Polish

Polish lacks a grammatical category corresponding to articles, and for that reason depends on other mechanisms to convey definiteness in NPs. In Polish sentences without the use of overt marking of definiteness, such as in *Kupiłem książkę* ('\*I bought book) are common. In some instances, definiteness is marked by use of indefinite or demonstrative pronouns, such as in the following examples:

- |     |                   |        |               |             |         |
|-----|-------------------|--------|---------------|-------------|---------|
| 35. | Kup               | mi     | jakąś         | książkę     | Polish  |
|     | buy-IMP           | me-BEN | some-INDF     | book-ACC-SG |         |
|     | ‘Buy me a book’   |        |               |             | English |
|     |                   |        |               |             |         |
| 36. | Kup               | mi     | te            | książkę     | Polish  |
|     | buy-IMP           | me-BEN | this-ACC-SG-F | book-ACC-SG |         |
|     | ‘Buy me the book’ |        |               |             | English |

In other instances, definiteness can be signalled by means of word order:

- |     |                         |                  |                |        |         |
|-----|-------------------------|------------------|----------------|--------|---------|
| 37. | Wczoraj                 | widziałam        | <b>chłopca</b> | Polish |         |
|     | yesterday               | see-1-SG-<br>PST | boy-ACC-<br>SG |        |         |
|     | ‘Yesterday I saw a boy’ |                  |                |        | English |

38.	<b>Chłopiec</b>	niósł	w	siatce	pomarańcze	Polish
	boy	carry-3- SG-PST	in	bac-LOC- SG	orange- ACC-PL	
	‘The boy was carrying oranges in a bag’					English

In these two sentences, the interpretation of definiteness is governed by the placement of the NP ‘boy’. In clause-initial position (4), it is interpreted as definite, and in clause-final position (3) it is interpreted as indefinite.

#### 5.6.5.2.1. Implications for L1 Polish learners

L1 Polish learners of English are likely to make errors that are influenced by the fact that Polish lacks a grammatical category corresponding to articles, and definiteness is expressed through use of indefinite or demonstrative pronouns or word order. Piotrowska’s (1995: 46) corpus analysis concluded that article misuse was the most frequent error type (57.3% of the total number of errors). Articles tend to be replaced by other categories, such as various types of pronouns as mentioned above, or altogether omitted. Particularly omission errors are frequently noted in several studies of learner errors (Lewandowska, 2013; Lockiewicz & Jaskulska, 2017, 2019; Ekiert, 2004), all of which conclude that L1 transfer is the primary source of this error type.

#### 5.6.5.3. Prepositions in Polish

Similar to in English, Polish prepositions are a class of function words, and precede NPs in order to specify their function in the sentence. Swan (2002) describes Polish prepositions being functionally equivalent to case endings, but with more specific meanings. Polish learners may experience difficulties related to the variation of prepositions in English, both in terms of attributing several meanings and uses to one form, and the opposite, expressing one type of relation with several different forms. In addition to this, choice of preposition can be governed by choices in the visualisation of the concept, or by idiomatic or metaphorical constructions, and these distinctions are not always made in Polish. The two English noun phrases ‘*the cattle in/on the field*’ are



both translated into Polish as '*bydło na pastwisku*', both the meanings *in* an area or *on* a surface respectively, are both expressed in Polish by the preposition *na*.

However, one more fundamental issue for L1 Polish learners is that Polish in several instances uses case to express meanings expressed by means of prepositions in English, as described by Swan (2002) above. Several English PPs will be expressed as various dependent case phrase types in Polish, such as *in the evening* (PP) which is translated *wieczorem* (NP+instr), and to look *for John* (PP) is *szukać Jana* (NP+gen). These differences cause errors of a more structural nature, as learners may fail to realise that the equivalent construction in English actually requires the use of a preposition.

#### **5.6.5.3.1. Implications for L1 Polish learners**

In the case of L1 Polish learners, frequent errors in use of prepositions are noted in most surveyed error analyses (e.g., Duskova, 1969; Piotrowska, 1995; Lesniewska & Witalisz, 2007; Lockiewicz & Jaskulska, 2019). However, as was the case with Arabic, the problem is mainly lexical, learners choose the wrong preposition and L1 transfer is only apparent to those with knowledge of Polish. Errors related to phrasal verbs are also frequently noted by Lockiewicz & Jaskulska (2019) and Lewandowska (2013), as phrasal verbs are another category not found in Polish.

To summarise the most frequent error types noted for L1 Polish learners of English, a primary error source is the flexibility of Polish word order. In Polish, syntactic and semantic roles are not defined by position in the clause, as is the case in English. The second most frequent error type is related to omission of articles due to a general lack of understanding of and familiarity with the category. In terms of verbal errors, the evidence is somewhat conflicting, with some studies seeing little evidence of transfer errors, and some pointing out a tendency for overuse of 3<sup>rd</sup> person singular forms, as well as prepositional errors related to the use of phrasal verbs.

### 5.6.6. Error predictions

Based on the literature on learner errors a model has been created for the present study, see table 14. This table summarises the predicted error patterns for each of the languages of interest, with patterns of divergent errors based on L1 transfer.

14. Predicted errors based on L1 transfer.

	Agreement		Prepositions		Definiteness		Verb forms		Word order
	Unmarked	Marked	Lexical	Omit	Indefinite	Definite	Overuse	Omit	
<b>Norwegian</b>		+	+				+Asp		V2
<b>Somali</b>	+			-	-	-		-Asp	Free
<b>Arabic</b>			+		-	+ -		-Asp -Cop	2 possibilities
<b>Polish</b>		+	+	+	-	-			Free

In the above table, + signifies overuse, – omission or underuse of a form or construction. In the category *Prepositions*, +lexical signifies lexical transfer errors due to literal translation from the L1.

As noted by Thagg Fisher (1985), agreement errors are generally found in L2 English regardless of L1, as differences in countability between languages are likely to influence. In the category *Agreement*, L1 Norwegian and possibly also Polish learners are predicted to overuse forms marked for 3<sup>rd</sup> person (Polish) or both 3<sup>rd</sup> person and number (Norwegian). Frequent agreement errors are noted in literature on L1 Norwegian learner errors, and mostly cases of overproduction of 3<sup>rd</sup> person singular in affixal agreement, and plural forms in suppletive agreement (Garshol, 2019). L1 Polish learners have also by some been claimed to overproduce 3<sup>rd</sup> person singular verb forms, but this is contested by others (Arabski, 1968; Piotrowska, 1995; Lewandowska, 2013), so there are no conclusive predictions. For L2 Somali learners, omissions of marked forms altogether are predicted (Kahin, 1997). For L1 Arabic learners there are no clear predictions noted in the reviewed literature.

For the category *Prepositions* learners from all language background are predicted to make lexical errors relating to choice of the incorrect preposition, but for this study those errors will be disregarded due to the difficulty of defining them as transfer errors unless

the translation equivalent in the specific L1 is known. Of particular interest, however, is to observe whether L1 Somali learners do indeed omit prepositions as described in previous literature (Kahin, 1997; Peters & Mayer, 2016; Durkee, 2018; Korver, 2013) as well as whether L1 Polish learners use incorrect insertions of prepositions (Lockiewicz & Jaskulska, 2019).

In the category *Definiteness* no particular pattern of errors is predicted from L1 Norwegian learners, whereas article omissions are predicted from all other language backgrounds. L1 Somali learners are predicted to struggle with correct use of determiners, and both Kahin (1997) and Peters and Mayer (2016) predict incorrect insertion of articles, but primarily omissions, particularly of definite articles. L1 Arabic learners are also predicted to produce two specific patterns of errors; omission of indefinite articles and incorrect insertion of definite articles before abstract nouns (Diab, 1996; AbiSamra, 2003; Sabbah, 2015). L1 Polish learners are likely to be influenced by the absence of the determiner category in Polish, and the primary error prediction is altogether omission, although incorrect insertion may also be observed (Lewandowska, 2013; Lockiewicz & Jaskulska, 2017, 2019; Ekiert, 2004)

In the category *Verb forms* mainly use of progressive aspect will be considered, where L1 Norwegian learners are by Olsen (1999) noted for overuse of progressive aspect. For the other language backgrounds error predictions are less conclusive, but if anything, these types of complex VPs are expected to be avoided. In L1 Somali speakers both Kahin (1997) and Peters and Mayer (2016) note problems with VPs marked for aspect, as are errors of replacing VPs marked for aspect with simple tenses noted among L1 Arabic speakers due to the absence of auxiliary verbs in Arabic (Thompson-Panos & Thomas-Ruzic, 1983; Diab, 1996). L1 Polish learner errors of this type are difficult to predict, due to conflicting evidence from previous literature. Arabski (1968) describes a tendency to mix finite and non-finite forms, however Lewandowska (2013) found that this error type was extremely rare, and for that reason no specific pattern can be predicted.

In the category *Word order* different patterns are predicted for each language background. In L1 Norwegian learners, V2 errors are expected in English sentences with fronted elements. For L1 Somali and Polish learners, word order errors are predicted to be influenced by the flexibility of word order in both languages, as literature notes that many learners struggle to grasp how English word order has syntactic significance. L1

Somali learner errors relating to word order are predicted by some (Durkee, 2018), but not considered frequent by others (Korver, 2013; Philipsson, 2007), and are for that reason difficult to provide conclusive predictions about. Other word order errors noted are difficulties with modification of NPs and the general construction of relative clauses in L1 Arabic learners, but as word order varies from MSA to NSA, these predictions are difficult to make conclusively. Misplacement of negators and misplacement of adverbials, particularly related to erroneous fronting (Arabski, 1968; Piotrowska, 1995) are noted in L1 Polish learners. However, for the present study only V2 errors have been considered as the word order error of interest, as this error type is only attested as a “Norwegian error”.



## **6. Method**

### **6.1. Participants**

The participants were pupils in years 6, 7 or early year 8 in various Norwegian schools. All pupils had been taught Norwegian and English from year 1 and except for pupils who receive mother tongue instruction they have no experience with formal learning of other languages at this stage. The year 8 participants had no more than weeks or a few months of experience with a third language as they were tested soon after starting the academic year. Participants were recruited through arrangements with local school administration or through direct contact with teachers. Prior to participation an information sheet was sent out informing both participants and their parents or guardians about their participation in the project, what the goal of the project was and of their legal rights as participants. As data collection was anonymous and no sensitive information was collected parental consent was not required, but information was given on participants' right to opt out of their participation. No explicit inclusion criteria were given for participation, but teachers were given the possibility to give exemptions at their discretion in the event of pupils with diagnosed language impairments or other issues that would make their participation too difficult. Further conditions that might cause consequences to performance such as undiagnosed learning impairments or autism spectrum disorders were addressed in a separate section of the questionnaire by including questions that could give an impression of this. This will be described further later on.

There were considerable challenges related to the COVID 19 pandemic during this period. The initial project presentations with invitations to participate were sent out during the early autumn term of 2020, and it was intended for the bulk part of data collection to take place during that term, however it took over two years to complete. Due to very unpredictable conditions in schools, initial data collection did not start until late in the spring term of 2021. Further contacts were established during the early autumn term of 2021, but due to subsequent lockdowns later that term and in the early spring term of 2022 none of the planned data collection could go ahead as planned. A third round was attempted during in the spring term of 2022, but with it was even at this point very difficult to make arrangements and several schools which had agreed to participate ended up pulling out at the last minute. The recruitment process was a major challenge to the project, both in establishing contact and in the actual carrying out of the collection. This has led to adjustments of the focus of the study during the process, as

getting the necessary number of participants representing the various language groups has been difficult. Unfortunately, the number of L1 Somali participants was insufficient to be considered for separate analysis as an L1 group. These participants have nonetheless been included in the general analysis of speakers with additional home languages.

## 6.2. Test overview

The participants completed a digital questionnaire comprising five subsections and a grammar test comprising three subsections, see table below.

15. Full test overview showing questionnaire and grammar test subsections and their specific foci.

Introduction page							
Questionnaire							
Languages and competence evaluation		Language use		General attitudes to learning		Learning and communication	Background
Proficiency		Preference		Importance of		Aptitude	Age
Preference		Dominance		language		Learning disabilities	Gender Parents
Information page with examples of grammar tasks							
Grammar test							
Error elicitation test				Error spotting			Free production
Agreement	Prepositions	Definiteness	Aspect	Word order	Agreement	Definiteness	Divergent patterns Avoidance

## 6.3. Materials

### 6.3.1. Questionnaire

A questionnaire was used to collect data on participants' linguistic backgrounds as well as their biological information, see *Appendix 1*. This questionnaire was constructed using elements from the LEAP-Q (Marian et al., 2007), the Multilingual Language Use Questionnaire (Cohn et al., 2013) and the Ungspråk questionnaire (Haukås, Storto & Tiurikova, 2021, 2021a). The LEAP-Q has become something of a standard since its introduction and is translated into over 20 languages. Although there is still some debate as to which aspects of background profile are necessary when describing bilingual populations (see Kaushanskaya et al., 2020), the authors nonetheless point out that all published works on bilingualism tend to at least include “the ages at which the bilinguals' two languages were acquired; the extent of exposure to the two languages currently and over a lifetime; and estimates of dominance and/or proficiency (subjective, objective, or both)” (2020: 945). A benefit of using the LEAP-Q is that it was at the time the first questionnaire to have its internal validity established through both a factor analysis and a subsequent multiple regression analysis linking self-ratings to behavioural data in two separate studies. The LEAP-Q is frequently used to “substantiate a division of bilinguals into groups and subgroups” (Kaushanskaya et al., 2020: 946), which has been a primary goal of the present study. It should nonetheless be noted that authors initially describe the LEAP-Q as having reliability and validity “established on healthy adults whose literacy levels were equivalent to that of someone with a high school education or higher” (Marian et al., 2007: 940), and although they in their subsequent review pose that the questionnaire has been successfully used with participants as young as 14 (2020: 946), it needed to be considered that the questionnaire was primarily constructed for adult participants.

The Ungspråk questionnaire, on the other hand, (Haukås, Storto & Tiurikova, 2021, 2021a) was developed for participants of a similar age to those in this study, so this questionnaire has also been an important influence. The authors cite Boynton (2004: 1372), who claims that “questionnaires tend to fail because participants don't understand them, can't complete them, get bored or offended by them, or dislike how they look”. This led to considerable effort being put into a development process that ensured the validity of the Ungspråk questionnaire, including multiple piloting rounds. The fact that this questionnaire was created specifically for the target age group provided a valuable



resource. Also important was the fact that the two questionnaires have somewhat different foci. Where the LEAP-Q focusses primarily on the participants' experience as a bi- or multilingual, including where, when, and how languages have been learnt and the participants' exposure in various settings, the Ungspråk questionnaire also focuses on the participants' attitudes and views of multilingualism as a phenomenon and their own multilingual self, both now and in the future. Aspects of all of these were incorporated in the present study's questionnaire, as will be described in more detail in the following sections. The third questionnaire used as background material is the Multilingual language use questionnaire (Cohn et al., 2013). Originally created to track patterns of language use in multilingual communities in Indonesia, the questionnaire included many of the standard background questions on acquisition but more interestingly asked about language use in 34 specific domains and situations and included statements on attitudes to languages intended specifically for multilingual communities (Cohn & Ravindranath, 2014).

As mentioned, Kaushanskaya et al. (2020) claim that research in the realms of bilingualism/multilingualism tend to try to establish ages of acquisition, language exposure and estimates of dominance and/or proficiency, and this was also important to the present study. However, it was also important to include materials that could establish relationships between the participants' linguistic repertoire and their dominant language constellations. Aronin (2019) defines language repertoire as the "sum of various skills in one language" (2019: 14), or in the case of multilinguals; the sum of skills in all their known languages. Dominant language constellations, on the other hand, refer to "a group of one's most expedient languages, functioning as a unit, and enabling an individual to meet all needs in a multilingual environment" (2019: 15). The notion that parts of the linguistic repertoire can enter or leave the dominant language constellations as changes in social or personal environments make them more or less important gives an impression of a dynamic and flexible construct. In this context, it was important for the questionnaire to not just give an image of the participants' language experience, but perhaps even more importantly their language use.

The questionnaire was divided into five subsections. The first section, *Languages and competence evaluation*, asked participants to list each language they knew. In separate subsections that were automatically generated for each language, including English and Norwegian, participants were asked to give age of first acquisition and then list where they had learnt the language; at home, at school or in another environment to be specified

further. Participants were then asked to rate their ability to understand, speak, read and write each language using a five-point Likert scale and finally to agree or disagree to statements on, e.g., whether they liked using the language and took pride in knowing it, also on a five-point Likert scale. This section primarily focussed on mapping out the participants' linguistic repertoire, in listing all languages known. Additionally, both age and environment of acquisition were established in this section, both of which are linked to aspects of linguistic proficiency, (e.g., Abrahamsson & Hyltenstam, 2009; Flege et al., 2002; Johnson & Newport, 1989; Gujord, 2022). Furthermore, self-evaluation of proficiency is generally considered to be indicative of actual performance, particularly in instances of reading proficiency in the L1 and speaking proficiency in the L2 (Kaushanskaya et al., 2020: 946), and along with subsequent questions this provided a foundation for considering performance in the following test section. Similarly, the LEAP-Q has in several instances shown a general tendency for correlation between age of acquisition and preference for use of a language, both of which were covered in the questionnaire (Kaushanskaya et al., 2020: 947). Due to the age of participants the question of attained fluency was not addressed as it might be questioned whether learners at this stage can said have to have attained fluency fully in English.

The question of language dominance is discussed by Marian et al. (2007), and various problems with the construct are addressed. Most important is the lack of consistency in evaluation of language dominance, a number of methods used up to that point being considered unreliable as the divide between proficiency and dominance has not been made sufficiently clear. Consequently, studies had shown that dominance rating were often a less predictable measure of actual performance (e.g., Flege et al., 1997; Flege et al., 1998). In this context it is beneficial to rather consider dominant language constellations, in which patterns of language use are considered. This relates also to what Haukås et al. (2021, 2021a) refer to as the “multilingual self”, in which different languages can serve different purposes in different situations. In order to gain a clearer insight into these constellations the second section, *Language use*, asked participants to indicate which language(s) they used in 17 specific situations, some of which were communicative situations within the home, the extended family and with friends, whereas others were more introverted, e.g., when dreaming, talking to oneself and counting, and some relating to media intake such as reading, watching TV and listening to music, often included as measures of language dominance.

Section three, *General attitudes to languages and learning*, asked participants to agree or disagree with 10 statements on a five-point Likert scale, from “completely agree” to “completely disagree”. The statements covered both cultural and social significance of language, such as the ability to speak the same languages as one’s parents or the language in one’s country of residence. Statements also included attitudes to the general importance of knowing languages and participants’ perception of the general status and importance of linguistic skills in schools, workplaces and society. This section covered two points of interest. Firstly, relating to the question of self-ratings of proficiency in the first section it was interesting to consider any correlations between high proficiency ratings and an expressed interest in, or belief in the importance of learning languages. Secondly, in the case of participants growing up in multilingual homes it is important to gain an insight into their views on heritage languages. Kaushanskaya et al. (2020) report a tendency for both L2 classroom learners and heritage language speakers to report higher levels of understanding than speaking the L2. Also, even more importantly, views on heritage languages have, as mentioned in previous sections, been shown to strongly impact language learning. Correlation between interest in heritage languages and the exploration of cultural identity through language have been observed to correlate with both overall effort in school performance (Kim & Chao, 2009) and motivation for learning (Fuligni et al., 2005). A sense of shame in home/heritage languages are similarly associated with negative consequences for language learning and the general phenomenon of additive bilingualism (D. Brown, 2007; Cenoz, 2003). In this context, this section aimed at considering any connections between how beliefs about and attitudes to languages and language learning affect proficiency.

The fourth section, *Learning and communication*, asked participants to list their best subject at school, and then, on the same Likert scale as the previous section, to agree or disagree with a set of 10 statements. These statements covered factors linked to scholastic aptitude, both relating to participants’ interest in learning, reading for pleasure and any future plans for higher education. This section served two main purposes. Firstly, reading for pleasure is a common indicator of socioeconomic status, as children from backgrounds with high socioeconomic status tend to read more than those from less privileged backgrounds (Clark & Rumbold, 2006; Clark & Douglas, 2011). Similarly, aspirations of higher education are another indicator of socioeconomic status, across OECD countries 66% of students from the top quarter of the socioeconomic index express that they expect to complete a university degree, whereas the corresponding number from the bottom quarter is only 26%, and this pattern of difference in

expectations is observed in every PISA-participating country (OECD, 2019: 4). The same report also shows a correlation between socioeconomic status and overall learning outcomes (2019: 3), and thereby establishing an idea of socioeconomic status has been important to the interpretation of test results. The second purpose of this section was to gain information on a factor which the Ungspråk questionnaire refers to as *Open-mindedness*. Haukås et al. (2021: 408) cites a number of studies suggesting that open-mindedness is positively associated with both own multilingualism and correlates with language repertoire and -learning. This notion also refers to a second challenge with the questionnaire development. As the questionnaire and test were intended to be taken by full classes, no inclusion criteria were set, and it was left to the participating teachers' discretion to give exemptions to students with diagnosed impairments that might affect their ability to complete. Nonetheless, it was important to include materials that might provide information on factors associated with conditions such as learning difficulties and autism spectrum disorder. This section also included statement types used in autism spectrum screening tools (Hebert, 2014), such as the ability to switch points of view and the ability to interact with stories. It should be stressed that no assumptions of diagnoses were made based on this limited material, but the section was still included for the sake of considering any patterns of correlations with proficiency.

The final section included background questions on age, gender, language situation during the first year of school/kindergarten, as well as the languages spoken by the parents. These variables were important both as factors known to correlate with proficiency (age effects and gender), as well as exposure to other languages in the home and in another country. Information on known languages spoken by parents was also compared to the languages listed as used in situations within the family. All questions in this section were asked in Norwegian. Several considerations were made before choosing to present the questionnaire section in Norwegian. Firstly, it was important that all participants were able to understand the questions and statements as easily as possible, without any help from teachers, and in the setting of Norwegian classrooms this was considered the safest option. Some of the items in the questionnaire required a somewhat abstract approach and it would have been problematic within this relatively young group of participants with a varied grasp of English if the data material was marred by too many misunderstandings. It may be argued that ideally the questionnaire should have been available in several languages, or at least English in addition to Norwegian, as was the case with the Ungspråk questionnaire (Haukås et al., 2021), which additionally gave participants the chance to switch between the two languages

during completion. However, for the purposes of the questionnaire section, which does not deal with matters of English directly, and where the majority of participants were expected to be native speakers of Norwegian, the decision was to use only Norwegian. In further studies it may be worth considering providing questionnaires in several languages, however the resources required in translating should also be considered. Also, the LEAP-Q, although translated into several languages, is not normally used in studies with a choice of language.

### **6.3.2. Data collection for error analysis**

In order to choose appropriate methods for data collection certain decisions had first to be made on the nature of the study. Gass and Mackey (2007) distinguish several different research approaches based on the underlying questions used to determine methods. In their chapter on psycholinguistics-based research, Gass and Mackey describe the fundamental question behind the measures as seeking “to determine what learners are doing while they are using language” (2007: 15), with a focus on the actual mechanisms that govern language processing, in real time during the use of a second language. They go on to consider a set of questions that this type of research aims to answer, of which two are of particular interest to the present study. These are questions firstly on whether learners transfer processing strategies from their L1 to the L2, and secondly how individual differences in background factors such as L1, age of acquisition, language proficiency etc influence processing.

Gass and Mackey distinguish this type of research from what they refer to as linguistics-based research, focussing primarily on learners’ knowledge *about* an L2, often at various stages of proficiency. Their description of the linguistics-based approach centres on matters of grammar, however, as they themselves put it, the elicitation techniques used “focus on learners’ knowledge without focusing on what learners actually do while they are using language”. In the present study it has been important that the data collection is not aimed at establishing proficiency or understanding the participants’ knowledge *about* English language structures and morphosyntax, but rather to understand the interaction between their languages in the production of this specific language and how this might be influenced by both structural linguistic differences and background factors. For that reason, it was an obvious choice to employ psycholinguistic methods of data collection.

In an attempt to classify data collection methods Bennett-Kastor (1988: 26) employs a distinction between “naturally observed” and “controlled observation”, the latter referring to data that had been elicited. This dichotomy between two approaches to data collection has been widely used by several theorists using several different labels, such as “authentic” vs “non-authentic” (Cook, 1986) or “+/- interventionist” (van Lier, 1988). Chaudron (2003: 764) approaches the matter in a continuum from *naturalistic*, through *elicited production* to *experimental*, where the criterion for placement within the continuum is defined as “contextualization for meaningful and purposeful language use” (p 765). As Chaudron discusses further, the main concern in SLA research is whether the methods employed are actually valid and reliable to the point where it is possible to say with some certainty that the forms produced actually give an impression of language ability rather than just be “an artifact of the method” (2003: 766). Chaudron further describes concerns of validity in SLA research by describing three forms of data validation. Firstly, predictions, or theoretical proposals can validate data in that if outcomes of data collection are in line with theoretical proposals not only the underlying assumptions are validated, but also the methods, as they are then shown effective measures. Secondly, replication, meaning comparable data from other studies of a similar nature can validate the measures used. And thirdly, triangulation, as in using simultaneous measures with other techniques are also used as a form of validation.

To conclude, in order to be able to investigate the underlying mechanisms in language acquisition it is important to employ methods that do not colour or influence the data inappropriately, as all methods have their advantages and disadvantages. On the one side of the continuum, *naturalistic observation* was widely used in early studies (Leopold, 1939; Ravem, 1968; Hatch, 1978) and this method has also been critiqued, mainly on the basis of use in L1 acquisition research (Milroy, 1987; Bennett-Kastor, 1988). This approach involves observation of actual language use in normal interaction, which is then normally recorded. As noted by Chaudron (2003), the advantage of this method is that the collected samples are true examples of language use which is uninfluenced by artificial methods of elicitation. However, being true examples also relate to the most important disadvantage- target structures or competencies may be underrepresented or completely absent from the samples due to the participants either not being aware of them due to low proficiency or actively choosing to avoid them due to uncertainty. This may again lead to errors of other types, as avoidance errors are mostly found in lower levels of proficiency (see Korver, 2010; Dulay et al., 1982). This risk, in addition to the sheer volume of observed material required and the effort required to code it makes this

type of data collection mostly relevant to smaller case studies, and not in larger quantitative studies such as the present study. Gass and Mackey (2007) also note that as psycholinguistic research is usually experimental in nature, naturalistic data is not often used for questions of processing, except for certain studies on spoken language production (e.g., Pawley & Syder, 2000; Levelt, 1983, 1993, 1993a). Even in these cases where naturalistic data can be useful, Gass and Mackey describe how more targeted elicitation techniques can further enhance the data to give more direct answers.

In order to target the problem of avoidance, researchers may use *elicited production* procedures that through providing some contextual constraints are designed to elicit a specific output. These types of methods include oral tasks such as structured interviews and role plays, but also written tasks such as picture descriptions, discourse completion and structured questionnaires (see Crookes, 1991 for review on L2 research methodology). Chaudron (2003) lists several advantages to this approach. Most importantly it provides the opportunity of tailoring methods to the theoretical focus of the study through designing tasks that promote specific points of learning, referred to as “task essentials”. Other advantages are of a more procedural nature; dependent on the methods chosen they can be appropriate for any level of proficiency, the data collection can be automatized to a point that allows for collection of larger quantities of data, which then is more conveniently scored and analysed than observational data. However, there are still some potential disadvantages. For some elicitation techniques that aim at providing a more controlled version of naturalistic approaches there is still the issue of avoidance. Unless the task is constrained to the point where the target construction is mandatory participants may still find ways to avoid using a potentially troublesome construction. Chaudron (2003) also mentions specifically that tasks for children require particular attention in design in order to make sure that they have a clear understanding of how to execute the task and that they are stimulated to perform. Gass and Mackey (2007) also describe numerous elicited production tasks which they describe as suited for research which requires methods likely to generate instances of specific grammatical areas of interest. They mention both general picture description and storytelling based on visual cues such as pictures or video clips as particularly well suited to elicit specific uses of verbs.

The final type of data collection procedures, which Chaudron refers to as *experimental*, are defined as elicitation in “perceptual-receptive tasks, with less communicatively driven and decontextualized constraints” (2003: 784). The distinction between these

types of techniques and elicited production procedures as mentioned in the above section is primarily made based on meaningful context and the length of the language production process, experimental procedures resulting mainly in shorter and more tightly controlled production. Multiple experimental methods have been used in SLA research such as utterance completion, sentence manipulation, elicited translation and cloze tests measuring productive knowledge, whereas various judgement tasks, correction and editing have been used to measure metalinguistic knowledge (2003: 784-790). In order to describe the advantages and disadvantages of an experimental methodological approach, Chaudron cites Cook (1986: 13): “Controlled data has the advantage that it yields the information we are looking for. It has the disadvantage of artificiality”. Chaudron goes on to describe the issue of tension between “internal validity” and “external validity” (2003: 790), meaning that for behaviour that is observed in the laboratory to have ultimate relevance, it must also correspond to something outside of the laboratory. This relates to the discussion in section 6.3.2 about describing what is unknown from its known components (Kroll & Bialystok, 2013). Still, controlled elicited experiments have the benefit of showing clearly whether a target form is avoided or not, thereby eliminating the issue associated with the other methods. Chaudron nonetheless states that particularly with young participants it is important to not make the tasks so devoid of context that the participants find the experiment alien and avoid taking part at all.

In summary, what the reviews on data elicitation agree on is that several factors will motivate the choice of data collection methods. Firstly- what sorts of questions is the study aiming to answer? In this case, the questions are not so much on the general linguistic proficiency of the participants, neither are they on *what* they know about language as such. The central questions of the study centre on the processes behind operating in a second language and how familiarity with other languages, age of acquisition and other background factors influence the process of writing in an L2. These questions and the focus on processing would justify a psycholinguistic approach to data collection. Additionally, it is important to choose methods that address avoidance issues. As the present study aims to highlight language transfer and interactions in written production, the degree of command of a specific morphosyntactic element can be investigated in several ways. Firstly, an elicited productive task that is constrained to require the use of the element can show degree of specific production errors. Secondly, a judgement task can show the degree to which participants accept or can detect errors of several types related to the element in question, including erroneous use and



avoidance errors. And thirdly, the addition of a more open and more naturalistic task can provide additional information on whether participants avoid the element in free production of sentences where one would expect to see it used. These considerations have formed the basis for creating an extensive test battery in which these three task types tested how a contrast in morphosyntactic structures affected participants' performance in English.

### **6.3.3. Morphosyntactic ability test**

Participants completed an error elicitation test in which they were presented with 45 textbook-type illustrations and asked related questions. As the objective of this section was to analyse patterns of errors in participant responses and look for correlations with language background and other relevant background factors it was important to create a test that allowed for these patterns to be detected. This meant for instance that each participant had to produce a number of written responses sufficient to see repeating patterns in order to distinguish *errors* from *mistakes*. As mentioned in section 5.4, errors are distinguished from mistakes in that the latter represent occasional lapses that might be recognised and self-corrected, whereas errors represent knowledge gaps and are made not knowing what the correct output would be (Ellis, 1997; Brown, 2007; Sabbah, 2015). Errors are in this sense regarded by Selinker and Gass (2008) as red flags that reveal knowledge gaps. Consequently, each participant had to produce a sufficient number of each test conditions to reveal a repetitive pattern of errors, and not just the occasional mistake. In a complete test each participant produced a total of 72 sentences. Each sentence had a target response structure, or an “ideal answer”. The target response structure of each sentence required the use of one or more of the select five variables central to the study: subject-verb agreement, verbal aspect, prepositions, definiteness marking and correct word order. The choice of these variables is explained further in section 5.5.1, where the expected patterns of errors for transfer from each of the four languages of interest are also described. In order to ensure the participants' use of the target structures answers were constrained in two ways, either through cloze test structures or through sentence lead-ins. Twenty-four sentences were cloze test type tasks in which participants filled in missing words in a sentence, whereas the remaining 48 were sentence completion tasks introduced by a lead-in phrase, all answers to question related to a set of illustrations. Following the error elicitation tasks, participants were asked a total of 12 questions related to the same set of illustrations. Each question asked

for an answer of up to three sentences, yielding a total of 28 sentences. 11 sentences were constrained by provided lead-ins. Finally, participants were presented with a judgment task in the form of an error spotting test of 50 sentences, each containing an error of either agreement, definiteness marking or an unrelated control error. Participants indicated each error by clicking to mark either a wrong word or word form, or a missing word.

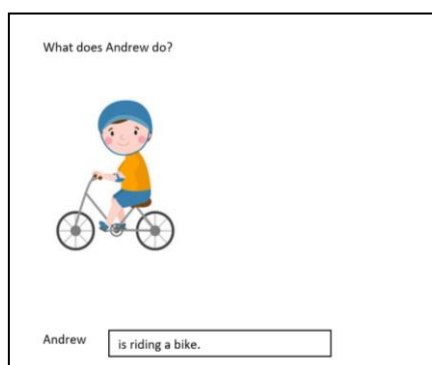
In order to ensure that the test was suitable and understandable to the target age group of 11-13, a number of measures were taken. Firstly, visual stimuli in the form of textbook-type illustrations were chosen to represent examples and activities that were familiar and culturally appropriate, such as international food types, familiar sports and leisure activities and household items and chores. It was important that illustrations represented vocabulary items that did not prove an obstacle to participants in completing the task, as the objective was not to test their general vocabulary. During the development of the test the materials were discussed with an associate professor with extensive experience with language didactics and analysis of learner texts, and revisions were made to both illustrations and the wording of the tasks. After having completed the materials, a paper and pencil version was piloted on a group of 20 pupils from years 6 and 7. In addition to reviewing the data collected, the two teachers who administered the pilot also provided written feedback on their perception of the test and their experiences with administering it to their pupils. The data collected showed that the tasks were understandable and that the participants produced responses with the expected structures. Feedback from the teachers described how the only obstacles encountered were related to vocabulary. In order to avoid teachers having to answer questions of this type, some illustrations were changed to representations of more familiar vocabulary items, and other illustrations were labelled, i.e. an illustration of someone performing an activity involving a type of tool or object might have the name of the tool or object written just below it in order to not confuse the participants.

#### **6.3.3.1. Error elicitation test**

Chaudron describes one of the most common types of experimental decision tasks, the *M/C response selection* (2003: 792), used in a number of studies on the competition models of language learning and processing (Gass, 1987; MacWhinney, 1987, 1997; MacWhinney & Bates, 1989). This task, where participants are presented with various

lexical combinations of grammatical cues and have to make a selection in order to continue the sentence is most frequently used in studies across languages that have typological distinctions in categories such as case, animacy or word order. These types of tasks show processing strategies that can be based either on the L1, L2 or the learner's interim language; a cue in the form of a fronted adverbial can in the case of a Norwegian/English bilingual create a conflict between the V2 word order of the former language and the SVO pattern of the latter. Other experimental tasks described by Chaudron include using picture prompts for matters of morphology and syntax, (Fathman, 1975; Berko, 1958), as well as cloze-type tests widely used for similar tasks involving for instance use of aspect in French (Harley, 1989) and the use of phrasal verbs (Laufer and Eliasson, 1993).

To ensure that the participants used the target constructions involving the test variables, the error elicitation test comprised either cloze test type tasks or sentence completion tasks with lead-ins, an example of the latter is shown in figure E.



E. Example of sentence completion task.

As most tasks involved a combination of several target words or structures the test design of each variable is described in turn below:

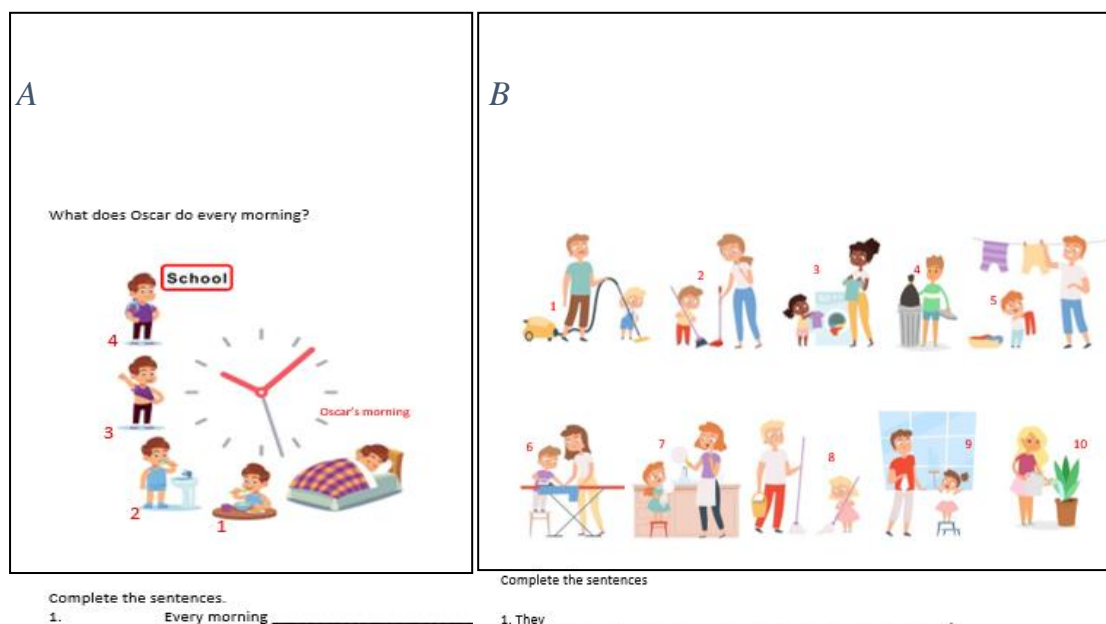
### 6.3.3.1.1. Subject-verb agreement

All 72 sentences required the use of a correct verb form. A total of 34 singular and 24 plural subjects were realised by either noun phrases or pronouns (e.g., 'Charles', 'she', or 'they', 'the dogs'). In order to ensure that participants produced complete sentences, 50 subject lead-ins were used, resulting in sentences such as *Oscar brushes his teeth* or

*The mirrors are in the bathroom.* Both simple NPs and modified NPs in which the head noun and the postmodifier noun were unequal in number (e.g., ‘the pictures of fruit’ and ‘the tablecloth with dots’) were used. Participants were tested on their ability to use both affixal (-s) and suppletive (auxiliary *do*, copula and auxiliary *be*) agreement, with a total of 37 tokens of agreement in person and 36 tokens of agreement in number.

### 6.3.3.1.2. Verbal aspect

Participants’ understanding of form and use of the progressive aspect was tested through illustrations depicting activities, and question requiring a target answer denoting habitual or temporary duration. In order to elicit the correct structure, lead-ins such as ‘for lunch’ or ‘every day’ were used. Thirty-two sentences described habitual situations requiring obligatory simple present tense, such as in Figure FA. Seventeen sentences requiring obligatory progressive aspect due to a description of an ongoing activity were elicited through the use of an illustration such as in Figure FB. Variation between habitual and temporarily ongoing situations required participants to show understanding both of form and significance of verbal aspect.



F. Example of a simple present tense sentence completion stimulus (panel A) and a progressive aspect completion stimulus (panel B).

#### **6.3.3.1.3. Prepositions**

The 72 test sentences required 25 preposition tokens that were either descriptions of depicted spatial relations (e.g., *The cat is **next to** the plant*) or particles in phrasal verbs (e.g., *go **to** school*). Target answers were elicited through a description of an illustration and a question asking for a location, e.g., ‘Where is the cat?’. Due to the complex nature of prepositional errors and the fact that many instances of transfer are lexical and related to the wrong choice of preposition the test was designed to collect only two error types; omission or incorrect insertion of prepositions. In total, target responses included 10 different prepositions, each occurring between one and seven times.

#### **6.3.3.1.4. Definiteness marking**

Test sentences also included noun phrases that required definiteness marking through the use of either definite, indefinite or zero articles. The target responses were elicited through descriptions of illustrations that required a total number of 23 definite article tokens, 24 indefinite article tokens and 27 zero article tokens. Similar to prepositional errors, the test considered only incorrect omissions or insertions of articles.

#### **6.3.3.1.5. Word order**

Due to the complex nature of word order errors, the test focused only on V2 errors through production of 22 sentences that had extraposed elements that might elicit a V2 error. The sentences were elicited through the use of fronted adverbials as lead-ins. These were either adjuncts of time, e.g., ‘Every morning’, or of space, e.g., ‘on the plate’. Fourteen different lead-ins were constructed for this purpose.

#### **6.3.3.2. Free production task**

Following the error elicitation tasks, participants were asked a total of 12 questions related to the illustrations and asked to write one to three sentences for each answer. To avoid priming the participants, an example of the general task type was given on the information page preceding the test, and no further examples were given after that.

To ensure that the questions were answered in full sentences, seven of the blocks of questions were introduced with a lead-in. Lead-ins were either subjects or extraposed adverbials, such as “After school...” or “My favourite thing to do on a Saturday...”. The free production task was included in order to see whether errors produced in other tasks were repeated in free production. In sentences with an initial extraposed element the participants were required to show their understanding of word order principles and in sentences with an initial adverbial denoting habitual or repeated actions (e.g., ‘After school’) participants were required to show a correct understanding of verb form through using simple present. Although most questions for the open production tasks asked for three sentences responses, only the first had a lead-in. This gave an impression of participants’ ability to produce additional sentences of the same type. When producing a sentence without constraints participants could potentially write very minimal sentences, avoiding more challenging constructions or elements. Thereby this section provided an opportunity to consider both the participants’ ability to produce grammatically correct sentences but also strategic avoidance of the five variables in question. Furthermore, the free production task gave an opportunity to consider the significance of background factors in relation to performance. As mentioned, it was possible to write very minimal sentences, or to only write one sentence using the one lead-in. This made it interesting to consider any correlations between background profile and which participants actually completed the task according to the instructions and which avoided writing any more than the bare minimum.

What sports do you like? <table border="1"><tr><td>I like to play football and I also like to ski during winter.</td></tr></table>	I like to play football and I also like to ski during winter.
I like to play football and I also like to ski during winter.	

G. Example of free production task without lead-in.

### 6.3.3.3. Error spotting

As mentioned in the previous section, there is a second type of experimental tasks which take a different focus. Instead of eliciting production or interpretation of language,

participants “must make other active decisions, ratings, comparisons, and revisions about the form or meaning” of a form of linguistic stimuli with which they are presented (Chaudron 2003: 796). These tasks are aimed at using participants’ metalinguistic knowledge, either expressed in, applied to, or invoked in a specific task. These types of tasks have the benefit of being easily adaptable to different participant groups, where young participants or those with low levels of proficiency are often able to use knowledge that they are unable to explicitly express. Ellis (1991: 163) employs a continuum of complexity for judgement tasks, expressed in a rating of the complexity of how participants express their judgement. This continuum ranges from “discrimination”, to “location,” then “correction,” and finally “description” of errors. It should nonetheless be mentioned that grammaticality judgement has been a matter of some debate due to several instances of inconsistency with other measures, leading to various claims on the general validity of grammaticality judgment data. Gass (1983) argued that rather than improve their judgements due to natural progression, learners instead rely on an increasing degree of analytical knowledge. This means that unless the nature of the task promotes access to the participants’ analytical knowledge, their performance may not be comparable to their other productive abilities. Similarly, it has been noted that participants operating in a non-native language do not only depend on linguistic knowledge, but also in other types of intuition and cognitive operations (see Birdsong, 1994; Felix & Zobl, 1994). Gass and Mackey (2007) describe a number of variations on judgement-based tasks, but also discuss the issue of inconsistency, mentioning particularly how many learners are able to make correct judgements of structures over which they have limited, or even no command in their own production. They do, however, make an important point about the differences between native and non-native speakers in the value of judgement ratings. Whereas the native speaker uses a system under automatised control to make judgements, non-native speakers are being asked about a second language while the inferences are actually being made about their interlanguage.

They also describe some practical concerns about judgement tasks, particularly when directed towards younger participants (2007: 87-92). Firstly, participant fatigue is one of the major concerns related to the reliability of judgement data. To avoid this, a number of counterbalancing measures are suggested. The order of the sentences is important, as is the number. Gass and Mackey suggest both varying the order in which the sentences are presented to participants, and also discuss the appropriate number. They cite claims that longer tests give higher reliability (Cowan & Hatasa, 1994) and describe studies

that have had as many as 282 sentences (Johnson & Newport, 1989). The authors still recommend using no more than 50-60 sentences in order to avoid fatigue, and advise presenting them in blocks, particularly if a larger number is required. They also point out the importance of not making the issue being investigated too transparent to the participants, through use of fillers or distractor sentences that are unrelated to the critical issue- if the participants can easily guess the structure being investigated, this is a threat to the internal validity of the study. They do, however, suggest that if several structures are being tested in the same study, they can act as distractors for each other.

In the present study a subset of the error types used in the elicitation task and the free production task were tested. Erroneous sentences were constructed that contained either an agreement error or an error in definiteness marking. Agreement errors were either misuse of a plural or a 3<sup>rd</sup> person singular verb form, (e.g., *Michael don't read a lot of books, I usually relaxes on Saturdays*) and definiteness errors were either omissions of the correct article (e.g., *Liam wants new bike for his birthday*) or incorrect insertions (e.g., *I like to play the tennis.*). These two error types were selected for the purpose of distinguishing between language backgrounds. As noted in previous sections, agreement errors are notable in the written production of L1 Norwegian and to some extent L1 Somali learners, but not with the other two language groups. Definiteness errors, however, are noted in some form with all language backgrounds other than Norwegian. Also, the two error types were well suited for sentences without a high degree of constraints in terms of semantic content.

Sentences were presented in ten groups of five, with each group containing one sentence with an unrelated error, e.g., a spelling error (e.g., *'gmaes\*'* instead of *'games'*) or a lexicosemantic error e.g., *'understanded\*'* instead of *'understood'* or *'high'* used instead of *'tall'*). These unrelated errors functioned as fillers that masked the test conditions, additionally they were considered easy to spot and were used to check that participants had actually read and understood the task. The error spotting task comprised a total of 20 agreement errors and 20 definiteness errors as well as 10 unrelated errors, examples of sentences are shown in figure 7. In the other sentences the two test conditions functioned as distractors for each other, in accordance with the suggestion of Gass and Mackey (2007). This, in addition to the variety of error types (omission error, insertion error and morphological error) ensured the opacity of the test conditions.



	A	mouse	is	small,	but	a	fly	is	smallerest	
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	For	lunch	Susan	a	sandwich					
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

H. Example of error spotting task with distractor errors.

#### 6.4. Ethical concerns

Three key ethical considerations have driven the development of the present project. Firstly, there is the balancing act of designing a reliable study that gains insights of real value while at the same time respecting the integrity of research participants. These concerns are regulated by law and are subject to guidelines by The Norwegian National Research Ethics Committees (NESH, 2021). Secondly, the technical aspects of the collection, storing and handling of data must be in accordance with guidelines asserted by the Norwegian Centre for Research Data (NSD). Thirdly, there is the social responsibility of interpreting and publishing data which not only describes human behaviour but also is intended to affect specific groups. These three ethical considerations are discussed in turn below.

In the design of the questionnaire and test, an important consideration was to make sure that the dataset included the information necessary to provide a valid analysis, however to not subject participants to unnecessary questions or tests that could be perceived as stigmatizing or distressing. As a vital component of the data collected, the error elicitation test is fundamental to the subsequent stages of the project. For this reason, its validity must be ensured, and that led to initial considerations on how to ensure this. One primary concern was how to ensure that language errors could be attributed to language transfer and not caused by poor language ability, general aptitude or learning difficulties. It was considered to include an assessment of overall academic performance, a test of non-verbal intelligence and an autism test in the test battery. However, this would entail in the first case a greater degree of personal data being collected, and it would be necessary to involve teachers through their general evaluation

of each participant, or access to marks or feedback previously given. This posed potential concerns of participant identification and third-party involvement. Including intelligence or autism tests would mean subjecting the participants to tests that could be perceived as both distressing and stigmatising. It is also required by NESH and NSD that participants, or in the case of minors, guardians, give informed consent to participation. A concern in this study was whether participants and guardians would give their consent to a study that involved this form of testing, and considering that NESH (Staksrud et al., 2022) guidelines points out that the researcher must ensure that participants are not subjected to unnecessary strain, an important choice was made. It was considered sufficient to include targeted questions in the questionnaire to provide information about two specific factors. Firstly, the matter of scholastic aptitude was addressed by questions relating to learning habits, reading for pleasure, preferred subjects at school and ambitions for future study. Additionally, questions relating to social interaction, discussing, and seeing other points of view were included in order to give an idea of potential issues of autism or similar diagnoses. Questionnaire data was considered sufficient to provide a background for the interpretation of the language data. It is also worth noting specifically that the use of intelligence tests and autism tests is not common in general educational research in Norway and might be considered in conflict with the norms of this research community.

NESH guidelines state that “Ethical consent to participate should be voluntary, informed, and unambiguous, and it is preferably documentable” (Staksrud et al., 2022: 18). Additionally, it is specifically stated that in the case of children, consent must be given by both guardians and the child. As the study required a large dataset and was conducted during a pandemic, it would have been difficult to obtain written consent. For that reason, care was taken to ensure the anonymity of the participants, as the demands for written consent are exempt in cases of anonymous data. In order to ensure anonymity, a solution of access codes was chosen, where randomised sets of access codes were distributed to participating schools. Each participant was assigned an access code by the teacher, and the lists were subsequently destroyed. No responses could be traced back to the access codes in the raw data. This approach created the opportunity for an opt out-approach. NESH guidelines detail that in some cases “obtaining passive consent may be appropriate, provided that the demand for information and the right to reservation have been secured” (Staksrud et al., 2022: 19). Nonetheless, an information sheet was distributed to each participant, addressed to them and their guardians. This sheet detailed the objective of the study and explained the rights of each child to refuse

participation. Furthermore, data must be collected and stored in a way that ensured that no third parties are given access to data that can potentially identify individuals. In the case of the present study, this has meant that data was collected through a secure online provider, thereby ensuring that schools or teachers do not handle or access any participant data. This will be described in more detail later. These choices secure participation and that the participants' legal right to information and privacy are upheld. The study was granted NSD approval on 16.12.2020.

Another factor that might be considered in light of study ethics is the participants' experience of taking part, particularly related to the possibility that completing the test might be distressing to pupils who experienced difficulties. This was addressed with in two ways. In an information sheet sent out to participating schools and teachers it was pointed out that teachers should give exceptions from taking part at their own discretion. It was specifically mentioned that they should consider granting exemptions to children with diagnosed learning or language disabilities such as dyslexia in order to avoid a distressing experience. Secondly, in the presentation of the material it was important to avoid participants feeling that they were taking a test. For the questionnaire section the introduction stated that there were no right or wrong answers, and for the grammar section that the important thing was to do their best and that "I am interested in seeing how YOU write English" (appendix X). Another concern was related to the length of the test. In order to ensure statistical power, it was necessary to have multiple tokens of the same critical condition, and this is a challenge when working with young participants. This is also addressed by Gass and Mackey (2007) who suggest presenting stimuli in blocks in order to avoid fatigue in younger participants. This issue was also addressed in the choice of access method. All participating teachers were informed that using the access code allowed each participant to divide their time in several sessions and take breaks when needed, the code would let them keep going again next time. In addition, teachers were also advised to use their judgement of how to best let their class complete the full test, whether in a few longer or several shorter sessions.

## **6.5. Design**

Some major practical factors influenced the design of the data collection. Firstly, as collection was happening in a large number of classrooms and during a pandemic it was decided to use a fully digital solution. This would eliminate the need for physical access

to classrooms which in turn would minimise any conflict with restrictions and infection control measures. This had already informed the need for anonymous data collection to avoid having to distribute written consent forms between the schools, the homes, and the researcher. In addition, digital data collection in a way that could be administered by teachers but with minimal involvement on their part was considered the best way to ensure participation. As all pupils have access to personal computers or tablets in school they are accustomed to this way of working, so this was an obvious choice when administering quite a complex data collection to a large number of participants. Data collection was carried out using a digital solution by SurveyXact. This is Scandinavia's leading solution for digital data collection and already licenced by the university. SurveyXact provides advantages both in terms of secure data storage and processing, but also offer consultants and programmers.

The full test battery comprised a minimum of 39 pages of which the grammar test section made up 24. The practical programming was carried out by a SurveyXact programmer, and various practical solutions to the tasks were discussed in order to create the easiest approach for the target group. A solution was chosen that required an individual access code in order to start the survey. This solution was chosen for two reasons. Firstly, the use of access codes secured the anonymity of each participant. Lists of randomised codes were sent out to schools and codes were assigned to each participant there. After use the lists were destroyed, and the data did not allow individual responses to be linked to access codes. Secondly, this solution gave participants the possibility of exiting and re-entering SurveyXact as they pleased, completing the full survey in as many or few sessions as necessary. This was also done as a way of securing participation, as it would have been difficult for both teachers and pupils to complete the full survey in one sitting.

As previously mentioned, the questionnaire section was programmed to autogenerate a separate subsection for each language the participant had listed knowledge of. In this way each language could be dealt with separately. Due to the large number of test sentences in the grammar test section, a page layout was constructed which combined one illustration or set of illustrations accompanied by a block of sentence completion tasks, followed by a free production task asking for an up to three sentence answer related to the same illustration, before a block of error spotting sentences. Each page had an average of 3 sentence completion tasks, 1.2 free production tasks in addition to five error spotting tasks. This consistent page layout ensured continuity while also providing variation in task types. To avoid priming participants no examples of answers

were given except for the information page prior to start up that showed examples of the different task types. All the examples shown were of a similar type, but not actual tasks used in the test proper. Prior to launching the full digital test battery, a second pilot was conducted with four pupils from years 5 to 8 to ensure that they were able to follow the instructions and that the intended answer types were given.

In order to counterbalance learning effects and also cooperation between students, two separate layouts were created that presented the grammar tasks in opposite orders. By linking access codes to the generation of these two layouts 50% of participants in each group accessed each separate layout.

## **6.6. Procedure**

Participants accessed the questionnaire and test through their individual computers using an access code given out by the teacher. The survey was presented one page at a time, starting with a general information page in Norwegian. This page informed participants that the goal was to learn more about how they use languages through a survey and a set of tasks. They were further instructed that the survey part had no correct and incorrect answers, and as for the set of tasks to write what they considered to be correct. Both this page and the following survey were presented in Norwegian in typeface Arial 15p.

All participants started by completing the questionnaire. The length of the questionnaire section depended on how many languages the participants reported knowledge of as each language autogenerated a subsection on knowledge of and attitudes to each language. After having completed the questionnaire, the teacher explained an information sheet presented on-screen, which gave examples of each task type in the subsequent grammar test, see Fig. E-H. Tasks were described as either involving looking at a picture and answering a question by typing into a text box, questions without pictures where answers were typed into a text box, or finding and marking one single error in a sentence. They were further instructed that the error was either a wrong word or a missing word. Then, participants started the test, accessing one of the two different versions depending on their access code. Participants completed one page at the time, typically taking 1- 1.5 hours to complete the entire test battery.

## 6.7. Research questions, revisited

The present study builds on previous research on multilingualism in Norway which has tended to focus on learners' attitudes and experiences (see chapters 1 and 2). This research has also focused largely on somewhat older participant groups, and on 'multilingualism' as relating to those with a migration background. Most previous research into language acquisition in this context has focused on Norwegian as an L2. The novel contribution of the present study is to investigate the acquisition of English in a context of young learners who have had equal length of experience with formal instruction in Norwegian and English, and no formal instruction in additional languages. Building on Haukås' (2022) assumption that all such pupils are, to a varying degree, multilingual, the present study has used a quantitative approach to investigate the nature of multilingualism in the Norwegian classroom and the effects of different aspects of multilingualism on the acquisition of English.

As described above this study comprises a questionnaire designed to elicit measures of participants' language background and usage, self-ratings of language proficiency, and attitudes to language learning. In addition, a test of critical aspects of English morphosyntax was constructed to gather objective performance data. This mixed-methods approach aligns the present study with studies on multilingualism which have used psycholinguistic methods to understand the mechanisms of multilingual language acquisitions by combining background data with objective measures (see section 3.4.2). Furthermore, the morphosyntax test was targeted at constructions that differed between English and the other languages most frequently used in current-day Norway for the purpose of detecting evidence of cross-linguistic transfer (see section). This approach therefore provides brings together diverse data which provide a comprehensive insight into the language habits and -attitudes of adolescent Norwegians who are all to varying extents multilingual. The data also provide new information on how attitudes and patterns of language usage affect language proficiency in this group. In addition, the data on language background along with the objective measures of English proficiency are informative about the patterns of language transfer of young simultaneous multilinguals in their acquisition of English. The participants have been divided into two groups, speakers of Norwegian only as a home language (NO speakers) and speakers of other additional home languages (OA speakers).

As outlined in section 2.9, the aim of this study is to address the following research questions:

1. What is the nature of multilingual profiles in Norwegian year 6 and 7 classrooms (ages 11-13) in terms of language experience and self-rated proficiency? (Chapter 8).
2. Are there differences in attitudes to multilingualism and language learning in general between NO and AO speakers? (Chapter 8).
3. What are the underlying factors that best characterise multilingual profiles in Norwegian 11–13-year-olds, and do they differ between NO and AO speakers? (Chapter 9).
4. Which underlying factors significantly predict performance in aspects of young multilingual learners English reading and writing and do they differ between NO and AO speakers? (Chapter 9).
5. Can language-specific patterns of transfer be detected in the English of young multilingual learners, and if so, which languages are transferred? (Chapter 10)

The results of this study are reported in the following three chapters. Chapter 8 is dedicated to the questionnaire data, with a primary focus on the difference between the NO and OA language competence, language use and attitudes to language learning and use. Chapter 9 explores the underlying patterns in participants' language profile and attitudes, and the interaction between these and performance results through an exploratory principal components analysis (PCA) of the questionnaire data and tests the predictive power of the resulting components for performance in written English and judgement tasks. Finally, Chapter 10 compares the three biggest participant groups in terms of home language: users of Norwegian, Arabic, and Slavic and Baltic languages as home languages, respectively. This chapter investigates possible patterns of morphosyntactic transfer in addition to group-specific differences in attitudes.

## 7. Results: Questionnaire data

### 7.1. Introduction

This chapter focuses on research questions 1 and 2:

What is the nature of multilingual profiles in Norwegian year 6 and 7 classrooms (ages 11-13) in terms of language experience and self-rated proficiency?

Are there differences in attitudes to multilingualism and language learning in general between NO and AO speakers?

As described in section 6.8 and in the review of previous studies in section 2.5, Haukås (2022) concluded that the majority of Norwegian pupils in this age group did consider themselves multilingual. However little research to-date has investigated the nature of multilingualism in the Norwegian classroom. This chapter presents the questionnaire data of 580 pupils collected from schools in three districts, providing detailed information of the language knowledge and use of these pupils as well as their self-rated proficiency in each of their languages. In addition, the questionnaire elicited novel information about pupils' language use, attitudes to their languages, and to learning in general. The questionnaire developed for the study covered five central elements, described in more detail in section 6.3.1, working from the general assumption that all participants were multilingual - knowing at least Norwegian and English. During analysis, these five elements were broken down into five subcategories, each focussing on central constructs, as described below:

1. Personal data  
Age, gender, and family background
2. Languages and competence evaluation  
Construct: *Language competence and attitudes to individual languages*
3. Language use  
Constructs: *Family language, Communicative language, Internal language and Media intake.*
4. Attitudes to language and language learning  
Constructs: *Language and society* and *Multilingualism and language learning*



## 5. Attitudes to learning and communication

Constructs: *Enjoyment of learning* and *Open-mindedness*

These attitude constructs were in various degrees used in Haukås et al. (2022) and Tiurikova et al. (2021), but not considered in terms of a possible contrast between users of different home languages. A previous Norwegian study investigating the attitudes and language habits of a similar age group found statistically significant relationships between positive attitudes to benefits of multilingualism and background factors relating to multilingual experience- migrational background, living abroad, and having friends who speak other languages (Haukås et al., 2022). These relationships were, in that study, attributed to personal experience with the benefits of multilingualism. The novelty of the present study lies in comparing two groups with different multilingual experience.

It was expected that a similar pattern would be seen in this group of participants. As Haukås (2022) showed that the majority of pupils of this age considered themselves multilingual, research question 1 was expected to show varied degrees of multilingualism, where OA users both knew and used more languages in day-to-day situations. Research question 2 was expected to show similarities to the conclusions from Haukås et al. (2022) and Tiurikova et al. (2021), that there was a significant relationship between multilingual experience and positive attitudes to multilingualism.

## 7.2. Method

### 7.2.1. Participants

580 participants reported on their knowledge, usage of and attitudes to languages and language learning. At the time of participation, they were pupils in years 6-8 of primary and lower secondary school. The average age of participants was 12 years old; the youngest participant was 10 years old and the oldest was 13. Participants were recruited from ten schools from three school districts in Southern and Eastern Norway. In order to protect the anonymity of each participant the data collection procedure did not group respondents by school.

### 7.2.2. Materials

Questionnaire materials are presented in section 6.3.1, as well as in Appendix 1.

## **7.3. Results**

### **7.3.1. Home language group assignment**

Firstly, questions from the construct *Family language* were used to assign each participant to either a Norwegian or a Non-Norwegian home language group. Participants who did not report on using any language other than Norwegian with parents, siblings and/or grandparents were assigned to the Norwegian home language group. Participants who reported using only Norwegian with parents and siblings but one or more other languages with grandparents were classified in the Other home languages group, due to the likelihood of at least one parent not being a native speaker of Norwegian. Nine participants reported using an additional Scandinavian language with one or more grandparent but were still assigned to the Norwegian home language group due to lack of distinction between the Scandinavian languages in the morphosyntactic categories participants were later tested in. Some participants reported occasional instances of other languages, mostly English, used in the family but specified that this was “for fun” or in order to practice.

The home language distinction formed the basis for division into two subgroups, Norwegian-only home language users (NO-users) and Other additional language users (OA-users). The NO-user group comprised 383 participants, 208 females and 174 males, all of whom had attended kindergarten in Norway. The OA-user group comprised 197 participants, 95 females, 101 males, and one did who not list gender. 160 (81.2%) had attended kindergarten in Norway, 27 (13.7%) in another country, and 10 (5%) had not attended.

### **7.3.2. Languages and competence evaluation**

#### **7.3.2.1. Norwegian and English**

The summary data for the questions relating to language proficiency and attitudes to Norwegian and English are presented in Table 17 for both groups of speakers. In this table, and in all following tables *p*-values for two-tailed Welch’s independent *t* tests are presented for the difference between the NO and OA groups for each measure.

16. Questionnaire data on Norwegian and English language. Self-rated proficiency and attitudes in NO and OA users.

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<b>Norwegian</b>							
Age of acquisition	1.5	0.5-6.5	1.3	3.5	0.5-12.5	2.9	
<b>Proficiency- scale “Very good” =5, “Unable” =1</b>							
Understanding	4.9	4-5	0.3	4.7	3.0-5.0	0.5	0.00*
Speaking	4.9	4-5	0.3	4.6	2.0-5.0	0.6	0.00*
Reading	4.7	3-5	0.5	4.5	1.0-5.0	0.6	0.00*
Writing	4.5	2-5	0.6	4.4	1.0-5.0	0.6	0.05
<b>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</b>							
Like to use	4.7	1-5	0.6	4.5	1.0-5.0	0.8	0.01*
Feel proud to know	4.6	1-5	0.8	4.6	1.0-5.0	0.9	0.84
<b>English</b>							
Age of acquisition	6.0	0.5-12.5	1.4	5.7	0.5-12.5	2.4	
<b>Proficiency- scale “Very good” =5, “Unable” =1</b>							
Understanding	4.2	2-5	0.7	4.3	2.0-5.0	0.8	0.33
Speaking	4.4	1-5	0.7	4.1	1.0-5.0	0.9	0.15
Reading	4.0	1-5	0.8	4.2	2.0-5.0	0.8	0.03*
Writing	3.8	1-5	0.8	4.0	1.0-5.0	0.9	0.00*
<b>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</b>							
Like to use	4.2	1-5	1.0	4.6	1.0-5.0	0.8	0.00*
Feel proud to know	4.4	1-5	0.8	4.6	1.0-5.0	0.8	0.00*

In both Norwegian-only (NO) and Other additional languages (OA) users, age of acquisition is somewhat difficult to interpret reliably. As can be seen from the range of answers, NO users have listed their age of acquisition for Norwegian from 0.5 to 6.5 years, meaning that some have interpreted this as the age when formal instruction started. It should nonetheless be noted that age of acquisition for Norwegian is higher and has a much wider range in the OA-user group. For English, the average age of acquisition for both groups is indicative of having started when starting school at age six. Still, the reliability issue is demonstrated by the range even in the NO-user group, where some participants have given a much higher age than is usually the case when having started school in Norway.

For Norwegian language, the NO user's average competence self-ratings are significantly higher than in the OA group (by approximately 0.2-0.3 points) except for writing, which shows identical ratings. Also, the range is much wider for the OA group, with some participants rating themselves as unable to read and write Norwegian. When asked about their best subjects at school, 74 (19.3%) of the NO-users listed Norwegian as their best or among the best, whereas the corresponding number for the OA-users was 33 (16.8%). The attitudes to Norwegian in both groups expressing both a high degree of pride in knowing the language and enjoyment in using it - although perhaps unsurprisingly NO-users are significantly more positive to using Norwegian, as it is their L1.

For English, the competence ratings are overall somewhat higher for the OA-users and in this case the ranges are more similar across groups, with both groups having some participants considering themselves unable to perform in some language domains, however among NO-users this is only for reading. In these self-ratings only those for reading and writing were significantly higher for the OA group. Eighty-five (22.2%) of NO-users listed English as their best, or among their best subjects, whereas the corresponding number among OA-users was 69 (35%). Attitudes to English are also significantly more positive among OA-users than NO-users. This illustrates that for NO-users, one language is a native language and the other a foreign language, whereas for many OA-users both languages may be perceived as foreign languages, and the balance of which language is used is more variable than in the Norwegian group.

### 7.3.2.2. Other languages

Table 18 summarises the data for the questions relating to proficiency in, and attitudes towards languages other than Norwegian or English.

17. Questionnaire data on additional known languages. Self-rated proficiency and attitudes in NO and OA users.

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<b><i>L3</i></b>	<b><i>n</i>=138 (36%)</b>			<b><i>n</i>=184 (93.4%)</b>			
Age of acquisition	8.4	0.5-12.5	4.5	2.9	0.5-12.5	3.0	
<b><i>Proficiency- scale “Very good” =5, “Unable” =1</i></b>							
Understanding	3.1	1-5	1.6	4.3	1.0-5.0	1.4	0.00*
Speaking	2.9	1-5	1.5	4.0	1.0-5.0	1.4	0.00*
Reading	2.5	1-5	1.4	3.0	1.0-5.0	1.5	0.00*
Writing	2.2	1-5	1.2	2.8	1.0-5.0	1.5	0.00*
<b><i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i></b>							
Like to use	3.9	1-5	2.0	4.4	1.0-5.0	1.1	0.00*
Feel proud to know	4.2	1-5	2.1	4.7	1.0-5.0	0.9	0.00*
<b><i>L4</i></b>	<b><i>n</i>=66 (17.2%)</b>			<b><i>n</i>=117 (59.4%)</b>			
Age of acquisition	8.5	4.5-12.5	3.3	5.0	0.5-12.5	4.4	
<b><i>Proficiency- scale “Very good” =5, “Unable” =1</i></b>							
Understanding	3.2	1-5	1.3	2.3	1.0-5.0	1.4	0.00*
Speaking	2.8	1-5	1.1	2.1	1.0-5.0	1.3	0.00*
Reading	2.5	1-5	1.1	1.8	1.0-5.0	1.4	0.00*
Writing	2.1	1-4	0.9	1.7	1.0-5.0	1.3	0.00*

<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
Like to use	4.2	1-5	1.0	2.8	1.0-5.0	1.3	0.00*
Feel proud to know	3.7	1-5	1.5	3.0	1.0-5.0	1.1	0.00*
<b>L5</b>	<b>n=44 (11.5%)</b>		<b>n=31 (15.7%)</b>				
Age of acquisition	7.9	0.5-12.5	2.7	6.8	0.5-12.5	2.9	
<i>Proficiency- scale “Very good” =5, “Unable” =1</i>							
Understanding	3.4	2-5	1.1	3.6	2.0-5.0	1.6	0.31
Speaking	2.7	1-4	0.9	3.1	1.0-5.0	1.5	0.17
Reading	2.4	1-5	0.8	3.0	1.0-5.0	1.6	0.09
Writing	1.9	1-4	0.7	2.8	1.0-5.0	1.6	0.03*
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
Like to use	3.3	1-5	1.1	3.9	1.0-5.0	1.6	0.14
Feel proud to know	3.7	2-5	1.2	4.2	3.0-5.0	1.7	0.17
<b>L6</b>	<b>n=20 (5.2%)</b>		<b>n=13 (6.6%)</b>				
Age of acquisition	8.6	4.5-12.5	2.0	7.4	2.5-12.5	2.1	
<i>Proficiency- scale “Very good” =5, “Unable” =1</i>							
Understanding	2.9	1-5	0.7	2.8	2.0-5.0	1.8	0.99
Speaking	2.7	2-4	0.6	2.7	2.0-5.0	1.7	0.98
Reading	2.3	1-4	0.5	2.5	1.0-5.0	1.7	0.78
Writing	1.9	1-4	0.5	2.3	1.0-5.0	1.7	0.62
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
Like to use	3.7	1-5	0.9	2.3	2.0-5.0	1.9	0.84
Feel proud to know	4.1	2-5	1.0	3.4	2.0-5.0	1.9	0.57

The clearest observation in this table is that the OA users are on the whole more multilingual than the NO users. This is particularly visible in the percentage of

participants knowing an L4, which is over three times as many as in the NO group. As for fifth and sixth languages, the numbers even out, but are still higher among AO-users. There were also marked differences in the languages listed. Among NO-users the most common languages listed for additional languages were other Scandinavian languages, as well as Spanish. In the AO-user group, Scandinavian languages were also represented, but most common were Arabic, Spanish and Vietnamese.

The marked differences in ratings for the L3 between the NO and AO users, all of which were significant, also show that this is in most cases the home language for the latter group. This is visible by the much lower age of acquisition, but also in the much higher proficiency ratings. It should nonetheless be noted that proficiency ratings are much lower for reading and writing than for speaking and understanding, in spite of the positive attitudes to the L3, which again are significantly higher than the same among NO-users. The impression is that in the OA-user group, the home language is comparable to English in terms of the ability to speak and understand, and the positive attitudes regarding use are equal to or higher than those for both English and Norwegian, and also more positive than the attitudes expressed by the NO-user group for any language other than Norwegian. It is nonetheless notable that most OA users report limited literacy in their home languages. In light of the declining number of pupils who receive first language instruction (see section 2.5) it is likely that few have learnt to read or write in the home language. This is, as discussed in 3.5, considered unfortunate in terms of language development.

There were also significant differences in the L4 ratings, where the NO users have rated their proficiency as somewhat higher than OA users. Among NO users listed L4s were almost exclusively other Scandinavian languages which have a high degree of mutual intelligibility. Among OA users these languages tended to be a language used by grandparents, explaining the low proficiency.

### **7.3.3. Language use**

The data concerning contexts for language use are summarised in Table 19. As can be seen, all NO-users were Norwegian dominant, using exclusively Norwegian for communication within the family. In the OA-user group dominance varied. Approximately half of the participants (n=97, 49.2%) reported using only one other language than Norwegian with parents, 19 (9.6%) reported speaking only Norwegian,

and 81 (41.1%) reported using both Norwegian and one or more other languages. With siblings, however, only 53 (26.9%) used only one language other than Norwegian, whereas 72 (36.6%) reported using only Norwegian and another 72 (36.6%) used Norwegian in addition to one or more other languages. The other constructs within the language use category will be discussed in turn below.

18. Language use in given situations. Number and percentage of NO speakers who responded yes to each question.

<b>Which language do you use...</b>	<b>Only NO</b>	<b>Only EN</b>	<b>Only other language</b>	<b>Mix</b>
<b><i>Communicative language</i></b>				
Texting family	350 (91.4%)	0	0	33 (8.6%)
Texting friends	266 (69.5%)	10 (2.6%)	0	116 (30.3%)
With friends from school	325 (84.9%)	2 (0.5%)	0	56 (14.6%)
With friends outside school	311 (81.2%)	2 (0.5%)	0	70 (18.9%)
With neighbours	373 (97.4%)	1 (0.3%)	1 (0.3%)	8 (2.1%)
On holiday	144 (37.6%)	98 (25.6%)	2 (0.5%)	139 (36.3%)
<b><i>Internal language</i></b>				
When angry	311 (81.2%)	19 (4.5%)	9 (2.4%)	44 (11.5%)
When dreaming	324 (84.6%)	22 (5.7%)	1 (0.3%)	36 (9.4%)
When counting	322 (84.1%)	11 (2.9%)	2 (0.5%)	48 (12.5%)
Talking to yourself	272 (71%)	33 (8.6%)	4 (1%)	74 (19.3%)
<b><i>Media intake</i></b>				
Reading	242 (63.2%)	15 (3.9%)	0	113 (29.5%)
Watching TV	57 (14.9%)	125 (32.6%)	0	201 (52.5%)
Listening to music	97 (25.3%)	155 (40.5%)	1 (0.3%)	130 (33.9%)



19. Language use in given situations. OA users.

<b>Which language do you use...</b>	<b>Only NO</b>	<b>Only EN</b>	<b>Only other language</b>	<b>Mix</b>
<b><i>Communicative language</i></b>				
Texting family	94 (47.7%)	6 (3%)	34 (17.3%)	63 (32%)
Texting friends	120 (60.9%)	4 (2%)	3 (1.5%)	70 (35.5%)
With friends from school	158 (80.2%)	0	0	39 (19.8%)
With friends outside school	122 (61.9%)	8 (4.1%)	10 (5.1%)	57 (28.9%)
With neighbours	172 (87.3%)	1 (0.5%)	6 (3.1%)	18 (9.1%)
On holiday	17 (3.6%)	40 (20.3%)	36 (18.3%)	104 (52.8%)
<b><i>Internal language</i></b>				
When angry	92 (46.7%)	11 (5.6%)	33 (16.8%)	61 (30.9%)
When dreaming	110 (55.8%)	15 (7.6%)	23 (11.7%)	49 (24.9%)
When counting	101 (51.3%)	5 (2.5%)	9 (4.6%)	82 (41.6%)
Talking to yourself	81 (41.1%)	24 (12.2%)	26 (13.2%)	66 (33.5%)
<b><i>Media intake</i></b>				
Reading	106 (53.8%)	8 (4.1%)	2 (1%)	81 (41.1%)
Watching TV	36 (18.3%)	44 (22.3%)	21 (10.7%)	96 (48.7%)
Listening to music	10 (5.1%)	115 (58.4%)	14 (7.1%)	58 (29.4%)

The general impression from Table 20 is again that OA-users are more multilingual and use less Norwegian across all constructs in this category. The percentage of participants who report using only Norwegian in the situations included in the questionnaire is generally higher among NO users, and in some instances considerably higher. The use of only English is very similar in both groups, and there are extremely few instances of use of only a language other than Norwegian or English in any of the listed situations among NO users. Among OA users, from 10 to almost 20% use only other languages in certain contexts. These contexts are varied and include both communicative language such as texting family and on holiday, but also in introspective situations such as talking to themselves or when dreaming. As a result of the much lower use of only Norwegian among OA users we also see significantly more language mixing in most situations, including within the family. It is still noteworthy that among NO users mixing English and Norwegian is also frequent, including in introspective situations.

### **7.3.3.1. Communicative language**

The most significant differences in communicative language use are found in situations relating to the family. As previously mentioned, the NO-users group was characterised by using only Norwegian for spoken language within the family, and this is reflected in almost all participants using only Norwegian for texting within the family, whereas only half the OA-users did the same. A significant difference is also seen in the use of only Norwegian on holiday, which almost 1/3 of NO-users report doing, but less than 4% of the OA participants. The use of heritage languages within the family is shown in that nearly 20% of OA users report using only a language other than Norwegian or English texting family and while on holiday.

### **7.3.3.2. Internal language**

The questions in this construct are often used for establishing language dominance (see section 6.3.1), and the results show clear differences between the two groups. The very small proportion of participants who report using internal language in English is quite consistent between the two groups, however the proportion of those who use only Norwegian differs significantly. Among NO-users it is clear that Norwegian is the dominant language, with a minimum of 70% of participants using only this language in all four situations. However, for the OA participants dominance is less clear. The proportion of participants who report their internal language being other than Norwegian or English is no higher than 16.8% in any case, but the proportion who use a mix of several languages is considerably higher than among NO users. This suggests that few OA users would be considered dominant in their home language. It should be noted that counting is an exception, very few OA-users report primarily using another language, but still the proportion who use several languages is almost four times that of the NO group. This is interesting to note as counting may in this age group be strongly associated with mathematics as a school subject, and where 84% of NO-users report using only Norwegian, the corresponding proportion in the OA group is 51%, and 41% mix languages for this purpose.

### 7.3.3.3. Media intake

Both participant groups report reading primarily in Norwegian, but with a considerably higher degree of mixing languages in the OA group. However, this construct sees an interesting reversal in language use while watching TV. This is the only category where OA-users report using more Norwegian than their Norwegian language counterparts, and also a lower proportion of English language and mixed languages. This is interesting as TV content is dependent on both availability and choice, but when compared to the similar category of music intake, the proportion of those preferring Norwegian language music is five times as high among NO-users. In this case the OA group show a clear preference for English language music, over both music in one or more other languages.

### 7.3.4. Attitudes to language and language learning

#### 7.3.4.1. Language and society

The data for attitudes concerning language and society are summarised in table 20 below.

20. Attitudes to language and society.

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
It’s rude to speak a language that not everyone in the room understands	3.0	1-5	1.2	3.5	1.0-5.0	1.3	0.00*
You need to speak the language in your country of residence well	2.8	1-5	1.4	3.4	1.0-5.0	1.4	0.00*
To do well at school you have to be good at languages	3.2	1-5	1.3	3.6	1.0-5.0	1.2	0.00*
To get a good job you have to be good at languages	3.5	1-5	1.1	3.9	1.0-5.0	1.1	0.00*

The data summarised in Table 21 reports participants' attitudes to the societal functions of language and language proficiency. All differences within this construct were statistically significant. Again, the data reflect the fact that one group has more experience with the necessities and benefits of language proficiency in that OA-users overall agreed more strongly to the attitude statements in this section of the questionnaire. This is particularly visible in the necessity of speaking the language of one's country of residence.

### 7.3.4.2. Multilingualism and language learning

The data for attitudes concerning multilingualism and language learning are summarised in table 21 below.

21. Attitudes to multilingualism and language learning.

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<i>Attitudes- scale "Completely agree" =5, "Completely disagree" =1</i>							
I enjoy learning languages	3.8	1-5	1.1	4.3	1.0-5.0	0.9	0.00*
The more languages you know, the easier they are to learn	3.6	1-5	1.0	3.8	1.0-5.0	1.1	0.01*
If you can't speak a language well it's better not to	2.6	1-5	1.3	3.0	1.0-5.0	1.4	0.00*
It's important to know other languages besides English	3.5	1-5	1.1	4.1	1.0-5.0	1.1	0.00*
To do well in the future you have to speak several languages	3.3	1-5	1.1	3.4	1.0-5.0	1.3	0.06

Most people travel so much that knowing several languages is useful	4.3	1-5	0.9	4.2	1.0-5.0	0.9	0.43
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These data summarise participants' attitudes to language learning in general, as well as their perceptions of matters relating to multilingualism beyond the knowledge of English. Here it is interesting to note that among OA-users there is a significantly higher tendency to enjoy language learning and to see the importance of knowing languages other than English, but less so to have experienced that the learning process is facilitated by language learning experience. As this relates to the metalinguistic competence and subsequent benefits associated with multilingualism it is notable that the participants with more language learning experience do not seem to have a noticeably greater awareness of this than the participants who have only learnt one additional language. Similarly, OA users agree more with the statement that it is better to not speak a language if you can't do it well, which also could be seen as detrimental to developing language proficiency, a difference which was also significant. Nevertheless, enjoyment of language learning generally seems to correspond with the previously mentioned proportion of participants who listed a language as their best or among their best subjects at school. There, a higher proportion of OA-users listed English than the NO-users (22.2 and 35%, respectively), but notably, the NO-users more frequently rated English as among their best subject than Norwegian (22.2 vs 19.3%, respectively).

### **7.3.5. Attitudes to learning and communication**

#### **7.3.5.1. Enjoyment of learning**

The data for attitudes concerning enjoyment of learning are summarised in table 22 below.

22. Attitudes to enjoyment of learning.

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
I like learning new things	4.4	1-5	0.7	4.6	1.0-5.0	0.8	0.03*
It’s hard to concentrate when learning new things	3.4	1-5	1.2	3.4	1.0-5.0	1.2	0.86
I like reading on my spare time	2.4	1-5	1.4	2.8	1.0-5.0	1.4	0.00*
I want to study at university	3.7	1-5	1.1	4.2	1.0-5.0	1.0	0.00*

The data relating to attitudes to learning show in general higher ratings in the OA group, especially for the two last items. Reading for pleasure and plans for higher education have traditionally been used to establish socioeconomic status (e.g., Taylor, 2013; Clark & Rumbold, 2006; Rodríguez-Hernández et al., 2020), and higher scores have traditionally been associated with majority language populations, however, in this case, OA-users show more interest in reading for pleasure (although both groups express a low interest). Importantly no difference is observed between the groups in their self-rated ability to concentrate when learning new things. A significant difference is also observed in future plans for higher education. Attitudes to higher education are also important in the context of parental higher education, and in this case, 48% (*n*=185) of NO-users said their parents had higher education, only 1.3% (*n*=5) answered no, and 50.1% (*n*=192) did not know. Among OA-users the corresponding percentages were 41.6% (*n*=82) for yes, 14.2% (*n*=28) for no, and 43.65% (*n*=86) who did not know. It seems to not be uncommon for participants in the age group to be unsure of parents’ education background, but it is nonetheless notable among OA-users, where a larger proportion did answer no to the question, a higher interest in university studies is still expressed.

### 7.3.5.2. Open-mindedness

The data for attitudes concerning open-mindedness are summarised in table 23 below.

### 23. Attitudes to open-mindedness

Question	Norwegian only, <i>n</i> =383			Other additional home languages, <i>n</i> =197			<i>p</i> - value
	Mean	Range	SD	Mean	Range	SD	
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>							
I have many different interests	4.4	1-5	0.9	4.4	1.0-5.0	0.8	0.56
I like getting to know new people	4.2	1-5	1.0	4.3	1.0-5.0	0.9	0.27
I like to talk to people with different opinions than mine	3.8	1-5	1.0	4.0	1.0-5.0	1.0	0.06
I find it easy to engage with stories	3.8	1-5	1.2	3.9	1.0-5.0	1.0	0.48

In the Open-mindedness construct, attitude ratings were similar across both groups, and none of the differences were significant. The only marginally significant effect was observed for openness to hearing different opinions, which was a little higher in the OA group.

## 7.4. Discussion

The data reported in this chapter provide novel insights into the multilingual characteristics of a large sample of young learners of English in Norwegian classrooms, as well as into the key differences between the NO and OA groups in self-rated proficiency, patterns of language use, and attitudes towards languages and language learning. The main findings indicate that not only were OA users considerably more multilingual than NO users in both competence and language use, but their attitudes were on the whole more positive than the latter group.

In regard to the nature of multilingual profiles in terms of language experience and proficiency, it is firstly clear that OA users are in all aspects of the concept, more multilingual than the NO users. In addition to the home language, the percentage of OA

users reporting to know a fourth language was three times that of the NO users, and all differences in self-rated proficiency and attitudes to the L3 and L4 were statistically significant, although in different directions. As previously described, the L3 was the home language among the OA group, whereas the L3 and L4 were generally among NO users other Scandinavian languages. Although rarely used, these languages were generally understandable to NO users, whereas both the L3 and L4 among OA users were to some extent used in the family. In terms of proficiency in each language, proficiency ratings vary across language domains for each language when comparing the two groups. For Norwegian proficiency, OA users' ratings were generally somewhat lower, whereas for English were somewhat higher than those of NO users. In the L3 OA users' ratings were higher; for speaking and understanding considerably higher. This is unsurprising as they were rating their additional home language, but it should be noted that L3 proficiency ratings were much lower than their corresponding ratings for Norwegian proficiency, particularly for reading and writing. If one then compares this to the NO users' ratings of their home language, Norwegian, it becomes clear that the two groups differ substantially in their proficiency in their own home language, to the point where several OA users have limited or no home language literacy skills. As previously mentioned, there is extensive evidence of how learners who are literate in their L1 perform better in further language learning, both in an L2 (e.g., Engen & Kulbrandstad, 2004; Haukås, 2014; Selj & Ryen, 2008) and in an L3 (e.g., Swain et al., 1990; Cenoz, 1991; Cenoz & Valencia, 1994; Lasagabaster, 1997; Muñoz, 2000). As language performance will be discussed in the two following chapters, it should nonetheless be noted that there is reason to expect that home language literacy should at least in theory have an observable effect. It seems likely that home language learning among OA users has been mainly implicit, and for that reason proficiency in speaking and understanding are higher.

Secondly, OA users also *use* more languages in day-to-day situations, mostly at the expense of Norwegian. Among OA users, a considerable amount of language mixing is reported in many instances. Instances of close to 20% of participants report using only an L3 in some situations, and the importance of the heritage language is seen in the high proportion of language mixing in this group. When considering the notion of time spent using each language the Weaker Links hypothesis (Gollan et al., 2008) is relevant to consider, claiming that bilinguals are disadvantaged in speaking tasks because when using two languages, the time spent and frequency of use for each of them decreases. In this case time and frequency of use differences are demonstrated clearly in that NO users



spend most of their time using Norwegian, relatively rarely English and report a moderate proportion of language mixing. Among OA users however, the general proportion of Norwegian is much lower, English usage is comparable to NO users but in addition there is frequent use of an L3 and a much higher proportion of language mixing than among NO users. This implies that there should be a considerable difference in how much and how often each language is used, which should be observable in speech production, according to Gollan et al. (2008). It does not seem like participants' general self-ratings of proficiency in Norwegian and English are generally affected by time and frequency of use, with the exception of OA users' home language. Proficiency self-ratings for Norwegian are generally high, and only marginally lower among OA users, in spite of lower degree of use. OA users rated their English proficiency as higher than NO users did, and it is notable that although self-rated English proficiency tended to be relatively even across language domains, an exception was NO users' ratings for written English, which were considerably lower, but this difference was not observed in the OA group. OA users' ratings for their L3 home language are however considerably lower, in spite of reports of frequent use in several day-to-day situations. This would suggest that OA users do not personally experience a disadvantage due to lower frequency of use in their various languages. When considering the reliability of these self-ratings it should be remembered that although self-ratings of proficiency are generally considered reliable (e.g., Chincotta & Underwood, 1998; Flege et al., 1999, 2002; Jia et al., 2002), most studies have tested older participants. Some exceptions can be found in multilingualism studies, such as Gollan et al. (2012), where both older and younger learners were seen to somewhat inflate their proficiency in their alleged dominant language. In other words, it is clear that subsequent analyses of performance data are required in order to consider both how reliable proficiency ratings are and whether effects of literacy and frequency of use can be seen.

Turning to research question 2, there are marked differences in attitudes between NO and OA users. Starting with their attitudes to knowing and using languages, OA users express pride in knowing their different languages- in the case of Norwegian as much, and in the case of English, even more than NO users. They also express a higher degree of pride in knowing their home language than NO users do, but their scores for enjoyment of use are somewhat lower than among NO users. This may be reflective of the lower proficiency ratings seen for home languages in the two groups- it is harder to use a language when you do it less frequently. This contrast is particularly notable when considering home languages- OA users express more pride in knowing their home

language than NO users but enjoy using it less. This is interesting in light of how several other studies have observed the impact of not only L1 proficiency but also attitudes to L1 heritage languages on language learning, academic motivation and all-over academic performance (e.g., Kim & Chao, 2009; Fuligni et al., 2005; Brown, 2007; Cenoz, 2003). These studies have all observed that both low proficiency and negative attitudes to the heritage language have a detrimental effect on language ability, with some studies discussing particularly how many bilingual students feel a sense of shame at having a different home language (Brown, 2007; Iversen, 2017). Similarly, Kim and Chao (2009) saw a definite difference in school effort of heritage language speaker groups depending on whether they themselves regarded identification with their heritage language and culture as valuable.

It is noteworthy that the attitude constructs that saw the biggest differences between NO and OA users in this study were *Multilingualism and language learning* and *Language and society*. The differences in attitude seem to reflect how certain of the statements in these constructs may seem hypothetical to a majority language speaker, but to a stronger degree reflects the reality of speakers from minority language backgrounds, in that language holds an important function for integration and contribution in society. Lower proficiency in the majority language can thereby exclude one from both social (e.g., e.g., questionnaire items such as speaking a language that not everyone understands) and societal contexts (e.g., items such as doing well at school and getting a good job).

The *Multilingualism and language learning* construct showed marked differences for statements on enjoyment of language learning, importance of multilingualism and additive benefits of multilingualism in language learning. In addition, there was a notable and significant difference in agreement to the statement “If you can’t speak a language well it’s better not to”. Without a more qualitative approach it is difficult to interpret clearly what participants understood by this but accompanied by general positive attitudes to language learning among OA users, it appears that it is seen as motivational, rather than restrictive. It should also be noted that it is expected that there are differences both in proficiency in and in the perception of languages that have been learnt explicitly, such as English and Norwegian, and those learnt implicitly, such as home languages in OA speakers. Within the *Enjoyment of learning* construct, it is also interesting that among OA users there is a generally more positive attitude towards higher education than among NO users, in spite of a lower proportion of the former group knowing whether their parents had higher education.

It seems likely that the attitudes revealed in these constructs are strongly connected to the *Language and society* construct, in which OA users rated the importance of language competence in social and societal contexts considerably higher than NO users. This difference in attitudes was also observed in Haukås et al. (2022: 10), where it was suggested that those who used multiple languages regularly have experienced the “direct advantages” in both interaction with others and in language learning situations. Haukås et al. (2022) observed a significant relationship between self-identification as an L1 speaker of a language other than Norwegian and positive beliefs about multilingualism and the same was observed in the present study, where all observations in this construct were significant. It seems clear that that in terms of the attitudes revealed, there is nothing to suggest that OA users in any way view themselves as disadvantaged by their language backgrounds, rather the contrary. The importance of developing a multilingual identity is also described in several studies of similar age groups (e.g., Tiurikova et al., 2021; Haukås, 2022). Fisher et al. (2020:2) argues that there are two major benefits associated with this development, firstly that learners “may be more likely to invest effort in the learning and maintenance of their languages”, and secondly, that “a multilingual mindset might lead to enhanced social cohesion in the classroom and beyond”. It’s also interesting that a higher proportion of OA users agree with the statement that it’s rude to speak a language that not everyone in the room understands. We might speculate what the reasons for this might be, but Iversen (2017) reports that some of his informants described that students with minority backgrounds were not permitted to speak in their home language in the classroom. The majority of the other informants reported using their home languages without the knowledge and support of their teachers, so it is not unlikely that this belief springs from either a perception that speakers of other home languages should not use them in school, or from an explicit ban on use of other languages in some classrooms. In either case, the consequence seems to be, as Iversen (2017) reports, that learners with other home languages internalise the use and consider it without benefit in academic contexts.

In summary, the questionnaire data reveal that NO and OA users differ slightly in their self-rated proficiency but more notably in the attitudes about languages and language learning. The high degree of language mixing in many situations among both groups confirm the results from Haukås (2022), which claimed that multilingualism was the norm among the majority of pupils, regardless of home language background. However,

this comparison adds further that OA users use less Norwegian and more frequently their home language.

OA users also hold very positive attitudes towards their languages and do not seem to experience that the significant amount of language switching is detrimental to their proficiency to the point where it affects their experience of language use. When comparing the two groups, OA users are enthusiastic about language learning and report that they have experienced linguistic skills as beneficial not only in an academic setting but also in social and societal settings. This also confirms results from Haukås et al. (2022), in that personal experience with the benefits of multilingualism affects attitudes positively.

Both groups view themselves as highly proficient in both Norwegian and English, with slightly higher ratings for English among OA users, particularly for reading and writing, both of which were significant. This is particularly interesting because as mentioned in chapter 1, pupils with other language backgrounds have achieved lower English exam marks and been overrepresented on the lower scale of national test results. These are both situations that test ability to read and write in English, and the self-ratings in this data set suggests that either this group of OA users were more proficient in English, or their ability to judge and rate their own proficiency was lower. This will be addressed in the following two chapters, which explain the results of the proficiency tests, first in relation to predictive factors in background profile and secondly in a group comparison.



## **8. Results- Factor analysis and performance predictors**

### **8.1. Introduction**

The questionnaire data described in the previous chapter revealed differences between NO and OA users in both multilingualism and language use. The aim of this chapter is to investigate the data for these two groups further by identifying the underlying factors accounting for the variance in the questionnaire data set, and to determine the relationship between these factors and performance data from the behavioural tasks. Comparison of the actual performance results will be addressed in Chapter 9, so the research questions addressed in this chapter are therefore,

What are the underlying factors that best characterise multilingual profiles in Norwegian 11–13-year-olds, and do they differ between NO and AO speakers?

Which underlying factors significantly predict performance in aspects of young multilingual learners English reading and writing and do they differ between NO and AO speakers?

Two sets of analyses are reported which address these questions. First, an exploratory Principal Components Analysis (PCA) of the NO and OA questionnaire data sets was performed to address research question 3. Next, error rates for both sentence completion tasks and error spotting tasks were calculated and the multiple regression analyses were implemented using the components as predictor variables. To my knowledge this is the only study that has analysed extensive questionnaire data in this way. The NO group was significantly larger and more homogenous than the OA group, and more reliable effects were expected to be observed for the NO group. Nevertheless, the data provide novel insights into the factors that best characterise language profile in the two groups.

Turning to research question 4, this chapter also reports the data from two behavioural tasks: the error spotting task (see section 6.3.3.3) and the language production task (see section 6.3.3.1). The relationship between the PCA components and performance in these tasks was investigated through multiple regression analyses. As discussed in section 3.4.4, studies looking at performance differences between L2 and L3 learners have yielded results that have at best been conflicting, so an exploratory approach was taken in this analysis. A few relevant studies examining the relationship between background factors and language performance, have identified some factors in multilinguals that have significantly predicted performance. These include age of

acquisition, which is considered particularly salient in morphosyntactic tasks (e.g., Hyltenstam & Abrahamsson, 2009; Flege et al., 2002; Johnson & Newport, 1989). The amount of exposure to a language in both formal and informal contexts has also been observed to predict performance (e.g., Birdsong, 2005; Flege & McKay, 2004; McDonald, 2000; Flege et al., 1999). Marian et al. (2007) also found that self-ratings of language proficiency were also generally indicative of objective performance measures. In addition, results from Tiurikova et al. (2021), show a significant relationship between open-mindedness and L3 learning, multilingual identity and friends with other home languages. The current study includes variables for factors similar to those found in the literature. However, in addition, this study collected detailed information on self-rated language proficiency and attitudes to all of the participants' languages allowing a more detailed investigation of multilingual profile effects. The inclusion of behavioural language tasks data also allowed the accuracy of participants self-ratings of proficiency in English to be tested. Based on previous studies, self-ratings were expected to be indicative of performance, however studies based on behavioural tests have not been carried out in a Norwegian context to date, nor on participants in this age-group. This is therefore the first study to examine the accuracy of self-rated language proficiency across young NO and OA speaker groups.

## **8.2. Principal Components Analysis**

As the performance data related only to English, questionnaire items regarding proficiency in languages other than Norwegian and English were removed, leaving a total of 40 items to be considered for analysis. Analyses were done using R version 4.2.1. The analysis processes will be described in turn below, and a full list of the items in the questionnaire can be found in Appendix 1.

### **8.2.1. NO users**

#### **8.2.1.1. Principal components analysis**

Prior to analysis, the item Kindergarten (Q57) was excluded due to no variance. Age of acquisition Norwegian (Q1) data were also excluded as they were unreliable due to the inconsistent interpretation of the question.

Prior to performing the principal components analysis (PCA), the suitability of the remaining items was considered. All items were scaled and centred, and a correlation

matrix using Pearson's  $r$  revealed no correlations  $>0.3$  for a number of items (see Appendix 1): Where did you learn Norwegian (Q2), Like to use Norwegian (Q7), Proud to use Norwegian (Q8), Want to learn the same languages as my parents (Q34), It's rude to speak a language not everyone understands (Q35), Hard to concentrate when learning (Q46), When you know more languages it's easier to learn new languages (Q49), Gender (Q55), Age (Q56), and Parents' education (Q61), resulting in their exclusion from further analysis. No items had correlations over  $>.8$ , leaving 26 variables to be entered into the PCA. Bartlett's test was significant for this data set ( $\chi^2(378) = 3467.895$ ,  $p < .001$ ) and the Kaiser-Meyer-Olkin value was 0.79, qualifying as a "middling" degree of variance, thereby confirming suitability for PCA. Using Kaiser's rule and considering components with eigenvalues  $>1$ , seven components were revealed, explaining a total of 59% of variance. Oblimin rotation revealed that no components correlated more than  $.2$ , so a Varimax factor rotation was chosen, and seven factors were extracted. The proportion of absolute residuals  $>0.05$  was 0.31 and RMSR 0.055, communality score was 0.59. Table 24 below shows the 7 factors resulting from the analysis of the NO users' questionnaire data.



24. Principal Components Analysis of questionnaire data. NO users.

<b>Factor 1: English proficiency</b>	<i>Loading values</i>	<b>Factor 2: Importance of language</b>	<i>Loading values</i>	<b>Factor 3: Open-mindedness</b>	<i>Loading values</i>	<b>Factor 4: Norwegian proficiency</b>	<i>Loading values</i>
Read English	0.86	Language important to future success	0.82	Enjoy getting to know people	0.78	Write Norwegian	0.77
Understand English	0.85	Language important for good job	0.78	Enjoy learning	0.66	Read Norwegian	0.75
Speak English	0.80	Language important to do well at school	0.69	Many interests	0.61	Speak Norwegian	0.75
Write English	0.78	Knowing other languages than English is important	0.63	Enjoy differences of opinion	0.54	Understand Norwegian	0.72
Proud to know English	0.62	Languages are useful for travel	0.58	It is important to know English	0.41		
Enjoy language learning	0.38	Important to know English	0.48	Enjoy language learning	0.37		
		Important to speak language of country of residence	0.47	University plans	0.36		
Proportion Variance	0.14	Proportion Variance	0.11	Proportion Variance	0.08	Proportion Variance	0.08
Cumulative Variance	0.14	Cumulative Variance	0.25	Cumulative Variance	0.34	Cumulative Variance	0.42
Cronbach's $\alpha$	0.85	Cronbach's $\alpha$	0.79	Cronbach's $\alpha$	0.70	Cronbach's $\alpha$	0.73
<b>Factor 5: Enjoyment of learning</b>	<i>Loading values</i>	<b>Factor 6: English learning</b>	<i>Loading values</i>	<b>Factor 7: Usefulness</b>	<i>Loading values</i>		
Reading for pleasure	0.80	Age of acquisition English	0.79	Better not to speak if you can't do it well	0.70		
Imagination	0.72	Learnt English where?	0.79	Important to speak language of country of residence	0.58		
University plans	0.45			Language important to do well at school	0.34		
Enjoy language learning	0.39						
Proportion Variance	0.07	Proportion Variance	0.05	Proportion Variance	0.05		
Cumulative Variance	0.49	Cumulative Variance	0.54	Cumulative Variance	0.59		
Cronbach's $\alpha$	0.63	Cronbach's $\alpha$	0.36	Cronbach's $\alpha$	0.63		

### 8.2.1.2. Factor naming

The first factor accounted for the majority of variance and included loadings for all items of English proficiency, as well as pride in knowing English and enjoyment of language. This factor represented *English proficiency*.

The second factor had loadings for attitude statements relating to the importance of language proficiency in order to succeed both at school, in the workplace and in the future. Items regarding the general importance of knowing both English and additional languages as well as the language of one's country of residence also loaded onto this factor, therefore represents the general *Importance of language*.

Factors three and four both accounted for 8% of variance. Factor three saw loadings for participants' enjoyment of getting to know new people and for their enjoyment of talking to people with different opinions, in addition to their enjoyment of general learning and a variety of interests. Additional item loadings were more academically related and represented English and language learning in general, as well as plans for higher education. This factor was seen to represent *Open-mindedness*.

Factor four had loadings for all four language abilities in Norwegian, thereby representing *Norwegian proficiency*.

Factor five had loadings for reading for pleasure and the ability for imagination and engagement with stories, but also additional loadings for plans for higher education and enjoyment of language learning. As reading for pleasure is often associated with academic ability, this factor was characterised as representing *Enjoyment of learning*.

Factors six and seven both accounted for five percent of variance. Factor six had only two item loadings both relating to English learning; Q9 Age of acquisition and Q10 Environment for learning, thereby representing *English learning*. The final factor's highest loading item was for Q36 Better not to speak a language if you can't do it well, in addition to Q37 Importance of speaking the language of one's country of residence and Q38 Importance of linguistic proficiency to well at school. This factor represented *Usefulness*.

## **8.2.2. OA users**

### **8.2.2.1. Principal components analysis**

Due to more variance, all 40 items were considered for analysis. After scaling and centring data, the correlation matrix showed no correlations  $>0.3$  for a number of items (see Appendix 1): Where did you learn Norwegian (Q2), Where did you learn English (Q10), It's rude to speak a language not everyone understands (Q35), Hard to concentrate when learning (Q46), I like to read on my spare times (Q47), Gender (Q55), Age (Q56), and Parents' education (Q61), and a correlation  $>0.8$  for the item Reading proficiency English (Q13), resulting in their exclusion from further analysis. For the remaining variables Bartlett's test was significant ( $\chi^2(465) = 2418.795, p < .001$ ) and KMO score was 0.76, representing a "middling" degree of variance. Again, in accordance with Kaiser's rule 8 components with eigenvalues  $>1$  were revealed and factors extracted using a Varimax rotation, explaining 63% of variance. Proportion of absolute residuals superior to 0.05 was 0.29 and RMSR 0.051. Communality score was 0.61. The 8 factors yielded from the analysis are shown in table 25 below.

25. Principal Components Analysis of questionnaire data. OA users.

<b>Factor 1: English proficiency</b>	<i>Loading values</i>	<b>Factor 2: Importance of language</b>	<i>Loading values</i>	<b>Factor 3: Norwegian proficiency</b>	<i>Loading values</i>	<b>Factor 4: Language learning</b>	<i>Loading values</i>
Speak English Understand English Write English Like to use English Age of acquisition English	0.88 0.83 0.81 0.49 -0.57	Language important for good job Language important to do well at school Language important to future success Important to speak language of country of residence Easier to learn languages with experience Better not to speak if you can't do it well	0.75 0.73 0.69 0.68 0.44 0.36	Write Norwegian Read Norwegian Understand Norwegian Speak Norwegian	0.82 0.79 0.77 0.73	Proud to know English Proud to know Norwegian Like to use Norwegian Like to use English Enjoy language learning Learn same languages as parents Enjoy learning	0.82 0.79 0.69 0.66 0.40 0.32 0.32
Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.10 0.10 0.69	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.10 0.20 0.79	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.10 0.29 0.83	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.09 0.39 0.78
<b>Factor 5: Enjoyment of learning</b>	<i>Loading values</i>	<b>Factor 6: Open-mindedness</b>	<i>Loading values</i>	<b>Factor 7: Future use</b>	<i>Loading values</i>	<b>Factor 8: Early learning</b>	<i>Loading values</i>
Imagination University plans Many interests Enjoy language learning Important to speak language of country of residence Enjoy difference of opinions Better not to speak if you can't do it well	0.75 0.57 0.53 0.43 0.42 0.31 -0.33	Enjoy getting to know people Enjoy learning Enjoy difference of opinions Better not to speak if you can't do it well Many interests	0.74 0.57 0.56 0.52 0.45	Languages useful for travel Important to know other languages than English Knowing English is important Language important to future success	0.78 0.74 0.52 0.36	Kindergarten where Age of acquisition Norwegian Age of acquisition English	0.81 0.77 0.51
Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.07 0.45 0.60	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.06 0.51 0.56	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.06 0.57 0.69	Proportion Variance Cumulative Variance Cronbach's $\alpha$	0.06 0.63 0.58

### 8.2.2.2. Factor naming

In this group, the first three factors accounted for the same percentage of variance. Factor one had loadings for items describing aspects of English proficiency, in addition to enjoyment in using English. Age of acquisition for English loaded negatively onto this factor. This factor was also descriptive of *English proficiency*, but with some notable differences from the similarly named factor in the Norwegian group; the absence of Q13 English reading, and the presence of Q15 Enjoyment in using rather than Q16 Pride in knowing. The adverse relation between high scores and age of acquisition should also be noted.

The second factor also saw loadings relating to perceptions of *Importance of language*, with a very similar pattern to the Norwegian factor with the same name. Note, however that this group also had loadings for the Q49 Experience makes language learning easier and Q36 Better not to speak a language if you can't do it well, thereby including attitudes on the process of language learning in addition to the benefits of the outcome.

The third factor comprised loadings for all four language domains in Norwegian, thereby describing *Norwegian proficiency*.

Factor four accounted for a slightly smaller percentage of variance and saw loadings for both pride in knowing and enjoyment of using both English and Norwegian, as well as the wish to learn the same language as parents. This, in addition to the items Q45 Enjoyment of learning generally and Q48 Enjoyment of learning languages specifically resulted in this factor describing *Language learning*.

Factor five accounted for seven percent of variance and was thought to describe *Enjoyment of learning*, although again with different aspects than the Norwegian factor of the same name. While the latter seemed to cluster items of a quite academic nature, this factor also saw loadings for items of a more exploratory nature, such as Q51 Many interests, Q53 Enjoy difference of opinions, but also Q37 Importance of speaking the language of one's country of residence. This factor also had a negative loading for Q36 Better not to speak if you can't do it well, a logical contrast to the other items.

The final three factors each accounted for six percent of variance, the first of which was attributed to aspects of *Open-mindedness*. Again, this factor was somewhat different from the similar factor in the Norwegian analysis. In both datasets the highest loading items were the same, but instead of those relating to language learning the OA users' analysis had a somewhat surprising loading for Q36 Better not to speak if you can't do it well. Still, both factors saw a clustering of the same attitudes of Open-mindedness, making them essentially comparable.

Factor seven had loadings for items relating to usefulness of linguistic proficiency, both for travel and to do well in the future, as well as for Q40 general Importance of English and Q43 on additional languages. This factor was thought to represent *Future use* of linguistic ability.

The final factor had loadings for Q57 Kindergarten, where low ratings represented having attended in Norway, and higher represented either abroad or not at all, and Q9 Age of acquisition for both English and Norwegian. Together, these items are related to *Early learning*.

### **8.3. Task performance**

Following the PCA, performance data was coded to address whether performance in each participant could be significantly predicted by any of the extracted factors. In order to do this a consistent coding system was developed, which will be described below.

#### **8.3.1. Coding process**

When designing the coding system, it was necessary to consider the differences between the tasks; an error spotting task response is binary, where the respondent has either detected error or not. In a language production task, however, the nature of the response is more complex. Participants were asked to both perform cloze-type sentence completion tasks and answer more open questions. In a cloze test each task is constrained to a greater or lesser extent and has a target response. This means and actual responses may be to a greater or lesser extent similar to that target. Similarly, a question on a specific topic may yield responses that differ

greatly in length and complexity. Factors such as the participants' motivation or understanding of interest in the task may affect their performance, but the output may also depend on their proficiency and command of the constructions involved in producing the desired output. A participant may choose to avoid a grammatical construction that they find challenging or do not have full command of, meaning that when analysing production data, it is equally important to make note of both what is present and what is missing. As judgment tasks and production tasks yield responses of a different nature the coding system needed a framework that ensured a uniform approach to all tasks, but also the flexibility to create an output suited for appropriate descriptions of the data.

It was decided that across all three task types the coding would follow the principle of marking errors rather than correct answers, meaning that a higher point score indicated a higher number of errors. As the sentence completion tasks were constrained in order to elicit errors and the actual output could potentially vary considerably from participant to participant, each trial was first coded as either a legitimate attempt or not. Each target structure was designed to elicit one or more of the eight critical error types; Agreement-person, Agreement-number, Aspect, Preposition omission, V2, Missing definite article, Missing indefinite article and Insert article. Each trial was evaluated for error types hypothetically possible within the target structure, ranging from just one to the full eight. As a total, the target structures for the full set of sentence completion tasks counted 357 tokens of the eight critical error types, making it hypothetically possible for a participant to have a total score of 357 errors. As mentioned above, it was also necessary to mark possible avoidances and this was achieved through coding each legitimate attempt as either a complete or an incomplete structure, and then marking which of the error types could not be evaluated due to incomplete material.

Target answers for the sentence completion tasks were regarded in a structural sense, so that choice of words was secondary to the grammatical structure. This meant that the incorrect choice of vocabulary items was not marked as an error, neither were any other error types outside of the eight focus types. For each of the error types hypothetically possible within the target structure, responses were marked '0' for correct, '1' for error or 'NA' to signify that the response was incomplete and that the error type could not be evaluated. In addition, each response was marked for intrusions from either Norwegian or another language.

To ensure a reliable procedure, the data were coded by two separate assessors, with a 20% overlap to check consistency.

### 8.3.2. Overview of error types

An *Agreement person error* meant an error in the marking of a 3<sup>rd</sup> person singular verb form, either by not using an {-s} inflected form with a 3<sup>rd</sup> person singular subject (e.g., \**he have*), or by using a third person singular inflected form with any other subject (e.g., \**they has*). An *Agreement number error* represented the use of a singular verb form with a plural subject, and vice versa. This meant that there would be to some extent an overlap between the two error types, as many Agreement number errors were an erroneous use of a 3<sup>rd</sup> person singular verb, as in the example above (e.g., \**they has*). In the case of *be*, the form ‘are’ with 1<sup>st</sup> and 3<sup>rd</sup> person singular subjects (e.g., \**I are reading, she are cleaning*) were considered an Agreement number error.

In the *Aspect error* category, a 1 was given for errors relating both to verb form and inappropriate use of aspect. This meant that responses without an auxiliary verb (e.g., \**They washing clothes*) were marked as errors in addition to those responses that had usage-related errors. The use of progressive aspect was constrained either through illustrations of ongoing activities (obligatory progressive aspect) or sentence openers depicting habits e.g., “Every morning” (obligatory simple present).

A *V2 error* was signified by a misplaced verb after an obligatory adverbial sentence opener, and only applied to this specific subset of tasks.

A *Preposition omission* marking of 1 required a missing preposition in an otherwise present adverbial or modifier, such as in “*The cat is pot*”. This was also the case for *Article omissions*. Here, missing articles in an otherwise complete construction were marked as errors. In responses that involved lists of items (e.g., “*an apple, a strawberry and a watermelon*”) one missing determiner would give an error marking.



For *Insert article* errors, this required either insertion in instances where a zero article is required (e.g., \*he watches the TV), or in cases of substituting a possessive for a determiner (e.g., \*he brushes the teeth).

In the *Intrusions* category only words that were direct imports from another language were marked. Misspellings influenced by spelling in another language (e.g., “bihaind” instead of “behind”) were not considered true intrusions. In some instances, intrusions could be represented so-called “false friends” with anglicised spelling, such as using “back” instead of “behind” (‘bak’ in Norwegian).

### **8.3.2.1. Sentence completion task results**

Prior to analysis, a cutoff point of 70% completion was decided. The cutoff was considered based purely on unanswered tasks and not on degree of completeness for each sentence produced. Out of 303 participants in the Norwegian home languages group, 274 participants were above the cutoff line (90.3%), and the corresponding number for the Other home languages group was 139 out of a total 197 (70.6%). The data from these participants was first analysed to obtain an overall score of errors and a corresponding number of instances of incomplete sentences and possible avoidances, coded NA. Secondly, data was grouped based on error type and the same values calculated for each category.

To establish the validity of the number of error score, it was necessary to consider a possible connection between number of errors and number of NAs. As it was possible to achieve a lower number of errors by strategically avoiding more challenging elements or constructions, it was necessary to establish the likelihood of error scores actually representing proficiency rather than avoidance strategies. In order to do this, two subsets were created for each participant group consisting of the 30% of participants with the lowest and highest number of errors. For each subset means for both error rate and number of NAs were calculated again and compared. The results of each group are shown in table 26 below:

26. Errors and NAs in highest and lowest performing participants.

	Mean errors	SD	Range	Mean NAs	SD	Range
<b>Norwegian home language, n=274</b>						
<b>Top 30%</b>	15	6	4-23	43	39	3-187
<b>Bottom 30%</b>	67	9	57-91	66	43	5-174
<b>Other home languages, n=42</b>						
<b>Top 30%</b>	27	7	12-36	38	42	1-175
<b>Bottom 30%</b>	60	9	50-84	62	44	5-168

A comparison of these subsets showed a marked increase in number of errors from the top to the bottom performing participants (Norwegian home languages 446.7%, Other home languages 122.2% from the lowest to the highest scoring subset). The increase in the number of NAs, however, was much lower across both groups (Norwegian home languages 53.5%, Other home languages 63.2% higher in the lowest scoring subset). This suggests that a low number of errors is also indicative of generally higher proficiency rather than a higher degree of avoidances. It should also be noted that across participant groups ranges were also very similar.

### 8.3.2.1.1. Sentence completion error rate

In the NO user group ( $n=274$ ), the mean number of errors for all participants across all 357 points of evaluation was 40 ( $SD=17$ , range 4-91), and the mean number of NAs was 62 ( $SD=50$ , range 3-236). If viewed as errors out total number of attempts, the average error rate within this group was 14% ( $SD=7$ , range 1-36). When calculated as errors per sentence produced, the average participant produced 0.55 errors per sentence ( $SD=0.23$ , range 0.05-1.25).

In the OA user group ( $n=139$ ) the mean number of errors was 43 ( $SD=15$ , range 12-84, and mean number of NAs was 52 ( $SD=48$ , range 1-229). The average error rate within this group was 15% of all attempted ( $SD=6$ , range 3-29), which gives a mean of 0.59 errors per sentence ( $SD=0.20$ , range 0.16-1.15).

Error rates for each separate error category were calculated and are shown in table 27 below.

27. Error rates in sentence completion by category and participant group.

Category	Tokens	Norwegian home language, <i>n</i> =274			Other home languages, <i>n</i> =139			<i>p</i> -value
		Mean	SD	Range	Mean	SD	Range	
Agreement person	73	22	13	0-81	21	12	0-54	0.48
Agreement number	73	21	12	0-77	12	6	0-29	0.00*
Aspect error	56	13	8	0-42	19	9	2-42	0.00*
Preposition omission	23	2	3	0-17	0	0	0-3	0.00*
V2 error	23	0	2	0-29	1	3	0-29	0.29
Definite article omission	23	3	4	0-14	2	3	0-12	0.00*
Indefinite article omission	28	6	4	0-16	9	7	0-24	0.00*
Inserted article	58	1	2	0-9	6	2	2-15	0.00*

### 8.3.2.2. Error spotting results

As error spotting results were binary, an overall error rate was calculated, and the results also broken down into the three error categories. In the NO user group, the mean error rate was 46% of attempted (SD=23, range 8-94). In the OA user group, mean error rate was 48% of attempted (SD=25, range 2-96). The breakdown of separate categories can be seen in tables 28 and 29 below:

28. Error rates in error spotting by category. NO users.

Category	Tokens	% error of attempted		
		Mean	SD	Range
Agreement	20	45	28	0-100
Definiteness	20	48	23	10-100
Controls	10	43	22	0-100

29. Error rates in error spotting by category. OA users.

Category	Tokens	% error of attempted		
		Mean	SD	Range
Agreement	20	47	30	0-100
Definiteness	20	49	26	5-100
Controls	10	46	25	0-100

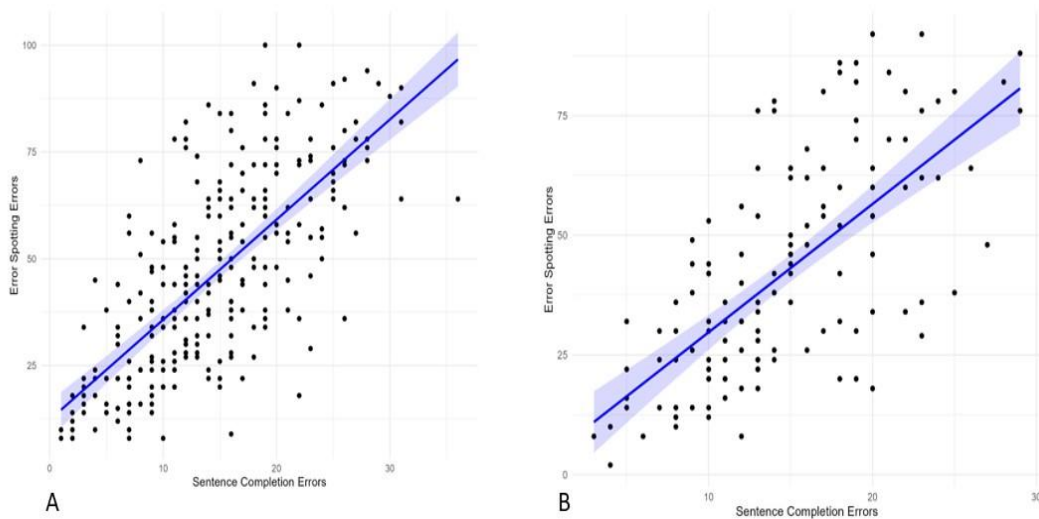
Error rates in this task were generally high, but with no notable between-group differences, neither in terms of all over percentage nor in individual categories. Two-tailed independent Welch's t-tests yielded no significant results for any contrasts by group. It should be noted that in both groups the ranges vary broadly, and even the most proficient in both groups made mistakes in finding errors in definiteness marking.

### 8.3.2.3. Correlation between two task types

In order to check for a correlation between the scores in both task types a correlation analysis was run on both results using scores calculated as percentage error of attempted.

For the Norwegian data set a Shapiro-Wilk test showed that data from both the error spotting (ES) and sentence completion (SC) was not normally distributed (ES  $p=2.57$ , SC  $p=0.00$ ), so a Kendall's rank correlation  $\tau$  was chosen. This test yielded a positive correlation between the two test scores ( $\tau=0.55$ ,  $p < 2.2e-16$ ), as shown in Figure IA below.

On the Other languages data set, the Shapiro-Wilk test again revealed that the data was not normally distributed (ES  $p=6.27$ , SC  $p= 0.02$ ), and again Kendall's rank correlation  $\tau$  yielded a positive correlation between the test scores ( $\tau=0.51$ ,  $p= < 2.2e-16$ ), as shown in Figure IB.



I. Correlation plot, error spotting/sentence completion scores, NO users (A) and OA users (B)

It is interesting to note the similarity between both groups, visible in both error rates and correlation between task type. The results from both groups show a general trend of differences primarily being within groups rather than between groups. In either group participants' ability to find the errors varied drastically and was generally close to only a 50% success rate. However, the correlation between scores in both task types suggest that the high error rate was not due to a high level of guessing- participants with low scores in sentence production had similarly low scores also for error spotting.

#### 8.4. Multiple regression analyses

A number of multiple regression analyses were run to determine whether PCA components significantly predicted performance in three instances: overall task completion, percentage of errors in sentence completion and percentage of errors in error spotting.

##### 8.4.1. Sentence completion- factor regression

#### **8.4.1.1. Task completion**

Firstly, a linear regression model was used to see if any components predicted degree of completion in the sentence completion task. Degree of completion was calculated as a percentage of the total number of tasks, and analysis was run on the full data set for each participant group. However, none of the models were statistically significant (Norwegian home language  $R^2_{Adjusted}=-0.00$ ,  $F(7,374)=1.02$ ,  $p=0.37$ , Other languages  $R^2_{Adjusted}=-0.02$ ,  $F(8, 188)=0.61$ ,  $p=0.77$ ) and the analyses did not have predictive value.

#### **8.4.1.2. Percentage of errors-factors**

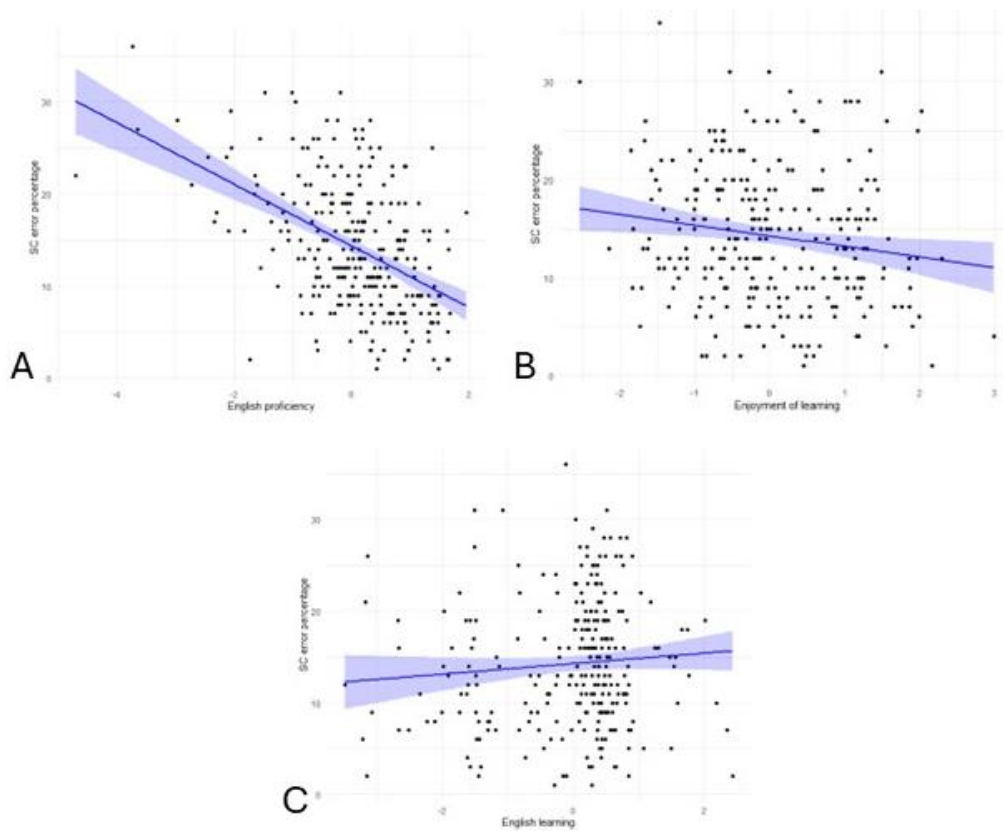
Secondly, a linear regression model was run in order to test whether PCA components significantly predict performance in the sentence completion task. Prior to analysis scores for each participant was calculated as percentage error out of tasks attempted. Participants with a lower completion rate than 70% were removed from the data set, leaving data from 274 NO users and 137 OA users for final analysis.

##### **8.4.1.2.1. NO users**

Similar tests of assumptions ( $W=0.99$ ,  $p=0.01$ ,  $BP=3.54$  with 7 degrees of freedom,  $p=0.83$ ) suggested that the data was suited for analysis. The model was statistically significant ( $R^2_{Adjusted}=0.24$ ,  $F(7,266)=13.1$ ,  $p=1.75e-14$ ) and is presented in Table 30 and Figure J below. Negative effects were observed for both English proficiency and Enjoyment of learning, as well as a borderline positive effect for English learning. The negative effects for English proficiency (see Figure J) show that overall, participants in this group had accurate assessments of their own abilities, as high ratings predicted a lower percentage of error. The same was the case for those who had high ratings for Enjoyment of learning (see Figure J), which suggests high academic motivation and also an active interest in reading for pleasure. The English learning factor also showed a borderline effect, in this case showing a relationship between higher age of education for English and a higher percentage of errors (see Figure J).

30. Multiple regression analyses of sentence completion data. NO users.

Predictor	Estimate	Std. error	t-value	Pr(> t )
<b>Intercept</b>	14.43033	0.36823	39.189	<2e-16
<b>English proficiency</b>	-3.32216	0.37452	-8.870	<2e-16 ***
<b>Enjoyment</b>	-0.81448	0.37818	-2.154	0.0322 *
<b>English learning</b>	0.64746	0.36133	1.792	0.0743 .



J. Effect plots, English proficiency (A), Enjoyment of learning (B), and English learning (C).

#### 8.4.1.2.2. OA users

The normality assumption of the model residuals was assessed using the Shapiro-Wilk test. This test suggested a normal distribution ( $W = 0.98$ ,  $p = 0.06$ ). Secondly, a Breusch-Pagan test of heteroscedasticity also suggested that the assumption of

constant variance in the model was met (BP=7.98 with 8 degrees of freedom,  $p=0.44$ ).

The model, however, was not statistically significant ( $R^2_{Adjusted}=-0.02$ ,  $F(8,128)=0.53$ ,  $p=0.83$ ) and could not predict performance in the task.

#### 8.4.2. Error spotting-factor regression

A linear regression model was used to test whether PCA components significantly predicted test scores in the error spotting task. Prior to analysis, error analysis scores for all participants were calculated as a percentage correct score. Participants who had more than 30% unanswered tasks were removed prior to analysis, making the total number of participants 260 and 167 for the Norwegian and the Other language groups, respectively.

##### 8.4.2.1. NO users

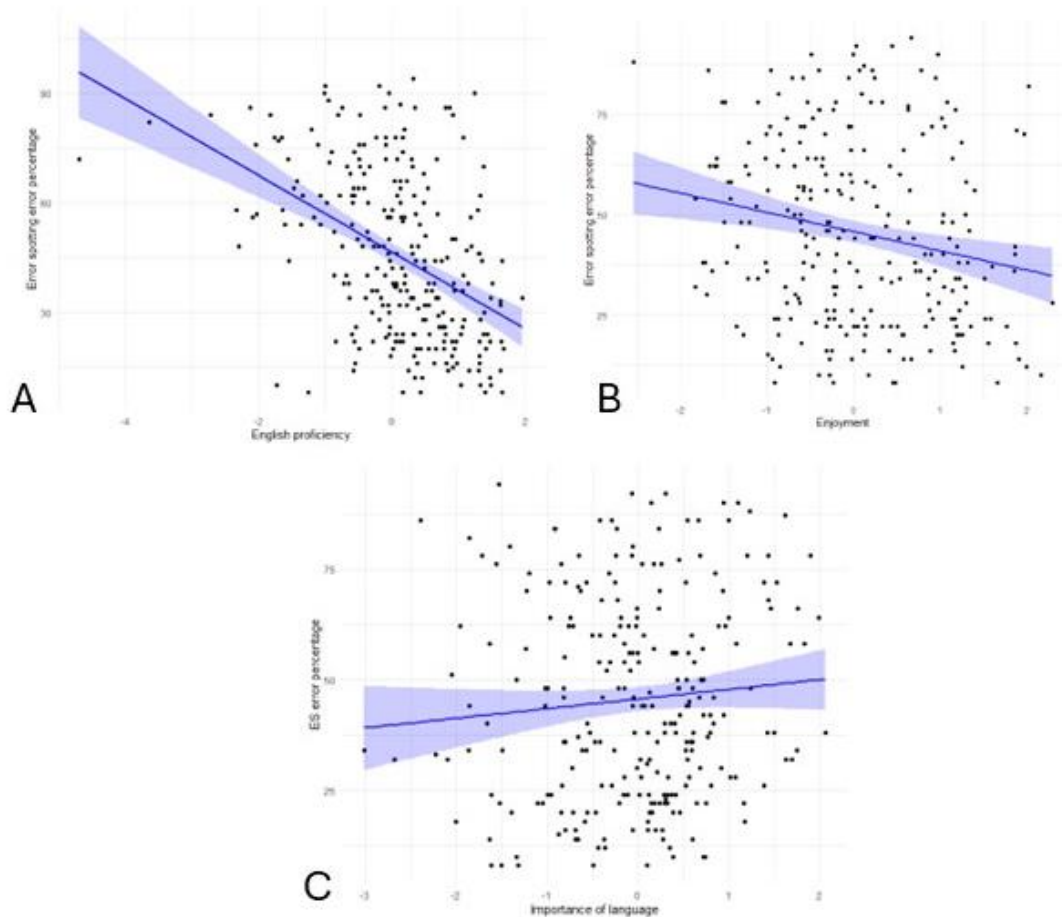
The normality assumption of residuals was assessed using the Shapiro-Wilk test. This test suggested a normal distribution ( $W = 0.99$ ,  $p = 0.04$ ). Secondly, a Breusch-Pagan test of heteroscedasticity also suggested that the assumption of constant variance in the model was met (BP=4.59 with 8 degrees of freedom,  $p=0.71$ ). The overall regression was statistically significant ( $R^2_{Adjusted}=-0.23$ ,  $F(7, 252) = 12.51$ ,  $p < .000$ ) and is seen in Table 31 and Figure K below. As can be seen, the factor of English proficiency significantly predicted test scores, as did Enjoyment of learning. There was also a borderline negative effect of Importance of language. It is now interesting to note that the predictors that in the sentence completion tasks were associated with a lower percentage of errors now show a reversed effect. High ratings for English proficiency and Enjoyment of learning predicted a higher percentage of errors in the error spotting task. However, a borderline negative effect of Importance of learning was observed, meaning that higher ratings for the importance of language in an academic but also future context was predictive of a lower percentage of errors.

31. Multiple regression analyses of error spotting data. NO users.

Predictor	Estimate	Std. error	t-value	Pr(> t )
Intercept	-8.845e-16	1.228e+00	0.000	1.00000



<b>English proficiency</b>	1.027e+01	1.283e+00	8.007	4.34e-14 ***
<b>Enjoyment</b>	4.224e+00	1.309e+00	3.227	0.00142 **
<b>Importance</b>	-2.660e+00	1.355e+00	-1.962	0.05083 .



K. Effect plots, English proficiency (A), Enjoyment (B), and Importance of language (C).

#### 8.4.2.2. OA users

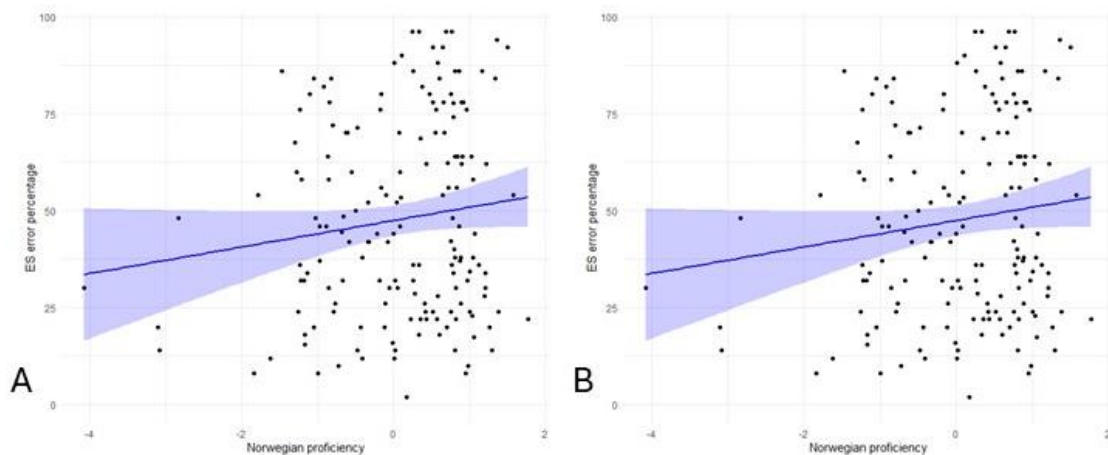
The normality assumption of residuals was assessed using the Shapiro-Wilk test. This test suggested a normal distribution ( $W = 0.96$ ,  $p = 0.00$ ). Secondly, a Breusch-Pagan test of heteroscedasticity also suggested that the assumption of constant variance in the model was met (BP=9.89 with 8 degrees of freedom,  $p=0.27$ ).

The overall regression was statistically significant ( $R^2_{Adjusted}=-0.00$ ,  $F(8, 157) = 1.00$ ,  $p < .000$ ) and is shown in Table 23 and Figure L. As can be seen in Table 32,

there was a borderline effect of Open-mindedness, as well as a borderline negative effect of Norwegian proficiency. This suggests that in this group, a higher score for attitudes relating to open-mindedness and lower ratings for Norwegian proficiency were associated with a lower error score.

32. Multiple regression analyses of error spotting data. OA users.

Predictor	Estimate	Std.error	t-value	Pr(> t )
<b>Intercept</b>	-2.178e-15	1.968e+00	0.000	1.0000
<b>Open-mindedness</b>	3.528e+00	1.920e+00	1.838	0.0680 .
<b>Norwegian proficiency</b>	-3.646e+00	2.054e+00	-1.776	0.0777 .



L. Effect plots, Norwegian proficiency (A), Open-mindedness (B).

## 8.5. Discussion

The goal of the analyses described in this chapter was to answer two research questions. The first asked which underlying constructs could be observed in the questionnaire data and how they varied between the two participant groups, and the second whether any of the constructs could significantly predict performance in sentence completion and error spotting tasks. An exploratory PCA suggested

that the main differences between NO and OA users were found in nuanced differences between factor items and the proportion of variance explained by the individual factors. Secondly, the number and nature of statistically significant predictors varied considerably between groups. Effects were more reliable in the more homogenous NO user group and were observed primarily on the metalinguistic level.

When addressing question one by considering the results of the PCAs, there are two main patterns that are of interest; perceptions of benefits and use of language learning, and the *Open-mindedness* factor observed in both analyses. *Open-mindedness* is a factor in both analyses, but comparing the factors in each analysis, they vary in two respects. Firstly, in the NO users' analysis, this factor accounts for 8% of variance, whereas in the OA analysis, it accounts for 6% of the variance. Secondly, item loadings in the two factors are somewhat different, in the NO user factor we also see loadings for importance of knowing English, enjoyment of language learning and plans for higher education, neither of which are seen in the OA model. The notion of open-mindedness has been widely explored in several multilingualism studies. The Multicultural Personality Questionnaire (van der Zee & van Oudenhoven, 2000) includes open-mindedness as one of five major personality dimensions, and a number of subsequent studies have shown significant interactions between the open-mindedness dimension and multilingualism (e.g., Dewaele & van Oudenhoven, 2009; Dewaele & Stavans, 2014, Korzilius et al., 2011, Dewaele & Botes, 2020). Also, in Tiurikova et al. (2021) a positive link between open-mindedness and L3 learning was observed, this time also in a sample comparable in age and situation. The higher proportion of variance explained by the *Open-mindedness* factor in the NO analysis might then suggest that this dimension is particularly salient among users of the majority language as home language. As mentioned in the previous chapter, speakers of minority home languages have more direct experience with the benefits of multilingualism as social and societal door openers. Majority language speakers can on the other hand choose to take an interest in further language learning or not, and here open-mindedness seems to be an important personality trait in which language learning is seen as an added advantage.

Secondly, differences are also observed in the perceived benefits of language learning. There are nuanced differences in the factors *Usefulness* (NO users) and

*Future use* (OA users), which seem indicative of a general pattern in which NO users associate language learning and proficiency mostly with academic settings, whereas OA users have stronger associations to the benefits of learning and knowing languages on a more general level, again showing the pattern observed in the previous chapter. Notice also that the statement “It’s better not to speak a language if you can’t do it well”, loads onto three factors in the OA analysis, *Importance of language*, *Open-mindedness* and *Enjoyment of learning*, the latter with a negative loading. In the NO analysis, the same item is only found in the *Future use* factor. Again, it appears as if OA users do not view this statement as restrictive, but rather as a motivational factor, reinforced by the negative loading in the *Enjoyment of learning* factor. In the NO user analysis, there seems to be a more restrictive view of this statement, as its only loading is in *Usefulness*, alongside the importance of speaking the language of one’s country of residence and the importance of language in order to do well at school. The presence of the *Language learning* factor in the OA user analysis also reinforces the perception from the previous chapter of this group as enthusiastic language learners. Accounting for 9% of variance, the factor comprises loadings for items expressing pride in knowing and enjoyment of using languages, as well as positive attitudes to language learning and learning in general. This is interesting also in light of the notion of foreign language enjoyment (“FLE”, Dewaele & MacIntyre, 2014). A recent body of work on learner emotions has focussed to an increasing extent on positive emotions and found significant correlations between multilingualism and FLE (Dewaele & MacIntyre, 2014; Botes et al., 2020), cultural empathy and FLE (Dewaele & MacIntyre, 2019) and FLE and willingness to communicate in the target language (see Botes et al., 2022 for review). As also mentioned in the previous chapter, a positive attitude and sentiment towards not only language learning but also to the languages one has learnt and uses seems to be more strongly associated with the OA users and is further reflected in the PCA.

For research question two, over-all task performance results were very similar for both groups. As more detailed differences will be addressed in the next chapter, this discussion will focus primarily on statistically significant predictors for task performance rather than between-group differences in performance. In NO users, four significant effects were observed. The effect of *English proficiency* was highly significant in both error spotting ( $p=4.34e-14$ ) and sentence completion ( $p=<2e-16$ ), suggesting that participants were able to correctly rate their own proficiency,

which is in keeping with what has generally been observed in previous studies (Chincotta & Underwood, 1998; Flege et al., 1999, 2002; Jia et al., 2002). Furthermore, a significant effect of *Enjoyment of learning* for both task types (error spotting  $p=0.001$ , sentence completion  $p=0.032$ ) again shows that perceived importance of academic achievement is also indicative of performance. The third significant effect of *English learning* in the sentence completion task ( $p=0.074$ ) shows that an increase in age of acquisition and more informal learning situations is associated with a higher error rate, which is also in keeping with results from other studies showing age effects on mastery of morphosyntax (e.g., Johnson & Newport, 1989; Abrahamsson, 2012). The negative effect of *Importance of language* on error spotting is somewhat paradoxical, although this was a borderline effect ( $p=0.050$ ).

In OA users, few significant predictors were found, however the two effects that were observed were nonetheless interesting. The effect of *Open-mindedness* which has been observed in numerous studies on multilingualism, as discussed above, was also statistically significant for error spotting ( $p=0.068$ ). This affirms the importance of this personality dimension in a general sense but suggests that also within an already highly multilingual group we can see differences along the spectrum. Secondly, the negative effect of *Norwegian proficiency* on error spotting results ( $p=0.077$ ) is also noteworthy, as it suggests that to some extent, those within this group who are more proficient in Norwegian are less proficient in English. One might speculate about various reasons for this, one of them related to language use and the already mentioned Weaker Links hypothesis (Gollan et al., 2008). As seen in the previous chapter, the main difference in language use between NO and OA users is that, across all situations, OA users generally use Norwegian less. Although they do not necessarily report using a higher proportion of English, their use of several languages is generally much higher. It may then be the case that for OA users that use a higher proportion of Norwegian in those situations where they mix languages this happens at the expense of English. It is interesting that as Norwegian is typologically closer to English than most of the home languages listed by OA users, we might have expected a facilitatory effect by using that language as a source of transfer (Cenoz, 2001; Möhle, 1989; Singleton, 1989; Cenoz & Genesee, 1998). The so-called Foreign Language Mode phenomenon (Selinker & Baumgartner-Cohen, 1995) also postulates that L3 learners who are highly proficient in their L2 depend more on that language than on their L1, as the

learner considers both “foreign”, thus requiring a different mode and approach than the L1, regardless of typological distance (see e.g., Dewaele, 1998; Swarte et al., 2013). In this case, however, higher proficiency in Norwegian seems to be detrimental to English proficiency. This is particularly interesting in light of typological distance and how English teaching is often mediated through Norwegian in the classroom and raises the question of what OA users actually consider as their L1.

In summary, these analyses show that although performance results are very similar when comparing the two groups, there are still observable differences both in terms of attitudes and awareness of proficiency. The significance of open-mindedness as a personality trait and how it is linked to both more positive attitudes to language learning and better performance is clear, as is the significance of positive emotions towards language learning and an understanding of the meaning of linguistic skill both socially and societally. Most unexpected though is the difference in awareness of own proficiency. Mean proficiency ratings for written English were higher among OA users than NO users (see previous chapter), but error rates were on average somewhat higher for the same group, and there was no statistically significant connection between proficiency and performance in this group. As increased metalinguistic awareness is often considered the primary advantage of the multilingual language learner (see e.g., Jessner et al., 2016; Jessner, 2006; Megens, 2011; Graus, 2014), it is noteworthy that it has previously been observed in the Norwegian context that L3 learners did not use metacognitive learning strategies to the degree that was expected from learners with more language learning experience (Haukås, 2015). The general lack of statistically significant predictors in the OA data may be attributed to the heterogeneity of the group- the NO user group by contrast was quite homogeneous and showed much more reliable effects. It is nonetheless clear that there are some differences also on the metalinguistic level, where OA users appear to be less able to employ their knowledge of Norwegian to their benefit, or to reliably assess their own proficiency in English. The fact that these differences are not reflected in the general error rate suggests that it is necessary to consider more closely a breakdown of error type. This is the topic of the next chapter, in which descriptive statistics are used in order to compare both attitude constructs and performance results, but this time broken down into the morphosyntactic variables described in section 5.3. In addition, for this descriptive analysis participants in the OA users’

group were also broken down into background language subgroups in order to consider evidence of transfer from home language background.

## 9. Results- Language group comparison

### Introduction

The findings reported in the two previous chapters have established some clear differences between NO and OA speakers both in terms of their level of multilingualism and attitudes to languages and language learning as well as the degree to which background factors have been statistically significant as predictors of task performance. It has been observed that OA users are on the whole very enthusiastic language learners with clear ideas of the benefits of multilingualism, which they associate not just with academic achievement, but also see as a door opener into communication and societal opportunities. There is also evidence of differences on a more metalinguistic level, where OA users in spite of high self-ratings of English proficiency perform somewhat worse than NO users in both task types. There were also few statistically significant predictors for performance, the only two being *Open-mindedness* and *Norwegian proficiency*, the former having a positive and the latter a negative correlation with error spotting results. The small between-group differences in performance data make it interesting to see whether there are observable differences between home language subgroups. In this chapter, the analyses reported address the final research question,

Can language-specific patterns of transfer be detected in the English of young multilingual learners, and if so, which languages are transferred?

This chapter will therefore consider differences in questionnaire data and performance between NO users and the two largest subgroups in the OA user category, which were speakers of Arabic as a home language (Arabic users  $n=25$ ) and users of Slavic and Baltic home languages (SB users,  $n=23$ ). As described in section 6.3.3 the morphosyntactic test was designed to detect transfer patterns from these languages as well as from Somali. However, in the final dataset of OA user data, the number of users of Somali users ( $n=9$ ) was insufficient to be used for statistical analysis. Details of the composition of the Arabic and SB speaker groups are given below.

As discussed in section 4.2, multiple models have attempted to predict morphosyntactic transfer in multilingual learners. Of particular interest to the present study was Rothman's Typological Primacy Model (2010), which claims



that a wholesale transfer of representations from the typologically closest language forms the basis for representations in the novel language. If this is the case, then all participants in this study should display Norwegian transfer errors. If divergent patterns of transfer errors are observed, however, this means that transfer happens from other languages as well, in spite of them being typologically more distant. However, the question of what the specific mechanisms of transfer were in speakers of a non-Germanic L1s who are simultaneous learners of Norwegian and English, were novel to this study. Contrastive analysis and previous error analyses, as discussed in Chapter 5 have formed the basis for a set of predicted errors if home languages form the basis for representations in English, as shown in table 14 below:

	Agreement		Prepositions		Definiteness		Verb forms		Word order
	Unmarked	Marked	Lexical	Omit	Indefinite	Definite	Overuse	Omit	
<b>Norwegian</b>		+	+				+Asp		V2
<b>Somali</b>	+			-	-	-		-Asp	Free
<b>Arabic</b>			+		-	+ -		-Asp -Cop	2 possibilities
<b>Polish</b>		+	+	+	-	-			Free

This study takes a novel approach in that it compares data from defined groups of speakers of specific home languages, where all learners are early simultaneous learners of Norwegian and English, but where two groups are also speakers of other, typologically unrelated languages. Previous transfer studies have often looked at older learners, often sequential learners who for that reason might have more metalinguistic knowledge of their languages (e.g., Cenoz & Jessner, 2000; Cenoz & Hoffmann, 2003). In the current study, at least the home language among Arabic and SB users has been implicitly learnt with a minimal degree of formal training and limited literacy. This is interesting because as discussed in section 3.5, L1 literacy is considered important in subsequent language acquisition. Additionally, the test battery created for the present study has been based on linguistic contrast between English and the home languages of these particular groups as well as available analyses of learner language. Thereby, the study also

contributes data on morphosyntactic transfer from specific languages elicited through a purpose-built test battery rather than corpus analysis.

In order to give a full overview of the subgroups of Arabic and SB users the analyses below first report the between-group differences in degree of multilingualism, language use and attitudes and then secondly language-specific patterns that suggest transfer from one or more languages. Due to the small size of the Arabic and SB user groups, the findings should be interpreted with some caution. Statistical analyses of Arabic and SB group data were considered. However, as the data was not normally distributed and the sample size small (each group  $n > 30$ ) a robust Mann-Whitney U test is called for. In the current data, this was problematic due to a large number of tied ranks which gives unreliable p-values. These analyses were therefore not attempted, and a purely descriptive approach is taken in this chapter. The following sections report the difference in error patterns in the error spotting and language production tasks, observed between the three language groups: NO, Arabic and SB users. For comparative purposes questionnaire data from the Arabic and SB are presented prior to performance data, describing their similarity to the general OA data described in Chapter 8.

## **9.1. Participant group descriptions**

### **9.1.1. Arabic**

26 participants reported using Arabic as a home language, 11 males and 14 females with an average age of 12.6 years. Four (16%) had attended kindergarten in another country, 16 (64%) in Norway and 5 (20%) did not attend kindergarten. Ten (40%) reported that their parents had higher education, 5 (20%) that they did not, and 10 (40%) did not know. All participants spoke only Arabic with their parents and grandparents, and a mix of Arabic and Norwegian with siblings. Unfortunately, not all the Arabic-speaking participants completed the section on their acquisition and proficiency levels in that language, but all who had, reported that they had learnt Arabic at home. Out of those who listed Arabic as their home language, seven (28%) knew a fourth language, two (8%) a fifth and one (4%) a sixth. The most common other language was Swedish, in addition to some other instances of languages such as Turkish, Hebrew and Ethiopian.

### 9.1.2. Slavic and Baltic languages

23 participants reported using a Slavic or Baltic home language, 11 males and 12 females with an average age of 12.2 years. Six (26.1%) had attended kindergarten in another country, and the remainder in Norway. Nine (39.1%) reported that their parents had higher education, 3 (13.1%) that they did not, and 11 (47.8%) did not know. The most common languages spoken in this group were Polish (n=9), Russian (n=5) and Bosnian (n=4), in addition to Lithuanian and Latvian. One participant reported speaking mainly Norwegian with parents and siblings, 6 used some Norwegian, and the remainder used only another language in the family. Two participants had learnt their home language at school, the others at home. Of the Slavic and Baltic group, 6 (26.1%) participants reported knowing a fourth language, and 2 (8.7%) a fifth language. The fourth languages were mostly a case of Russian speakers knowing a neighbouring language such as Chechen or Lithuanian.

### 9.2. Language proficiency

Firstly, the two subgroups Arabic users and Slavic/Baltic users (SB users) were compared to NO users in terms of self-rated language proficiency in English and Norwegian, and also their respective home languages. The summary of the data is shown in Table 33.

33. Questionnaire data on Norwegian and English language. Self-rated proficiency and attitudes. NO, Arabic and SB users.

	Norwegian home language, n=383			Arabic home language, n=25			Baltic and Slavic home languages, n=23		
Question	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
<i>Norwegian</i>									
Age of acquisition	1.5	0.5-6.5	1.3	4.9	0.5-10.5	3	3.9	0.5-10.5	2.9

*Proficiency- scale "Very good" =5, "Unable" =1*

Understanding	4.9	4-5	0.3	4.6	3-5	0.6	4.6	3-5	0.6
Speaking	4.9	4-5	0.3	4.5	2-5	0.7	4.4	3-5	0.6
Reading	4.7	3-5	0.5	4.4	3-5	0.8	4.6	4-5	0.5
Writing	4.5	2-5	0.6	4.3	3-5	0.7	4.5	2-5	0.8
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
Like to use	4.7	1-5	0.6	4.7	3-5	0.6	4.6	2-5	0.8
Feel proud to know	4.6	1-5	0.8	4.8	4-5	0.4	4.7	2-5	0.7
<b>English</b>									
Age of acquisition	6.0	0.5-12.5	1.4	7.1	4.5-12.5	2	5.5	2.5-8.5	1.7
<i>Proficiency- scale “Very good” =5, “Unable” =1</i>									
Understanding	4.2	2-5	0.7	3.7	2-5	1.1	4.4	2-5	0.8
Speaking	4.4	1-5	0.7	3.7	2-5	1	4.3	2-5	0.7
Reading	4.0	1-5	0.8	3.8	2-5	1	4.2	2-5	0.8
Writing	3.8	1-5	0.8	3.6	1-5	1.3	4.1	2-5	0.8
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
Like to use	4.2	1-5	1.0	4.6	3-5	0.6	4.7	3-5	0.8
Feel proud to know	4.4	1-5	0.8	4.8	3-5	0.5	4.7	3-5	0.7

All three groups were highly proficient in Norwegian, with marginally lower scores for Arabic users. For English, it was over all the SB users who rated their proficiency highest, and the Arabic users stood out with ratings for medium-high proficiency. Note also that in both languages, the Arabic users and SB users express more positive attitudes to the language than NO users, both in enjoyment of use and in pride in knowing.

### 9.2.1. Home language proficiency

Secondly, data on self-rated proficiency and attitudes towards home language was compared for all three subgroups. The summary can be seen in Table 34.

34. Questionnaire data on home language. Self-rated proficiency and attitudes. NO, Arabic and SB users.

Question	Norwegian home language, <i>n</i> =383			Arabic home language, <i>n</i> =25			Baltic and Slavic home languages, <i>n</i> =23		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
<i>Home language</i>	<i>n</i> =383 ( <i>Home language</i> )			<i>n</i> =26 ( <i>Home language</i> )			<i>n</i> =23 ( <i>Home language</i> )		
Age of acquisition	1.5	0.5-6.5	1.3	2.9	0.5-10.5	3	1.6	0.5-4.5	1.7
<i>Proficiency- scale “Very good” =5, “Unable” =1</i>									
Understanding	4.9	4-5	0.3	4.3	2-5	0.9	4.7	3-5	0.6
Speaking	4.9	4-5	0.3	4.3	1-5	1.3	4.5	3-5	0.7
Reading	4.7	3-5	0.5	2.8	1-4	1.2	4.0	2-5	1.1
Writing	4.5	2-5	0.6	NA	NA	NA	3.7	1-5	1.3
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
Like to use	4.7	1-5	0.6	4.9	4-5	0.3	4.8	4-5	0.4
Feel proud to know	4.6	1-5	0.8	4.9	4-5	0.3	4.8	4-5	0.4
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
I'd like to learn the same languages as my parents	4.3	1-5	1.0	5	4-5	0.2	4.4	1-5	1

When comparing home language proficiency ratings, the NO users stand out as having the highest ratings, although all three groups report high proficiency in speaking and understanding. Unfortunately, there were insufficient ratings for the Arabic users' proficiency in writing Arabic, (although 40% of this group reported using only Arabic when texting family) but reading proficiency for this group stands out as low, which may be expected as Arabic was the only diglossic language in the data set. By comparison, the SB users also rate their writing proficiency in their home language as lower than the other language domains, but

still far higher for writing than Arabic users. It is noteworthy that although A and SB users are less proficient in their home languages than NO users, they still express extremely positive attitudes to knowing and using the languages, particularly among Arabic users. This is also reflected in the wish to learn the same languages as the parents, where again the Arabic users stand out. Ranges in their attitudes are also the most uniformly high of all three groups, suggesting a very positive attitude to the heritage language.

### 9.3. Language use

Habits for language use in various contexts were also compared for the three different subgroups and can be seen in Tables 18 (NO users), 35 (Arabic users), and 36 (SB users).

35. Language use in given situations. Arabic users.

<b>Which language do you use...</b>	<b>Only NO</b>	<b>Only EN</b>	<b>Only other language</b>	<b>Mix</b>
<b><i>Communicative language</i></b>				
Texting family	9 (36%)		10 (40%)	6 (24%)
Texting friends	19 (76%)		2 (8%)	3 (12%)
With friends from school	21 (84%)			4 (16%)
With friends outside school	14 (56%)		3 (12%)	8 (32%)
With neighbours	20 (80%)		1 (4%)	4 (16%)
On holiday	1 (4%)	4 (16%)	7 (28%)	13 (52%)
<b><i>Internal language</i></b>				
When angry	4 (16%)		8 (32%)	13 (52%)
When dreaming	8 (32%)		5 (20%)	12 (48%)
When counting	15 (60%)		1 (4%)	9 (36%)

Talking to yourself	6 (24%)	1 (4%)	7 (28%)	11 (44%)
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***Media intake***

Reading	14 (56%)			11 (44%)
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Watching TV	3 (12%)	2 (8%)	7 (28%)	13 (52%)
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Listening to music		12 (48%)	6 (24%)	7 (28%)
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36. Language use in given situations. SB users.

<b>Which language do you use...</b>	<b>Only NO</b>	<b>Only EN</b>	<b>Only other language</b>	<b>Mix</b>
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***Communicative language***

Texting family	7 (30.4%)	1 (4.4%)	9 (39.1%)	6 (26.1%)
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Texting friends	11 (47.8%)	1 (4.4%)		11 (47.8%)
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With friends from school	19 (82.6%)			4 (17.4%)
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With friends outside school	13 (56.5%)	1 (4.4%)	3 (13%)	6 (26.1%)
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With neighbours	21 (91.3%)		1 (4.4%)	1 (4.4%)
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On holiday	2 (8.7%)	2 (8.7%)	8 (34.8%)	11 (47.8%)
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***Internal language***

When angry	6 (26.1%)	3 (13%)	4 (17.4%)	10 (43.5%)
------------	-----------	---------	-----------	------------

When dreaming	7 (30.4%)	2 (8.7%)	6 (26.1%)	8 (34.8%)
---------------	-----------	----------	-----------	-----------

When counting	7 (30.4%)	1 (4.4%)	3 (13%)	12 (52.2%)
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Talking to yourself	5 (21.7%)	3 (13%)	5 (21.7%)	10 (43.5%)
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***Media intake***

Reading	11 (47.8%)	2 (8.7%)		10 (43.5%)
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Watching TV	5 (21.7%)	2 (8.7%)	6 (26.1%)	10 (43.5%)
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Listening to music	1 (4.4%)	14 (60.9%)	2 (8.7%)	6 (26.1%)
--------------------	----------	------------	----------	-----------

When comparing the two groups, there is only a noticeable difference in the use of English, which is rarer in the Arabic user group. As with the general impression of the OA user group, language use is considerably less centred around Norwegian than in the NO group, but in these two instances the tendency is also for these two groups to use only a language other than Norwegian or English considerably more often than the overall average for the OA group (see Table 20). The Arabic users are generally those who most frequently in certain situations use a third language only, but the overall proportion for both groups is in many instances close to double the average for the OA group. When considering language dominance, both groups generally reported using less Norwegian for internal language, generally about a quarter to a third of participants did this, but again the proportion of using a third language only was higher than the general OA group. This expresses the perceived high status of the home language, and willingness to use it, also in written communication with family, despite relatively low rated proficiency in writing.

#### 9.4. Attitudes to language and language learning

Data regarding attitudes were compiled in the same constructs as in Chapter 7 and are presented in turn below.

##### 9.4.1. Language and society

The data for attitudes concerning language and society are summarised in table 37.

37. Attitudes to language and society. NO, Arabic and SB users.

Question	Norwegian Home language, <i>n</i> =383			Arabic home language, <i>n</i> =25			Baltic and Slavic home languages, <i>n</i> =23		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
It’s rude to speak a language that not everyone in the room understands	3.0	1-5	1.2	3.9	1-5	1.4	3.4	1-5	1.2



You need to speak the language in your country of residence well	2.8	1-5	1.4	3.6	1-5	1.7	3.4	1-5	1.3
To do well at school you have to be good at languages	3.2	1-5	1.3	4	1-5	1.2	3.6	1-5	1.1
To get a good job you have to be good at languages	3.5	1-5	1.1	4.3	2-5	0.9	4.2	2-5	1

For this construct we again see the difference in attitudes that was shown in the comparison of NO and OA users, but where SB users align themselves well with the overall attitudes of the OA group (Table 21), the Arabic users express somewhat stronger opinions. In contrast with NO and general OA users, no A and SB users disagree with the statement that in order to get a good job, you have to be good at languages.

#### 9.4.2. Multilingualism and language learning

The data for attitudes concerning multilingualism and language learning are summarised in table 38 below.

38. Attitudes to multilingualism and language learning. NO, Arabic and SB users.

Question	Norwegian home language, n=383			Arabic home language, n=25			Baltic and Slavic home languages, n=23		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
<i>Attitudes- scale “Completely agree” =5, “Completely disagree” =1</i>									
I enjoy learning languages	3.8	1-5	1.1	4.8	3-5	0.5	4.3	3-5	0.8
The more languages you know, the easier they are to learn	3.6	1-5	1.0	3.8	1-5	1.1	4	3-5	0.8

If you can't speak a language well it's better not to	2.6	1-5	1.3	3.4	1-5	1.6	2.7	1-5	1.1
It's important to know other languages besides English	3.5	1-5	1.1	4.4	1-5	1	4.0	1-5	1.1
To do well in the future you have to speak several languages	3.3	1-5	1.1	4.1	1-5	1.2	3.7	2-5	1.1
Most people travel so much that knowing several languages is useful	4.3	1-5	0.9	4.6	3-5	0.7	4.3	3-5	0.8

For this construct, the SB users expressed somewhat more enthusiasm for language learning than the A group, however somewhat lower views of the importance of languages other than English. Again, it is worth noting that no participants in the A and SB groups expressed that they disliked learning or did not see the use in learning languages, but all SB users agreed that multilingualism made further language learning easier. It is in other words clear that both these groups were enthusiastic language learners who saw clear advantages to learning.

## 9.5. Attitudes to learning and communication

### 9.5.1. Enjoyment of learning

The data for attitudes concerning enjoyment of learning are summarised in table 39 below.

39. Attitudes to enjoyment of learning. NO, Arabic and SB users.

Question	Norwegian home language, n=383			Arabic home language, n=25			Baltic and Slavic home languages, n=23		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD

*Attitudes- scale "Completely agree" =5, "Completely disagree" =1*

I like learning new things	4.4	1-5	0.7	4.6	2-5	0.8	4.6	3-5	0.6
It's hard to concentrate when learning new things	3.4	1-5	1.2	3.8	1-5	1.3	3.0	1-4	1.1
I like reading on my spare time	2.4	1-5	1.4	2.7	1-5	1.5	3.1	1-5	1.1
I want to study at university	3.7	1-5	1.1	4.3	1-5	1	4.2	3-5	0.9

General attitudes to learning and communications were quite aligned with the average attitudes expressed in the OA group (Table 23), but between all groups surveyed the SB users expressed the highest interest in reading for pleasure.

### 9.5.2. Open-mindedness

The data for attitudes concerning open-mindedness are summarised in table 40 below.

40. Attitudes to open-mindedness. NO, Arabic and SB users.

Question	Norwegian home language, <i>n</i> =383			Arabic home language, <i>n</i> =25			Baltic and Slavic home languages, <i>n</i> =23		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
<i>Attitudes- scale "Completely agree" =5, "Completely disagree" =1</i>									
I have many different interests	4.4	1-5	0.9	4.2	2-5	1	4.4	3-5	0.6
I like getting to know new people	4.2	1-5	1.0	4.4	2-5	1	4.1	1-5	1.1
I like to talk to people with different opinions than mine	3.8	1-5	1.0	4.2	2-5	1	3.5	1-5	1.0
I find it easy to engage with stories	3.8	1-5	1.2	3.9	1-5	1.2	3.7	2-5	0.9

For the Open-mindedness construct, attitudes again were in line with those of the full OA group, but out of all of the groups the SB users express least interest in discussions with people with other opinions, whereas Arabic users have the highest ratings for this item.

For most categories, both Arabic and SB users are generally representative of the OA user group, as described in section 7.3, but with some noteworthy differences. Across languages, Arabic users generally rated their proficiency as lower than the OA users in general but expressed a high degree of pride in knowing and pleasure in using all their languages. Both Arabic and SB users generally expressed enthusiasm in learning and using languages and attitudes to the benefits of multilingualism that were in the highest spectrum of the general tendency of the OA user group, and considerably higher than those of NO users. It is interesting that low ratings of own proficiency seemingly have not impacted the participants' positive attitudes to using and developing their linguistic skills, and it seems clear that both groups take a particularly positive view of their home languages, in spite of limited proficiency in reading and writing.

## **9.6. Performance results**

At the core of the data collection is the question whether morphosyntactic transfer patterns can be detected in the participants' results. To revisit the premises for comparison, pupils with non-Norwegian language backgrounds have scored lower on exams and national tests (see Chapter 2) but have in this data collection expressed very positive attitudes to language learning and language use, and on the whole rated their English proficiency as somewhat higher than NO users. The overall results from the NO and OA comparison have shown a slight tendency for a higher error rate among OA users, which raises the question of the nature of the errors.

The test battery designed for the data collection was based on assumptions from error analyses and contrastive studies (see chapter 5), working from the assumption that linguistic contrast may explain learner errors. Based on review of that literature, the following error overview in table 14 was constructed:

	Agreement		Prepositions		Definiteness		Verb forms		Word order
	Unmarked	Marked	Lexical	Omit	Indefinite	Definite	Overuse	Omit	
<b>Norwegian</b>		+	+				+Asp		V2
<b>Somali</b>	+			-	-	-		-Asp	Free
<b>Arabic</b>			+		-	+ -		-Asp -Cop	2 possibilities
<b>Polish</b>		+	+	+	-	-			Free

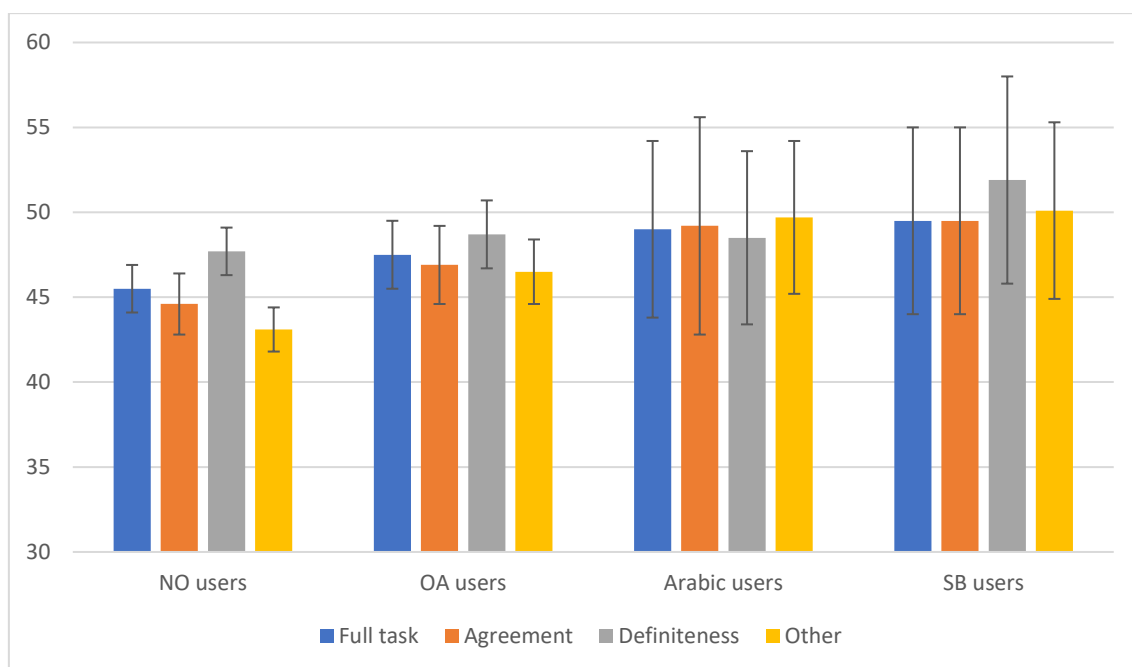
However, transfer studies have also shown evidence that a number of factors influence the phenomenon of transfer, meaning that learners may transfer from different languages in different contexts and for different tasks (see chapter 4). The following section examines a breakdown of error types within three subcategories, NO users, Arabic users and SB users.

Self-rated proficiency for written proficiency in the three groups place Arabic users at the lowest end with an average of 3.6 on a 1-5 scale, followed by NO users with a self-rating of 3.8 and finally SB users with a rating of 4.1.

### 9.6.1. Error spotting

Results of the error spotting task were calculated as average percentage of failure to spot the error and presented in figure 12 below. Error rates were generally high, and whereas SB users had self-rated their English proficiency as higher than the Arabic users, performance results in this task showed an opposite tendency. As error spotting tasks focussed on agreement and definiteness errors, as well as a set of unrelated control errors, predictions based on contrastive literature would suggest that NO and SB might have more inaccuracies in spotting agreement errors and A and SB users more difficulties in spotting definiteness errors.

The results of the error spotting task are presented in figure M below:



M. Error spotting results by participant group and error type.

Mean percentage of errors are reported with standard error bars.

The results, however, show the lowest error rate for agreement errors among NO users (44.6%), and virtually equal among Arabic users (49.2%) and SB users (49.5%). In spotting definiteness errors, however, SB users did have the highest error rate (51.9%), although not considerably higher than those of the other participant groups. It is also notable that even in control conditions, where errors were unrelated to the critical conditions, and focussed more on errors of usage and spelling than on actual morphosyntactic errors, error rates are still on the same levels as in the critical conditions in all groups (ranging from 43.1-50.1%). It is also interesting to look at ranges across groups. In the NO users' group, Definiteness was the only category where no participants achieved a perfect score, with a range of 10-100% errors. Among Arabic users, Definiteness had a range of 10-90% errors, whereas control sentences saw a minimum of 12.5% errors. The SB users were interesting in that no participants had a 100% error rate in the Agreement and Definiteness condition (92 and 95%, respectively), but also the lower scores for these conditions were among the higher (14 and 10%, respectively). This gives an impression of not only the all over proficiency, with all participant groups having a high error rate, in most conditions close to 50%, but also of the variation within each group. The fact that for some conditions some groups had no participants with a 0% error rate obviously suggest that participants

struggled particularly with the condition in question- or just that general proficiency in the group was somewhat lower.

### 9.6.2. Sentence completion

The sentence completion task checked participants' control of five aspects of English morphosyntax, agreement, aspect, preposition use, word order and definiteness marking. If comparing general error rate calculated as mean error per all attempted, again results do not vary significantly between NO users (0.5 errors per sentence, SD=0.2, range 0.1-1.2), Arabic users (0.6 errors per sentence, SD=0.2, range 0.2-1) and SB users (0.6 errors per sentence, SD=0.2, range 0.2-0.8). However, again, it is worth looking at the ranges of each group, which show that high end of the ranges is in fact highest in the NO user group, whereas no participants in the SB group had a higher error rate than 0.8 errors per sentence.

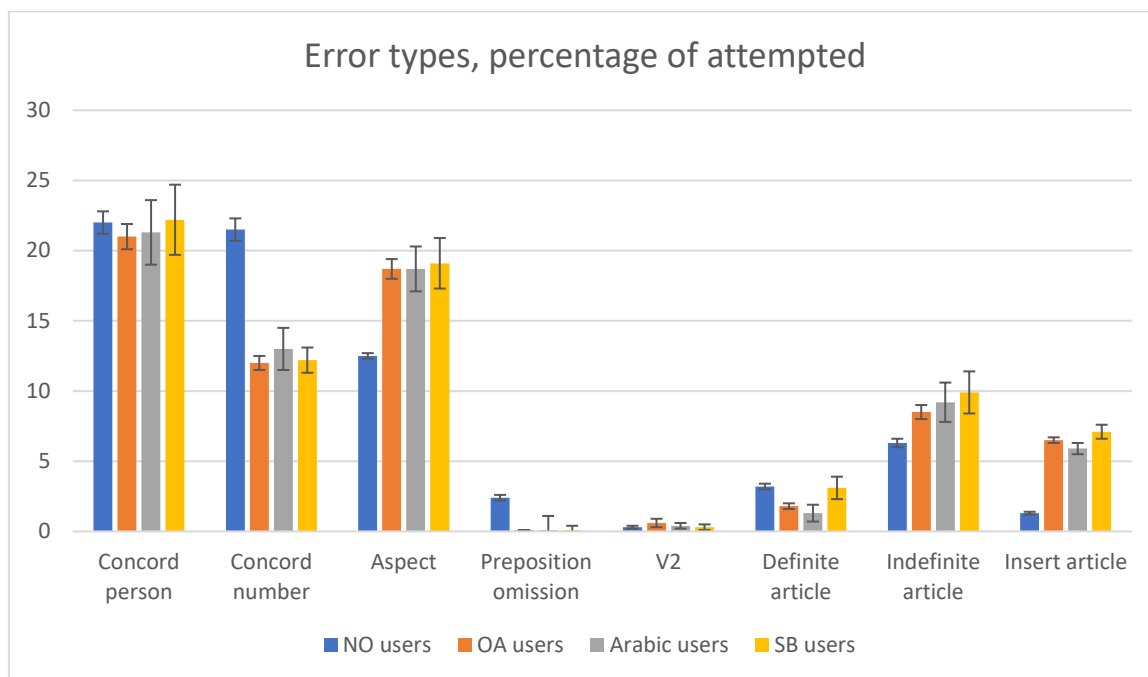
When breaking the results down into the individual variables tested it is again useful to revisit the predictions of the model in table 14 below:

	Agreement		Prepositions		Definiteness		Verb forms		Word order
	Unmarked	Marked	Lexical	Omit	Indefinite	Definite	Overuse	Omit	
<b>Norwegian</b>		+	+				+Asp		V2
<b>Somali</b>	+			-	-	-		-Asp	Free
<b>Arabic</b>			+		-	+ -		-Asp -Cop	2 possibilities
<b>Polish</b>		+	+	+	-	-			Free

According to the model, Agreement should see an overproduction of 3<sup>rd</sup> person singular forms (in the test referred to as Agreement person) in NO and SB users. Definiteness is not noted for being a particular problem among NO users, but general problems among SB used and Arabic users are expected, particularly with instances of erroneous article insertions for Arabic users. Aspect errors are

expected among NO and Arabic users, but not noted among SB users. Finally, V2 errors are expected primarily among NO users.

The results of the sentence completion task are presented in figure N below:



N. Sentence completion results by participant group and error type.

Mean percentage of errors are reported with standard error bars.

In accordance with the model’s predictions the highest percentages of 3<sup>rd</sup> person agreement errors (Agreement person) were observed in the NO and SB groups, however, not with a noticeably higher rate than among A speakers. The biggest difference in any category, however, is observed in the Agreement suppletive category, where NO users are almost twice as error prone as either of the other groups. Secondly, aspect errors were also considerably less frequent among NO users than the other groups, where it was actually SB users who proved most error prone. It is also noteworthy that there were hardly any instances of V2 errors in either group, despite this being considered a particularly frequent error among NO learners. As the definiteness category has been split into three subcategories, it is somewhat surprising to see that for definite article error, NO users were more error prone than the other groups, and that among Arabic users there were hardly any instances of errors of this type. However, the SB group, predicted to be potentially more error prone in definiteness marking, produced most errors of all groups in



instances of indefinite articles or incorrect insertion. Instances of use of indefinite articles seem to have caused most errors across all groups, whereas hardly any NO users made any incorrect insertions of articles. It should nonetheless be noted that in spite of the perceived difficulties in definiteness marking for SB users, error rates were considerably lower in this category than for agreement and aspect.

## 9.7. Discussion

This chapter reports descriptive statistics comparing the three major home language groups in the data set, Norwegian, Arabic and Slavic and Baltic languages. The aim was to investigate whether language-specific patterns can be detected in performance results that suggest transfer from one or more languages. The main findings can be summarised as follows:

NO users have, unsurprisingly, reported the highest Norwegian proficiency of all three groups, but only marginally higher than SB users. Their English proficiency is rated lower than among SB users, with written proficiency similar to that of Arabic users. They stand out as having the lowest ratings for pride in and enjoyment of use for all languages, including for their own home language Norwegian, for which the other groups express more enthusiasm. Their language use is marked by a high degree of Norwegian dominance, and only in their media intake there is a high proportion of English use, whereas other languages are relatively absent. Their opinion of the value of multilingualism is by far the lowest of all three groups, with travel standing out as the main perceived use. They also express the lowest interest in reading for pleasure and higher education. Scores for open-mindedness are relatively high, aligning with those of SB users.

Arabic users' proficiency ratings for Norwegian are aligned with the average in the OA user group, but they have the lowest ratings for English of all three groups. In fact, their home language proficiency ratings for understanding and speaking are higher than those for English, but with a low degree of literacy, although only scores for reading were reported. Their attitudes to all languages are highly positive, indeed highest of all for home language. Of all three groups, this group has the highest degree of home language use, and there is little reported use of English, which suggests that dominance in this group is not as clear cut as with the

other groups. This group also stands out with the highest ratings for value of multilingualism and also for open-mindedness.

SB users' proficiency in Norwegian also aligns with the all over ratings of the OA user group, but they report the highest English proficiency of all three groups. They interestingly report higher proficiency in the home language than in Norwegian and English, with all participants being able to read in the home language. Their attitudes to their languages are very positive, as is their view of the value of multilingualism. They have the highest rating of multilingualism as a facilitator for further language learning, a statement no participant disagreed with. They also express the highest interest in reading for pleasure out of all three groups, but somewhat lower ratings for open-mindedness.

The impression from the group comparison of proficiency self-ratings and attitudes is that the patterns described in the previous two chapters are reinforced, and some nuance provided in terms of language proficiency ratings, specifically. In ratings for English proficiency, Arabic and SB users place themselves at the low and high end of the OA user group spectrum, respectively. It is also interesting to note the very positive attitudes expressed towards knowledge and use of languages, where again the averages of the Arabic and SB groups are higher than the average of OA users. Again, the participants with the most experience with multilingualism in daily life have the most positive attitudes, and the tendency for both Arabic and SB users to use their home languages to a greater extent than the average OA user further defines a difference between these participants and NO participants. Cenoz (2013) discusses the difference between "active bilinguals" and "foreign language users", and in this case we see much higher degrees of both language switching and language mixing in the Arabic and SB user groups than among NO users. It is also worth noticing that out of all three groups, NO users express the least interest in both reading for pleasure and higher education. This is interesting in that these two items have traditionally been seen as markers of socioeconomic status (Clark & Rumbold, 2006; Clark & Douglas, 2011), where children of parents with higher education are most likely to also complete higher education themselves (OECD, 2019: 4). In this dataset, it is however clear that most participants did not know whether their parents had higher education. And as for reading for pleasure, neither group expressed high interest on average.

As for signs of transfer in performance results, this will also be addressed by participant group and task type. In sentence completion, NO users made the most errors by far in both agreement conditions (21.5 and 22%, respectively), although their error rate for agreement in error spotting was the lowest of both test conditions (44.6%). For this group a high error rate was expected both through the predictions of the model (see table 14), but also through observations in previous studies. Although not looking into the same categorisation of agreement error type as Garshol (2019), we still see that the observation of a high number of errors of both types among L1 Norwegian speakers holds for this data set as well, although Garshol noted that in her corpus suppletive agreement errors were less frequent than affixal errors. It is also interesting that the error rate for agreement in error spotting is very close to that of Jensen, Slabakova & Westergaard (2017) who also concluded that even in judgement tasks, NO users struggled with agreement errors. It is perhaps more surprising to note the much lower error rate for aspect errors (12.5%) although this error type has been described as frequent in several studies of Norwegian transfer errors (Olsen, 1999; Johansson, 2008; Hasselgård et al., 2004; Johansson & Stavestrand, 1987). In fact, for the aspect condition, users of the two other home languages produced more errors than the NO users (18.7 and 19.1%, respectively). Although the only V2 language in this comparison, NO users produced hardly any errors of this type. It is also interesting that in spite of hardly any mentions of errors relating to definiteness marking in NO users in literature (the only exception being Johansson (2008) mentioning the recurring error (\* "the nature"), NO users produced most errors of all participant groups in the definite article condition, and also 6.3% errors in the indefinite article condition. Additionally, an error rate of 47.7% for definiteness in error spotting was only just below that of the OA users as a full group, and very similar to that of Arabic users.

Turning to the Arabic users, on the whole, error rates were above the OA average for agreement in both error spotting and sentence completion. As agreement errors as a transfer phenomenon is not to any extent addressed specifically in previous literature on L1 Arabic learners, it is difficult to detect a specific transfer pattern, but error rate for agreement number is still much lower than what is the case for agreement person (13% and 21.3%, respectively). As Arabic does have a complex system of S-V agreement the concept is familiar to the participants, although explicit subjects are not used in Arabic, as the verb is marked through a system of affixes. Still this type of marking caused the most errors within this group. The

error rate for aspect, however, which was considerably higher than for NO users and just above the average for OA users is interesting in that not only are Arabic verbs marked for aspect, but there is no copula verb 'be'. Sabbah (2015) mentions the difficulty of mastering English aspect marking for L1 Arabic speakers, and Diab (1996) observed frequent omissions of copula verbs in verb phrases marked for aspect. Arabic transfer errors in definiteness marking are also discussed in some detail in previous literature. In this data set, all three participants groups were on very similar levels for definiteness in error spotting. Arabic users made fewest errors of all groups in indefinite article conditions (1.3%), but notably more in definite conditions (9.2%) and erroneous insertion (5.9%). It should be noted that this sample is small, but nonetheless it is interesting to consider the claims of Thompson-Panos and Thomas-Ruzic (1983) and Scott and Tucker (1974) that as Arabic is diglossic, transfer is dependent on the learners' literacy. Whereas written Arabic marks both definite and indefinite nouns, spoken marks only definite, and Thompson-Panos and Thomas-Ruzic (1983) attributed at least half the definiteness marking errors in their study, most of which were indefinite article omissions, to L1 transfer. Similarly, both Diab (1996), AbiSamra (2003) and Crompton (2011) note frequent erroneous insertions of definite articles in their survey of learner texts, in the last case this error type made up 77.9% of the total number of errors. Although a small sample, there seems some likelihood that there is a transfer effect in both definiteness and aspect errors, and further analysis of more errors in a larger sample of Arabic users, where also the more specific nature of errors is addressed, might provide more conclusive answers.

SB users had the highest error rates of all groups in agreement error spotting and in agreement person in sentence completion, but also the lowest error rate for suppletive agreement. As mentioned in section 5.6.5, previous studies on L1 Polish transfer errors have been somewhat conflicting, but Piotrowska (1995) noted that 3<sup>rd</sup> person singular ending errors made up roughly 60% of errors in her study, providing a liable explanation for the difference in error rate in the two conditions. The complexity of Polish aspect marking is also mentioned as a source of transfer errors by Arabski (1968), but they are still described as rare by Lewandowska (2013). In this data set, however, there is not made any distinction between aspect errors due to overuse, claimed to be a "Norwegian error" (Olsen, 1999; Johansson, 2008; Hasselgård et al., 2004; Johansson & Stavestrånd, 1987) or an incomplete verb phrase due to omission of the auxiliary, claimed to be a "Polish" error

(Arabski, 1968), meaning that a deeper exploration of nature of the error would be necessary in order to conclude. The issue of definiteness marking as a transfer error from Slavic and Baltic languages is widely described (Piotrowska, 1995; Lewandowska, 2013; Lockiewicz & Jaskulska, 2017; Lockiewicz & Jaskulska, 2019; Ekiert, 2004). In this data set, SB users had the highest error rates for both definiteness in error spotting as well as errors of indefinite articles and erroneous article insertion in sentence completion. Errors relating to indefinite articles were more frequent (9.9%) than those relating to definite articles (3.1%). Previous literature points mainly to general omission of articles, however, as this data set shows this group also made most frequent insertion errors. The difference in frequency of omission of indefinite articles as compared to definite is not explained by anything addressed in previous literature, and would need to be investigated further, also here with a bigger sample of participants.

Several of the results observed are in keeping with what was expected based on available literature and the predictions of the model created for this study. However, as noted the sample sizes are small, and the collected material does not in all cases distinguish the nature of the error, and so a larger data set might provide more conclusive confirmation of the patterns observed. As a general observation, error rates were also high for all three participant groups. In the error spotting task, the error rate for the unrelated error conditions was not considerably lower than for the two test conditions, which opens up to two possibilities. First, as the error spotting task was easily completed by clicking, it was easily affected by participants guessing, or also by boredom effects, where participants clicked at random rather than making an actual attempt or guess. A second possible explanation is that the high failure rate of spotting even the unrelated errors is indicative of general proficiency levels. In sentence completion error rates were also consistently high in all three groups (0.5-0.6 errors per sentence), although all participant groups have rated their English proficiency as high. Although the analyses in the previous chapter suggested that NO users generally had a correct awareness of their own proficiency, it still seems that many participants were at a proficiency level where the tasks were challenging.

As for the question of transfer from other languages, as mentioned the Typological Primacy Model (Rothman, 2010) suggests that participants should transfer wholesale from Norwegian, as the typologically closest language. Additionally, all

three groups rated their Norwegian proficiency as comparable, also in written language. The error spotting results did not yield any clear and language-specific differences, but it is interesting to note that in sentence completion, there were notable differences, and some of them conflicting with expected results. Firstly, it was expected that NO users' primary errors were in agreement, aspect and V2. For suppletive agreement, NO users had significantly more errors than the other groups, but for aspect they had fewer, and for V2 hardly any. Errors for definiteness marking were not expected from NO users, but they had the highest percentage of all groups for this condition. By contrast, a significant number of definiteness errors were expected particularly from SB users, but their scores were not notably higher than those of Arabic users. This means, first of all, that some error patterns in this group of participants differed from those described in previous literature and might then give reason to question some established ideas on what learners of certain backgrounds find difficult. Secondly, there are still observable differences between NO, Arabic and SB users that make it unlikely that wholesale morphosyntactic transfer has happened from Norwegian. A notable example is errors in suppletive agreement. This error type is mentioned specifically by Garshol (2019) as a case of transfer from Norwegian due to the orthographic and phonological similarity of the Norwegian verb forms *er* and *har* and the English plural form *are*. In this category NO users made considerably more errors than the two other groups. By contrast, there were overall more definiteness errors among Arabic and SB users than NO users, particularly insertion errors that were hardly seen among NO users. This suggests that although Norwegian is the typologically closest language, it is simply not the case that all participants have transferred from this language, as claimed by e.g., Cenoz, 2001; Möhle, 1989; Singleton, 1989, Cenoz & Genesee, 1998, as it would have been likely to be facilitative definiteness marking and non-facilitative in suppletive agreement. The observed differences are sufficient to say that in this case, there is no evidence of an either-or-transfer wholesale from Norwegian or the additional home language. The results suggest that transfer has happened property by property, as claimed by Flynn et al. (2004) and Westergaard et al. (2017). Further studies would be needed in order to hypothesise more specifically on the nature of morphosyntactic transfer in this group, but it is nonetheless clear that the claims of Wach (2016) and Iversen (2016; 2017) that learners' L1 or home language plays an important role in L2 acquisition are confirmed by the findings. This is further strengthened by the differences in error patterns between the two task types. In error spotting, no significant between-

group differences were observed for neither agreement nor definiteness marking. In sentence completion, however, which is a productive task requiring a higher degree of analysis with more limited opportunities for guessing, clear differences were seen in the same two error categories. This makes it likely that all participant groups have to some degree used morphosyntactic properties from their various home languages (as claimed by Flynn et al., 2004; Westergaard et al., 2017; Hermas, 2010, 2015; Jin, 2009; Lozano, 2003) or at least utilised translation into the L1 for reassurance (as claimed by Wach, 2016; Iversen, 2016, 2017).

In summary, the analysis shows that in spite of high self-ratings for English proficiency, overall error rates were still high in all groups. The general error rate was lowest among NO users and highest among SB users, although the latter group had the highest self-rated proficiency of all three groups. For error spotting, error rates were close to 50% and for sentence completion average error rate was 0.5-0.6 errors per sentence. These generally high error rates suggest an emphasis on communicative ability rather than grammatical precision in teaching, and that the participants' self-ratings of proficiency have the same focus. The error patterns were to some degree indicative of predictions from previous literature. Error types considered to be particularly frequent among some groups were in some instances observed more frequently within that group, but other error types were rarer than expected. Error patterns in sentence completion suggest that learners' home language plays an important part in their acquisition of English. Both in terms of attitudes and performance results, there are clear and observable differences between NO and OA learners. Both Arabic and SB users are enthusiastic language learners who view multilingualism as beneficial both in a context of society and academic achievement, but they have not fully learnt to use the potential in their general knowledge of several languages and their specific knowledge of a typologically close relative in the acquisition of English.

## **10. General discussion**

### **10.1. Aim of study and method**

The aim of this thesis was to investigate differences between two multilingual groups of Norwegian year 6 and 7 learners of English; speakers of Norwegian only as their home language (NO users) and speakers of other additional home languages (OA users). The study has investigated degree of multilingualism, self-rated language proficiency, and attitudes to languages and language learning. In addition, the study tested performance in key aspects of English morphosyntax and considered signs of L1 transfer. An extensive background questionnaire was designed for the study, expanding on other existing multilingualism questionnaires (Marian et al., 2007; Haukås et al., 2021; Cohn et al., 2013). In addition, a test battery comprising error spotting and sentence completion tasks was designed to detect patterns of transfer errors from the most common L1s in Norwegian classrooms: Norwegian, Arabic, Somali and Baltic and Slavic languages. The tasks tested command of subject-verb agreement, aspect, preposition use, word order and definiteness marking. This chapter will describe the contributions of the present study, address each of the research questions with a summary of the key findings and discuss the wider implications of the project in a context of both language teaching and further research.

### **10.2. Contributions of the present study**

The present study has contributed new insights through several novel approaches to research on language learning, transfer and multilingualism, in an age group that has to a very limited degree been studied in a Norwegian context. In order to provide a broader understanding of effects of multilingualism in Norwegian classrooms than what has been done before (e.g., Alver, 2010; Gujord & Ragnhildstveit, 2018; Haukås et al., 2022; Tiurikova et al., 2021), the present study has been designed as a large-scale individual differences study considering NO and OA users, as well as two specified subgroups of OA users, speakers of Arabic and Baltic and Slavic home languages. The study has addressed performance in light of observed differences in achieved English results in schools dependent on language background, with particular interest in the reported discrepancy between



expressed attitudes to multilingualism and classroom practices in previous literature (Haukås, 2015; Calafato, 2020; Burner & Carlsen, 2022).

The present study has contributed to the field in both methodology and findings, which will be discussed in turn. The project was designed around five research questions which will be addressed in turn, describing the main findings and their implications for the field.

#### **10.2.1.1. Methodological contributions**

The present study has made a methodical contribution to the field through the development of a new test battery. The questionnaire was designed specifically for a young age group, expanding on three existing questionnaires, the Ungspråk questionnaire, the LEAP-Q and the Multilingual Language Use Questionnaire (Haukås et al., 2021, Marian et al., 2007, Cohn et al., 2013). The questionnaire comprised sections including self-ratings of proficiency for each of participants' languages, attitudes to the individual languages, attitudes to multilingualism, language learning and learning and communication. In addition, participants reported their language use in specified situations. The morphosyntactic test was developed as a purpose-designed tool to check mastery of key aspects of English morphosyntax using both perceptive and productive tasks. Furthermore, the test was designed to detect transfer from the four most common language backgrounds. The same test could also be used for detecting transfer from other, typologically similar languages, or could be expanded by including elements from other languages of interest. Through the use of inferential statistics, the validity and reliability of the data collection tools have been verified, thereby showing them fit for their intended purposes. Furthermore, the study has used statistical analyses that previously have not been used in similar studies in this age group in Norway, including Principal Components Analysis and multiple regression analyses in order to address novel questions. These questions and their corresponding findings will be described further below.

## **10.2.2. Multilingual profiles and proficiency**

The first research question considered the nature of multilingual profiles in Norwegian year 6 and 7 classrooms (ages 11-13) in terms of language experience and self-rated proficiency. The main findings confirmed that OA users were considerably more multilingual than NO users; A much higher percentage of the former group reported knowing an L3 and L4. Self-ratings of linguistic proficiency were generally similar. Participants in both groups rated themselves as highly proficient in English, but for reading and writing, the OA users rated their proficiency as higher than NO users, a difference which was statistically significant. Both participant groups had higher proficiency ratings for their respective home languages, Norwegian among NO users and the L3 among OA users. Unlike NO users, though, literacy skills in the home language varied among OA users. All differences in proficiency ratings were statistically significant.

Differences in language use were generally related to the use of Norwegian. Both participant groups reported a moderate to high degree of language mixing, but Norwegian remains the primary language among NO users in most contexts. Among OA users, however, their home language is also used some of the time, mostly at the expense of Norwegian. In spite of the OA group comprising participants who had been born in Norway as well as immigrants, there is no clear preference for Norwegian over English, and both the overall OA group as well as Arabic and Slavic and Baltic (SB) users express that they prefer using their home language.

### **10.2.2.1. Implications**

Firstly, as discussed by Haukås (2022), the traditional view in Norwegian multilingualism research is for “multilingual” to generally mean “immigrant”, and this understanding is also the basis for several studies on teachers’ attitudes to multilingualism (e.g., Krulatz & Dahl, 2016). Of the total NO participants in this study 36% reported knowing a third language, 17.2% a fourth and 11.5% a fifth, and 30.3% reported using a mix of several languages when texting friends. It is clearly a misrepresentation to only consider those with migration backgrounds multilingual. This means that in research, even in studies with young learners, it

must be remembered that native speakers of Norwegian cannot be considered a monolingual yard stick. Furthermore, classroom practices also need to reflect that all pupils at this stage are to some degree multilingual. This means that the widespread idea of a monolingually English classroom, as discussed by Brevik et al. (2020) and Brevik and Rindal (2020) or the bilingual Norwegian-English classroom (Krulatz & Dahl, 2016; Iversen, 2017) does disservice to both pupils' abilities and their self-identification as multilinguals.

Previous research on beliefs and attitudes to multilingualism among teachers and pupils in Norway have provided insights into generally positive attitudes among both groups (Krulatz & Dahl, 2016; Burner & Carlsen, 2022; Calafato 2020; Haukås, 2016; Angelovska et al., 2020; Lorenz et al., 2021). Teachers, on the other hand, have expressed that they are uncertain of how to teach a multilingual classroom, in particular, how to use pupils' multilingualism strategically as an asset in teaching and learning (Krulatz & Dahl, 2016; Hegna & Speitz, 2020; Tishakov & Tsagari, 2022). Similarly, pupils from non-Norwegian language backgrounds express that their language resources are very rarely used in school settings, both by their teachers and by themselves (Iversen, 2016, 2017). This means that the most multilingual learners are most likely missing out on the most important resource available to them, metalinguistic awareness due to experience with multiple language systems. Metalinguistic awareness has been shown to confer significant learning advantages (Bialystok, 2007; Cenoz & Jessner, 2000; Cenoz & Hoffmann, 2003). However, these advantages do not accrue automatically; learners must develop this awareness in order to experience the benefits (Bono & Stratilaki, 2009; Moore, 2006). This highlights the need to develop classroom strategies which use metalanguage in order to develop a systematic understanding of language structure (see section 10.3 below).

### **10.2.3. Attitudes to multilingualism and language learning**

The second research question asked whether there are differences in attitudes to multilingualism and language learning in general between NO and AO speakers, and the findings did confirm this. Firstly, OA users valued each of their languages more highly than NO users, with a particular preference for their home language, in spite of the former group's reported lower proficiency, particularly in reading

and writing. Both the Arabic and SB subgroups agree to a larger extent than NO users that they would like to learn the same languages as their parents. Attitudes differed most in the *Multilingualism and language learning* and *Language and society constructs*, where significant differences were observed in most statements. The major impression was that NO users viewed multilingualism mostly as an academic achievement whereas OA users' attitudes were affected by having personal experience with the benefits of multilingualism as a social and societal door opener.

### **10.2.3.1. Implications**

The findings of this study show that OA users have very positive attitudes to both their languages and to language learning in a general sense. Firstly, their home languages are important to them, and are used regularly, however, literacy levels vary among this group. In a larger context this is somewhat concerning, as the use of mother tongue instruction and bilingual instruction in schools has been in steady decline over two decades (see section 2.5). This means that speakers of other home languages are largely dependent on informal language learning within the family. The fact that OA users want to learn, and also regularly use their home languages is nonetheless positive. A considerable body of research has previously investigated views of heritage languages and home languages other than the majority language. These studies have generally shown that many minority language speakers have negative emotions or even shame attached to the use of their home languages and that this is detrimental to general language learning (Brown, 2007; Cenoz, 2003). This does not seem to be the case in this sample. On the other hand, studies are in agreement about the positive effects of heritage language maintenance and development, showing that cultural identification through language development is not only beneficial for language learning, but for overall academic achievement (Kim & Chao, 2009; Fuligni et al., 2005). Norwegian studies have previously considered the effects on L1 development for Norwegian proficiency (Engen & Kulbrandstad, 2004; Haukås, 2014; Selj & Ryen, 2008), and in this context the home language appears to be an underutilised resource. The low level of literacy skills but high level of motivation suggests that many OA users might benefit massively from further developing their L1, particularly in terms of literacy. This could be addressed in various ways in

education, an obvious place to start would be to discuss the decline in first language instruction and bilingual instruction in schools, which seems mostly to be a question of resources.

Furthermore, there is also a marked difference in attitudes to the role of language in society between the groups. The study reveals that NO users generally seem to value language learning mostly as useful for academic and professional achievement, whereas OA users value the social nature of language and express more enjoyment in the learning process. OA users have a clearer understanding of the social and societal functions of language learning, which relates to their motivation for language learning. This may seem somewhat paradoxical, as NO users also report a high degree of language mixing in day-to-day situations as well as in media exposure. It may be therefore, that NO users would also benefit from the development of their sense of the social nature of language, or at least from the creation of a stronger connection between language learning in the classroom and the extramural use of English which is so commonplace in this group.

#### **10.2.4. Underlying profile factors and performance predictors**

The third research question addressed the underlying factors that best characterise multilingual profiles in Norwegian 11–13-year-olds, and whether they differ between NO and AO speakers. In order to investigate this, a Principal Components Analysis (PCA) was used with the questionnaire data. This analysis reduced the large data set to a smaller set of underlying factors that between them explain the greatest proportion of variance in the data. Seven factors were extracted for NO users and eight for AO users. The major differences between the two groups were seen in factors that described their attitudes to open-mindedness and the perceived use of language skills. The *Open-mindedness* factor accounted for a larger proportion of variance among NO users. Similarly, differences in factors relating to enjoyment of learning and perceived usefulness of language skills were observed that were consistent with the different trends already observed participants' attitudes, namely the emphasis on language as an academic skill for NO users, and for language as a social and societal door opener among OA users.

The fourth research question considered which of the underlying factors significantly predicted performance in the two groups. Overall error rates were high across participants groups. The full sentence completion task had an error rate of 0.5 and 0.6 errors per sentence for NO and OA users, respectively. The error rate for error spotting was close to 50% in both groups. Between-group differences for sentence completion were significant for Agreement number, Aspect error, Preposition omission, and all types of definiteness marking errors. Between-group differences in error spotting were not statistically significant. Among NO users, sentence completion error rate was significantly predicted by *English proficiency*, *Enjoyment of learning* and *English learning*. Error spotting rate was predicted by *English proficiency*, *Enjoyment of learning* and had a borderline negative effect of *Importance of language*. The only significant predictors among OA users were for error spotting, which had a borderline positive effect for *Open-mindedness* and a borderline negative effect for *Norwegian proficiency*.

#### **10.2.4.1. Implications**

The use of PCAs and multiple regression analyses for questionnaire and task performance data for young learners was novel in a Norwegian context. The PCA provided deeper insight into the multilingual profiles of the two participant groups which further emphasised the impression that NO and OA take different views of what language learning contributes to in their lives.

The present study has also confirmed the connection between open-mindedness and multilingualism. The *Open-mindedness* factor observed in both PCA analyses, which was also the only significant predictor for performance in both participant groups, confirms observations from a number of other studies (e.g., Tiurikova et al., 2021; Morales, 2017; Ruokonen & Kairavuori, 2012; Dewaele & Oudenhoven, 2009) on the connections between multilingualism and Open-mindedness as a personality trait. NO users tended generally to agree less with the statements in this construct than the OA users, emphasising the difference in views of multilingualism among speakers of minority and majority languages. Language learning also involves communication between, and understanding of cultures, and minority language speakers appear to have more experience with this. Paradoxically NO users emphasise how language proficiency is academically

important but seem to a lesser degree to connect their extramural use of English to classroom situations. Although the National Curriculum for English emphasises the role of English for global communication, it seems that this connection is not sufficiently clear among NO users. Attitudes to Open-mindedness seem to positively affect motivation for language learning through an increased understanding of not only language as a social tool, but also the connection between classroom learning and extramural use of other languages. English teaching might therefore benefit from practices that connect classroom practices to pupils' interests and extramural language use and uses English for actual communicative purposes beyond the classroom. Using language to promote understanding of cultures might increase Open-mindedness among all pupils, but particularly speakers of the majority language.

Furthermore, it is only in the NO user group that self-ratings of proficiency are significant predictors of performance, meaning that this group had a much clearer view of their own ability than OA users. Interestingly, despite the overall high proficiency ratings, there were also relatively high error rates for each task type (for error spotting close to 50% and for sentence completion an average of 0.5-0.6 errors per sentence). This suggests that self-rated proficiency is not strongly based on awareness of morpho-syntactic skills. Nevertheless, the relationship between self-ratings and performance was significant in both task types for NO users but not for the OA users. The most commonly reported multilingual benefits usually relate to metalinguistic awareness and executive function (e.g., Grey et al., 2018; Hirosh & Degani, 2018). It is therefore noteworthy that the effects observed in this study suggest better metalinguistic awareness for English performance in the less multilingual NO group. One might hypothesise several reasons for this. Firstly, the two participant groups are different in that the NO group was much larger and more homogenous both in terms of language experience and use, as the OA group comprised speakers of very different languages with varying levels of experience with Norwegian and English. It is therefore reasonable to expect more reliable effects to emerge from the NO group. Secondly, although proficiency self-ratings are widely used and considered valid in multilingualism research (Chincotta & Underwood, 1998; Flege et al., 1999, 2002; Jia et al., 2002), they have rarely been used in this age group, and little is known about which aspects of language skills self-ratings are based on. As already mentioned, there is a discrepancy between English proficiency ratings and actual performance in the present study. A broader

approach including performance testing across other language domains, such as spoken language production and comprehension, would shed light on which aspects of language performance underpin self-ratings in this age-group.

Finally, the negative relationship between Norwegian proficiency and the error spotting results in the OA group, is also interesting to note. As previously mentioned, language use in the OA group suggested that they used Norwegian less often than NO users. As suggested by Flege et al. (1999), it may well be that language choice is a result of varying proficiency rather than vice versa. In other words, OA users who are more proficient in Norwegian choose to use that language a larger proportion of the time, thereby negatively impacting their English proficiency. This pattern is also consistent with the proposal that the OA group has not fully developed their potential multilingual processing advantages.

#### **10.2.5. L1 transfer and between-group differences**

The final research question asked whether language-specific patterns of transfer could be detected in the English of young multilingual learners, and if so, which languages are transferred. For comparison, two subgroups were extracted from the OA group, speakers of Arabic home language, and speakers of Slavic and Baltic home languages. Due to small numbers of participants from the key language backgrounds, statistical analyses of the material were not attempted. The number of speakers of Somali was also not sufficient to be considered for analysis. In sentence completion, certain error types previously considered typical transfer errors from certain backgrounds in previous literature (e.g., Westergaard, 2003; Javorovic, 2021; Johansson, 2008; Hasselgård et al., 2004) were not widely observed, including aspect errors and V2 errors for L1 Norwegian learners. Nonetheless, many of the language-specific predictions of the model in section 5.6.6 were confirmed, such as frequent agreement errors among NO users, aspect errors among Arabic users and definiteness marking errors among SB users. The fact that language-specific error patterns that could be related to L1 structure could be observed suggested that Arabic and SB users did transfer structures from their home languages, rather than their L2, Norwegian, in spite of the closer typological relationship to Norwegian. This finding goes against the assumptions of several



transfer models, including the Typological Primacy Model (Rothman, 2010). There were no significant differences across groups for error type in error spotting.

#### **10.2.5.1. Implications**

In spite of increasing numbers of pupils from non-Norwegian backgrounds in schools, the use of L1 instruction and bilingual instruction have been in a steady decline for two decades (Statistics Norway, 2023). Data on achieved results show that whereas children who are Norwegian-born to immigrant parents are performing well in English, immigrant children are achieving lower results on both national tests and exams (Statistics Norway, 2023, 2023c, 2023d). The present study shows that overall, the error rates were relatively high but that performance levels were very similar between groups, although the error patterns differed.

The relatively high number of errors in both task types suggests that morphosyntax is given little emphasis in English teaching, at least in terms of explicit teaching using metalanguage. Teaching materials often present English grammar using Norwegian, and with comparison to Norwegian grammar only. It might therefore have been expected that OA users would have more difficulties with English morphosyntax than NO users, but this was not observed. However, the differences in error patterns are consistent with the OA group performance being influenced by their L1s rather than Norwegian.

### **10.3. Implications for teaching practice**

The findings of this study have several pedagogical implications. Firstly, it is known from previous Norwegian studies that teachers are uncertain about how best to teach pupils with other language backgrounds and use their other languages in learning (Krulatz & Dahl, 2016; Hegna & Speitz, 2020; Tishakov & Tsagari, 2022). The present study shows that information about language background is important in understanding learners' language performance. While the overall performance of learners with different L1s may not differ significantly, the nature of their errors may. A more detailed understanding of learner error patterns is necessary to improve both teaching materials and classroom practices. The

comparisons of errors in the present study exemplifies this for instance through differences in agreement error. Agreement number-errors were considerably more prevalent among NO users than OA users. Based on knowledge of Norwegian transfer errors it is likely that agreement is one of the more explicitly taught elements of morphosyntax in Norwegian language teaching. Errors in definiteness marking, however were infrequent among NO users but more prevalent among OA users. If an element of morphosyntax which is given considerable emphasis in teaching is problematic for one group of learners but not another, then teaching will be biased to the needs of one group at the expense of another. L1 transfer errors comprise a significant challenge for English teachers who may lack understanding of their source (Jarvis & Pavlenko, 2008).

Ideally teacher training should foster an understanding of classroom demographics that emphasise the full classroom as a multilingual arena. The existing national curriculum uses the notion of seeing connections between languages as a competence goal on all levels. It is therefore important that teachers are provided with the training and tools necessary for such an approach. Insights from the present study can be implemented in both English linguistics and didactics in teacher training. Firstly, the results show clearly that pupils' grasp of English morphosyntax should be strengthened, and that teaching needs to be explicitly based on linguistic contrast. Such teaching must therefore involve the use of metalanguage. Metalanguage is by Berry (2010) described as both *thing*, as in terminology, and *process*, or language about language. Schleppegrell (2013) describes how the learning of speech function should involve both terms like 'declarative' and 'imperative' and discussion about the pragmatic force of these categories. Similarly, Norwegian studies of the use of metalanguage in textbooks (Haugen, 2019; Brøseth et al., 2020) describe that even when teaching Norwegian language, grammar is usually presented as an isolated aspect of language, and that terminology is used, but to a limited degree explained or described in terms of actual linguistic functions. Exploratory approaches to the understanding of morphosyntax through drawing on pupils' own linguistic resources should be implemented rather than English being taught through the medium of Norwegian language and linguistic structure. Furthermore, the use of metalanguage through familiarisation with terminology but even more importantly discussion of function and crosslinguistic comparison and reflection promotes development of a general understanding of how language works.

#### 10.4. Limitations of the present study

Due to Covid complications, data collection for the study was challenging and this has resulted in some limitations to the study. Firstly, the large-scale recruitment that was intended was not successful due to school lockdowns and this reduced the size of the data set collected and limited the power of some comparisons. The participating schools were also from a more limited geographical area than initially intended. It is also possible that direct recruitment through teachers can lead to bias, such that teachers who take a specific interest in the topic of the study are more likely to agree to participate. Had the original recruitment plan been carried out, recruitment would have had wider geographical distribution and have been less dependent on teachers. Nonetheless, the results can be said to be representative for a region of Southern Norway.

Unfortunately, the number of Somali-speaking participants was not sufficient to be considered for analysis, and the relatively limited number of Arabic and SB speakers also meant that statistical analyses were not possible. This means that the results from the language group comparison (Chapter 9) must be interpreted with some caution. There were also some methodological limitations that mostly relate to the age group of the participants. In a study with adult participants the performance test could have been expanded further, including more trials and a wider range of tasks, for example standardised proficiency tests such as Lextale (Lemhöfer & Broersma, 2012) or tests of non-verbal intelligence (see DeThorne & Schaefer, 2004). The questionnaire and tests constructed were limited by time constraints as data collection occurred within school hours. They were also constrained by the young participants' ability to focus. The current findings should ideally be replicated and extended, by collecting a broader set of measures from a larger group of participants.

Furthermore, in the present study language proficiency has been tested through error performance using a limited subset of morphosyntactic structures. This obviously limits the study through not considering on what the participants *could* do, and by disregarding factors such as communicative ability, vocabulary, coherence and cohesion, which all would be considered in an academic setting such as an exam. Focus on errors and the limited insight it provides has, as described in section 5.4, been a major criticism against the use of error analysis.

Nonetheless, as the aim of the study was not to assess overall proficiency, but to investigate traces of morphosyntactic transfer, the test was built around variables that could distinguish between language backgrounds and reveal specific areas of difficulty.

### **10.5. Directions for future research**

The limitations of using only constrained sentence production in addition to a judgement task was initially anticipated in this study as free written data was also collected. This additional type of data could provide a more extensive impression of participants' linguistic abilities. The aim was to compare the free writing to the error-based tasks in order to investigate differences in the profile factors predicting aspects of performance in both tasks. Due to time constraints, the analysis of this material fell beyond the scope of the thesis. This material nonetheless provides interesting opportunities for further research. The free writing task was originally included to provide opportunities for investigation of avoidance strategies, sentence length and further traces of transfer in unconstrained production. The free production data could also provide additional information on general level of proficiency among participants by considering correlations between performance in the other tasks and the free production tasks, to investigate e.g., whether those who perform better in constrained tasks are also more likely to produce more free writing.

In future studies, the differences between in-group variance should be noted, with a larger data set it would have been possible to compare more homogenous groups of OA speakers, such as specifically immigrant groups of Norwegians born to immigrant parents who are speakers of the same language and to consider whether effects were more reliable in more equitable groups of participants. Future studies should also consider whether additional task types should be added in order to provide a more complete impression of participants' proficiency. As results are primarily observed on a metalinguistic level they might be enhanced further by a general test of metalinguistic awareness (see Roehr-Brackin, 2024 for review). A non-language specific test might provide further insight into any potential differences between speakers of different numbers of languages. Furthermore, this study has included two task types, error spotting and sentence completion.

Previous studies have shown that multilinguals' performance in judgement tasks is unreliable, they are often less willing to reject a sentence as ungrammatical (see e.g., Zobl, 1992). The tendency to focus on the communicative aspects of language and convey information is also clear in the attitudes particularly of OA users. As several transfer studies have nonetheless relied on either grammaticality judgment tasks (e.g., Dahl et al., 2022; Encheva, 2021; Westergaard et al., 2017) or corpus studies (e.g., Javorovic, 2021; Nordanger, 2009; Moe, 2010). When assessing the validity of the LEAP-Q questionnaire (Marian et al., 2007), seven tests assessing a number of measures of proficiency were used in addition to grammaticality judgement, including reading fluency, passage comprehension, oral comprehension, receptive and productive vocabulary. Including other behavioural measures would provide a more extensive impression of participants' actual proficiency across language domain and could help determine more conclusively whether errors are results of actual transfer or simply a reflection of ability.

Finally, an obvious direction for further study is to implement the knowledge from this study in classroom intervention studies. Intervention studies have not to my knowledge been carried out previously in Norwegian transfer research, at least not in this age group. The insights from the present study can be used to inform the creation of teaching resources that are based on linguistic comparison and aimed at increasing metalinguistic awareness. As discussed in section 2.6.2, the reviewed English textbooks from Norwegian schools take the same approach as the Norwegian textbooks reviewed by Haugen (2019), Brøseth et al. (2020) and Jørgensen and Siljan (2021). Grammar is presented as disconnected from any wider discussion of its function in language or text, and terminology is generally also used without grammatical metalanguage that discusses function. Materials should therefore provide opportunities for detecting and discussing the functional implications of categories such as tense, aspect, and definiteness. Through engaging exploration and use of metalanguage, pupils can be encouraged to actually compare with other languages known to them, as described in the National Curriculum, rather than only refer back to a comparable term in Norwegian. As the present study has taken a full-classroom approach in which all pupils, regardless of language background have been tested, a similar approach is to be encouraged in future interventions. The problems of the Norwegian-centric, or Norwegian-English bilingual classroom have been discussed in previous sections, so although the present study has provided knowledge that can inform teaching

materials aimed at some specific language backgrounds it is nonetheless important to consider interventions that allow the pupils to use their linguistic resources regardless of L1. The questionnaire and test battery developed for the present study might be used for pre-/post testing in intervention.

## **10.6. Concluding remarks**

This project has provided extensive and novel insights into the language profiles of Norwegian pupils in years 6 and 7. The project has found differences between speakers of Norwegian and other home languages in degree of multilingualism, language-related attitudes, habits of language use and non-facilitative transfer of morphosyntax in written English. Speakers of other additional home languages are overall more multilingual than their peers who use Norwegian as their only home language. Although all participants hold positive attitudes to multilingualism and language learning, NO users' attitudes relate mostly to language as useful for education and career development, whereas OA users express more enjoyment of language learning and emphasise the social benefits of language skills. In spite of generally high ratings of English proficiency, both participant groups had relatively high error rates for the morphosyntactic categories tested in the study. Multiple regression analyses showed that NO users had a more accurate view of their own abilities than OA users. In comparison of speakers of Norwegian, Arabic and Baltic and Slavic home languages written performance shows that all three groups showed signs of morphosyntactic transfer from their home languages, resulting in different patterns of errors in their written English. The insights from the study have pedagogical implications for both teacher training and classroom practices, and the test battery developed for the project provides opportunities for further research on effects of multilingualism in young learners of English.



## 11. References

- Aasheim, S. (1995). «Kebab-norsk»: Framandspråkleg påverknad på ungdomsspråket i Oslo. [Master's thesis]. University of Oslo.
- Abdulmoneim, M. (2000). Modern Standard Arabic vs. Non-Standard Arabic: Where Do Arab Students of EFL Transfer From?, *Language Culture and Curriculum*, 1(2), 126-136. DOI: 10.1080/07908310008666594
- AbiSamra, N. (2003). *An analysis of errors in Arabic speakers' English writings*. American university Beirut. Retrieved from <http://abisamra03.tripod.com/nada/languageacqerroranalysis.html>
- Abrahamsson, N. (2012). Age of onset and nativelike L2 ultimate attainment of morphosyntactic and phonetic intuition. *Studies in Second Language Acquisition*, 34(2), 187-214.
- Abrahamsson, N., & Hyltenstam, K. (2009). Age of onset and nativelikeness in a second language: Listener perception versus linguistic scrutiny. *Language learning*, 59(2), 249-306.
- Abu-Rabia, S., & Sanitsky, E. (2010). Advantages of bilinguals over monolinguals in learning a third language. *Bilingual Research Journal*, 33, 173–199.
- Abutelabi, J., Cappa, S. F. & Perani, D. (2005). What Can Functional Neuroimaging Tell Us About The Bilingual Brain? In J. F. Kroll and A. M. B. De Groot (Eds.). *Handbook of Bilingualism: Psycholinguistic Approaches*. (497-516). Oxford: Oxford University Press.
- Aikhenvald, A. Y., & Dixon, R. M. (Eds.). (2017). *Commands: A cross-linguistic typology*. Oxford University Press.
- Alario, F.-X., Ziegler, J. C., Massol, S., & De Cara, B. (2012). Probing the link between cognitive control and lexical selection in monolingual speakers. *L'Année Psychologique/Topics in Cognitive Psychology*, 112, 545-559.
- Al-Horais, N. (2013). The minimalist program and its new insight to the concept of universal grammar. *Journal of Universal Language*, 14(2), 79-112.
- Al-Khresheh, M. H. (2015). A review study of interlanguage theory. *International Journal of Applied Linguistics and English Literature*, 4(3), 123-131.
- Alonso, M. R. (2002). *The role of transfer in second language acquisition*. University of Vigo Press.
- Altenberg, E. P. (1991). Assessing first language vulnerability to attrition. In H. Seliger & R. Vago (Eds.) *First language attrition*, 189-206. Cambridge University Press.



- Altman, C., Goldstein, T., & Armon-Lotem, S. (2018). Vocabulary, metalinguistic awareness and language dominance among bilingual preschool children. *Frontiers in Psychology, 9*, 1953.
- Alver, V. (2010). Bing bang smalt til ble universitetet til. In H. Johansen et al. (Eds.), *Systematisk, variert, men ikke tilfeldig*. (65-77). Oslo: Novus.
- Andenæs, E. (1984). Vietnamesisk og norsk språkstruktur. In A. Hvenekilde og E. Ryen (Eds.) *Kan jeg få ordene dine, lærer?*. LNU/Cappelen.
- Andenæs, E., & Golden, A. (1980). *Norsk som fremmedspråk—en sammenliknende analyse av trekk ved skriftlig norsk hos arabiske, pakistanske og tyrkiske elever i Oslo-skolen*. [Master's thesis]. University of Oslo.
- Andersen, R. (1983). Transfer to somewhere. In S. Gass & L. Selinker (Eds.), *Language transfer in language learning* (pp. 177-201). Newbury House.
- Angelovska, T., Krulatz, A., & Šurkalovic, D. (2020). Predicting EFL teacher candidates' preparedness to work with multilingual learners: snapshots from three European universities. *European Journal of Applied Linguistics and TEFL, 9*(1), 183-208.
- Antoniou, M. (2019). The advantages of bilingualism debate. *Annual Review of Linguistics, 5*, 395-415.
- Arabski, J. (1968). A linguistic analysis of English composition errors made by Polish students. *Studia Anglica Posnaniensia: An International Review of English Studies, 1* (1-2), 71-89.
- Aribaş, D. Ş., & Cele, F. (2021). Acquisition of articles in L2 and L3 English: The influence of L2 proficiency on positive transfer from L2 to L3. *Journal of multilingual and multicultural development, 42*(1), 19-36.
- Arnesen, H. S., Steffensen, K., Foss, E. S., Lervåg, M. L. & Keute, A. L. (2023). *Lærerkompetanse i grunnskolen. Hovedresultater 2021/2022*. Statistics Norway.
- Aronin, L. (2019). Dominant language constellation as a method of research. *International research on multilingualism: Breaking with the monolingual perspective*, 13-26.
- Au, T. K., & Glusman, M. (1990). The principle of mutual exclusivity in word learning: To honor or not to honor? *Child Development, 61*, 1474–1490.
- Austad, M., Andersen, K. R. & Peel, R. H. (2004). *Troubleshooter. Engelsk arbeidsgrammatikk for den videregående skolen*. Oslo: Cappelen Damm.
- Badawi, E. S., Carter, M., & Gully, A. (2013). *Modern written Arabic: A comprehensive grammar*. Routledge.

- Bade, A. H. R., Pettersen, M. D. & Tømmerbakke, K. (2017). *Quest 7- textbook*. Aschehoug.
- Bade, A. H. R., Pettersen, M. D. & Tømmerbakke, K. (2017). *Quest 7- Teacher's Guide*. Aschehoug.
- Baetens Beardsmore, H. (1993). *European models of bilingual education*. Clevedon: Multilingual Matters.
- Baker, C. (2001). *Foundations of Bilingual Education and Bilingualism* (3rd ed.). Multilingual Matters.
- Baker, C. (2011). *Foundations of bilingual education and bilingualism*. Clevedon, UK: Multilingual Matters
- Balke-Aurell, G., & Linblad, T. (1982). *Immigrant children and their languages*. Department of Education Research, University of Gothenburg.
- Balode, L., & Holvoet, A. (2001). The Latvian language and its dialects. 2001). *Circum-Baltic Languages, 1*, 3-40.
- Barac, R., & Bialystok, E. (2011). Cognitive development of bilingual children. *Language Teaching, 44*(1), 36–54.  
<https://doi.org/10.1017/S0261444810000339>
- Bardel, C. (2006). La connaissance d'une langue étrangère romane favorise-t-elle l'acquisition d'une autre langue romane?. Influences translinguistiques dans la syntaxe en L3. *Acquisition et interaction en langue étrangère, (24)*, 149-179.
- Bardel, C., & Falk, Y. (2021). L1, L2 and L3: Same or different?. *Second Language Research, 37*(3), 459-464.
- Bardel, C., & Sánchez, L. (2017). The L2 Status Factor hypothesis revisited: The role of metalinguistic knowledge, working memory, attention and noticing in third language learning. In T. Angelovska. & A. Hahn (Eds.), *L3 syntactic transfer: Models, new developments and implications* (pp. 85–102). Amsterdam, NL: John Benjamins.
- Bartolotti, J., & Marian, V. (2017). Bilinguals' Existing Languages Benefit Vocabulary Learning in a Third Language. *Language Learning, 67*(1), 110–140.  
<https://doi.org/10.1111/lang.12200>
- Batsis, I. H. (2006). *Når norsk er tredjespråk: tverrspråklig innflytelse i norskproduksjonen til innlærere med morsmål typologisk fjernt fra norsk, og andrespråk typologisk nærmere norsk*. [Master's thesis]. University of Oslo.
- Bennett-Kastor, T. (1988). *Analyzing Children's Language: Methods and Theories*. Oxford: Blackwell.

- Berge, K. L. (2005): Tekstkulturer og tekstkvaliteter. In K. L. Berge et al. (Eds.). *Ungdommers skrivekompetanse II*. (11-190). Oslo: Universitetsforlaget.
- Berko, J. (1958). The child's learning of English morphology. *Word*, 14, 150–77.
- Berry, R. (2010). *Terminology in English language teaching: Nature and use*. Bern, Switzerland : Peter Lang.
- Bérubé, D., & Marinova-Todd, S. H. (2012). The development of language and reading skills in the second and third languages of multilingual children in French Immersion. *International Journal of Multilingualism*, 9(3), 272-293.
- Bialystok, E. (1988). Levels of bilingualism and levels of linguistic awareness. *Developmental Psychology*, 24, 560-567.
- Bialystok, E. (1986). Factors in the growth of linguistic awareness. *Child Development*, 57, 498-510.
- Bialystok, E. (2007). Cognitive effects of bilingualism: How linguistic experience leads to cognitive change. *International journal of Bilingual education and bilingualism*, 10(3), 210-223.
- Bialystok, E., & Majumder, S. (1998). The relationship between bilingualism and the development of cognitive processes in problem-solving. *Applied Psycholinguistics*, 19, 69 -85.
- Bialystok, E., Luk, G., Peets, K. F., & Sujin, Y. A. N. G. (2010). Receptive vocabulary differences in monolingual and bilingual children. *Bilingualism: Language and cognition*, 13(4), 525-531.
- Bild, E. R., & Swain, M. (1989). Minority language students in a French Immersion programme: Their French proficiency. *Journal of Multilingual and Multicultural Development*, 10, 255–274.
- Birdsong, D. (1994). Asymmetrical knowledge of ungrammaticality in SLA theory. *Studies in Second Language Acquisition*, 16 (4), 463–73.
- Birdsong, D. (2005). Interpreting age effects in second language acquisition. *Handbook of bilingualism: Psycholinguistic approaches*, 109, 127.
- Bley-Vroman, R. (1989). What is the logical problem of foreign language learning? In S. Gass. & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 41–68). New York: Cambridge University Press.
- Bley-Vroman, R. (2009). The evolving context of the fundamental difference hypothesis. *Studies in second language acquisition*, 31(2), 175-198.
- Bloomfield, L. (1933). *Language*. New York: Henry Holt
- Blumenfeld, H. K., & Marian, V. (2011). Bilingualism influences inhibitory control in auditory comprehension. *Cognition*, 118, 245-257.

- Bono, M. & Stratilaki, S. (2009). The M-factor, a bilingual asset for plurilinguals? Learners' representations, discourse strategies and third language acquisition in institutional contexts. *International Journal of Multilingualism* 6 (2), 207–227.
- Bono, M. (2011). Crosslinguistic interaction and metalinguistic awareness in third language acquisition. In *New trends in crosslinguistic influence and multilingualism research* (pp. 25-52). Multilingual Matters.
- Borg, S. (2006). *Teacher cognition and language education: Research and practice*. London: Continuum.
- Börjesson, M. (2014). The Pronunciation of English by Somali L1 students in Sweden. Testing indications of phonetic transfer through Error Analysis and Contrastive Analysis. [Master's thesis]. University of Gothenburg.
- Bosma, E., Bakker, A., Zenger, L., & Blom, E. (2023). Supporting the development of the bilingual lexicon through translanguaging: a realist review integrating psycholinguistics with educational sciences. *European Journal of Psychology of Education*, 38(1), 225-247.
- Botes, E., Dewaele, J. M., & Greiff, S. (2022). Taking stock: A meta-analysis of the effects of foreign language enjoyment. *Studies in Second Language Learning and Teaching*, 12(2), 205-232.
- Boynton, P. M. (2004). Administering, analysing, and reporting your questionnaire. *Bmj*, 328(7452), 1372-1375.
- Brevik, L. M., Rindal, U. & Beiler, I. R. (2020). Language use in English lessons- Monolingual, bilingual and multilingual approaches. In L. M. Brevik & U. Rindal (Eds.), *Teaching English in Norwegian classrooms: From research to practice* (pp. 93-116). Universitetsforlaget.
- Brevik, L. M., & Rindal, U. (2020). Language use in the classroom: Balancing target language exposure with the need for other languages. *Tesol Quarterly*, 54(4), 925-953.
- Briellmann, R. S., Saling, M. M., Connell, A. B., Waites, A. B., Abbott, D. F., & Jackson, G. D. (2004). A high-field functional MRI study of quadri-lingual subjects. *Brain and Language*, 89, 531–542.
- Brohy, C. (2001). Generic and/or specific advantages of bilingualism in a dynamic plurilingual situation: The case of French as official L3 in the school of Samedan (Switzerland). *International Journal of Bilingual Education and Bilingualism* 4, 38–49.

- Brojde, C. L., Ahmed, S., & Colunga, E. (2012). Bilingual and monolingual children attend to different cues when learning new words. *Frontiers in psychology*, 3, 155. doi:10.3389/fpsyg.2012.00155
- Brown, C. L. (2007). Supporting English Language Learners in content-reading. *Reading Improvement*, 44, 32–39.
- Brown, D. (2007). *Principles of language learning and teaching*. Fifth Edition. PearsonLongman.
- Brown, H. D. (2000). *Principles of language learning and teaching* (4th ed.). San Francisco State University: Pearson Education Limited.
- Bruland, J., Nguyen., T. C. & Andersen, Ø. (1979). *Norsk – vietnamesisk kontrastiv grammatikk*. Friundervisningens forlag.
- Brøseth, H., Busterud, G., & Nygård, M. (2020). " Oppslagsdelen bak i boka gir oversikt over grammatikk". Analyse av grammatisk metaspråk i ei lærebok for ungdomstrinnet.
- Bunting, M., Dickinson, H., & Tømmerbakke, K. (2006). *Doors 5. Grunnbok- engelsk for barnetrinnet*. Aschehoug.
- Burner, T. (2016). Formative assessment of writing in English as a foreign language. *Scandinavian Journal of Educational Research*, 60(6), 626-648.
- Burner, T., & Carlsen, C. (2022). Teacher qualifications, perceptions and practices concerning multilingualism at a school for newly arrived students in Norway. *International Journal of Multilingualism*, 19(1), 35-49.
- Busterud, G. (2014). *Anaforiske bindingskonstruksjoner i norsk som andrespråk*. NTNU-trykk.
- Byers-Heinlein, K., & Werker, J. F. (2013). Lexicon structure and the disambiguation of novel words: Evidence from bilingual infants. *Cognition*, 128, 407–416.
- Byram, M. (2004). *Routledge Encyclopedia of Language Teaching and Learning*. Routledge.
- Calafato, R. (2020). Language teacher multilingualism in Norway and Russia: Identity and beliefs. *European Journal of Education*, 55(4), 602-617.
- Canagarajah, S. (2007). Lingua franca English, multilingual communities, and language acquisition. *The Modern Language Journal*, 91, 923-939.
- Cannon, G. (1990). *The Life and Mind of Oriental Jones: Sir William Jones, the Father of Modern Linguistics*. Cambridge: Cambridge University Press
- Carling, G. (Ed.) (2017). Diachronic Atlas of Comparative Linguistics Online. Lund: Lund University. URL: <https://diacl.ht.lu.se/>.

- Casado, A., Walther, J., Wolna, A., Szewczyk, J., Sorace, A., & Wodniecka, Z. (2023). Advantages of visiting your home country: how brief reimmersion in their native country impacts migrants' native language access. *Bilingualism: Language and Cognition*, 1-12.
- Cenoz, J. (1991). *Enseñanza-aprendizaje del inglés como L2 o L3*. Leioa: Universidad del País Vasco.
- Cenoz, J. (2000). Research on multilingual acquisition. *English in Europe: The acquisition of a third language*, 14(6), 39-53.
- Cenoz, J. (2001). The effect of linguistic distance, L2 status and age on crosslinguistic influence in third language acquisition. In J. Cenoz, B. Hufeisen & U. Jessner (Eds.), *Crosslinguistic influence in third language acquisition*. Clevedon: Multilingual Matters, 8–20.
- Cenoz, J. (2003). The role of typology in the organization of the multilingual lexicon. In J. Cenoz, B. Hufeisen, & U. Jessner, (Eds.). *The multilingual lexicon*. (103-116). Dordrecht: Kluwer Academic Publishers.
- Cenoz, J. (2003a). The additive effect of bilingualism on third language acquisition: a review. *International Journal of Bilingualism* 7, 71–88.
- Cenoz, J. (2013). The influence of bilingualism on third language acquisition: Focus on multilingualism. *Language Teaching*, 46(1), 71–86.  
<https://doi.org/10.1017/S0261444811000218>
- Cenoz, J., & Genesee, F. (Eds.). (1998). *Beyond bilingualism: Multilingualism and multilingual education* (Vol. 110). Multilingual Matters.
- Cenoz, J., & Gorter, D. (2011). A Holistic Approach to Multilingual Education: Introduction. *The Modern Language Journal*, 95, 339-343. doi:[10.1111/j.1540-4781.2011.01204.x](https://doi.org/10.1111/j.1540-4781.2011.01204.x)
- Cenoz, J., & Hoffmann, C. (2003). Acquiring a third language: What role does bilingualism play? *International Journal of Bilingualism*, 7(1), 1-5.
- Cenoz, J., & Jessner, U. (Eds.). (2000). *English in Europe: The acquisition of a third language* (Vol. 19). Multilingual Matters.
- Cenoz, J., & Valencia, J. F. (1994). Additive trilingualism: Evidence from the Basque Country. *Applied Psycholinguistics*, 15, 195–207.
- Chaudron, C. (2003). 22 Data Collection in SLA Research. *The handbook of second language acquisition*, 762.
- Chincotta, D., & Underwood, G. (1998). Non-temporal determinants of bilingual memory capacity: The role of long-term representations and fluency. *Bilingualism*, (1), 117-130.

- Chomsky, N. (1982). *Some concepts and consequences of the theory of government and binding*. MIT press.
- Chomsky, N. (1995). *The Minimalist Program*. MIT Press.
- Clark, C., & Douglas, J. (2011). Young People's Reading and Writing: An In-Depth Study Focusing on Enjoyment, Behaviour, Attitudes and Attainment. *National Literacy Trust*.
- Clark, C., & Rumbold, K. (2006). Reading for Pleasure: A Research Overview. *National Literacy Trust*.
- Clark, E. (2003). *First language acquisition*. Cambridge: Cambridge University Press.
- Claros, M.S.C. (2008). Psycho-linguistic and socio-cultural approaches to language learning: A never ending debate. *Colombian Applied Linguistics Journal*, 10(1), 142-154.
- Clyne, M. (2017 [1998]). Multilingualism. In F. Coulmas (Ed.), *The Handbook of Sociolinguistics*. Oxford: Blackwell, pp. 301–14.
- Cohn, A. C., & Ravindranath, M. (2014). Local languages in Indonesia: Language maintenance or language shift. *Linguistik Indonesia*, 32(2), 131-148.
- Cohn, A., Bowden, J., McKinnon, T., Ravindranath, M., Simanjuntak, R., Taylor, B. (2013). Multilingual language use questionnaire. Retrieved from [https://conf.ling.cornell.edu/pdfs/LangUseQuesF\\_copy.pdf](https://conf.ling.cornell.edu/pdfs/LangUseQuesF_copy.pdf)
- Collins, L. (2002). The roles of L1 influence and lexical aspect in the acquisition of temporal morphology. *Language learning*, 52(1), 43-94.
- Comrie, B. (1989). *Language universals and linguistic typology: Syntax and morphology*. University of Chicago press.
- Conway, E. A. (2008). An analysis of Somali pronunciation errors.
- Cook, V. (1986). The basis for an experimental approach to second language learning. In V. Cook (Ed.), *Experimental Approaches to Second Language Learning*. Oxford: Pergamon Press, 3–21.
- Cook, V. (1992). Evidence of multicompetence. *Language Learning*, 42, 557-591.
- Cook, V. (1995). Multi-competence and the learning of many languages. *Language, Culture and curriculum*, 8(2), 93-98.
- Cook, V. (2007). The goals of ELT. In J. Cummins & C. Davison (Eds.) *International handbook of English language teaching* (237-248). Springer, Boston, MA.
- Cook, V. (Ed.). (2002). *Portraits of the L2 user* (Vol. 1). Multilingual Matters.
- Cook, V. J. (1991). The poverty-of-the-stimulus argument and multicompetence. *Interlanguage studies bulletin (Utrecht)*, 7(2), 103-117.

- Cook, V., & Bassetti, B. (Eds.). (2011). *Language and bilingual cognition*. Oxford, UK: Psychology Press.
- Cook, V., & Cook, V. J. (Eds.). (2003). *Effects of the second language on the first* (Vol. 3). Clevedon: Multilingual Matters.
- Corder, S. P. (1967). The significance of learner's errors. *IRAL: International Review of Applied Linguistics in Language Teaching*, 5(4), 161–170. <https://doi.org/10.1515/iral.1967.5.1-4.161>
- Corder, S. P. (1974). Error Analysis. In J. P. B. Allen and S. Corder (Eds.) *Techniques in Applied Linguistics* (The Edinburgh Course in Applied Linguistics: 3). London: Oxford University Press (Language and Language Learning).
- Costa, A. (2005). Lexical access in bilingual production. In J. F. Kroll and A. M. B. De Groot (Eds.). *Handbook of Bilingualism: Psycholinguistic Approaches* (308-326). Oxford: Oxford University Press.
- Cowan, R., & Hatasa, Y. A. (1994). 1994: Investigating the validity and reliability of native speaker and second-language learner judgments about sentences. In E. Tarone, S. M. Gass & A. Cohen, (Eds.), *Research methodology in second language acquisition*. Hillsdale, NJ: Lawrence Erlbaum, 287–302.
- Croft, W. (2003). Typology. In M Aronoff and J Ressa-Miller (eds) *The Handbook of Linguistics*, 337-368. Blackwell.
- Cromdal, J. (1999). Childhood bilingualism and metalinguistic skills: Analysis and control in young Swedish-English bilinguals. *Applied Psycholinguistics*, 20, 1 - 20.
- Crompton, P. (2011). Article Errors in the English Writing of Advanced L1 Arabic Learners: The Role of Transfer. *Asian EFL Journal. Professional Teaching Articles*, 50, 4-34.
- Crookes, G. (1991). Theory format and structure, and SLA theory. In *Conference on Theory Construction and Methodology in Second Language Research*. East Lansing, MI.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, 49, 222-251. <https://doi.org/10.2307/1169960>.
- Cummins, J. (2017). Teaching for transfer in multilingual school contexts. *Bilingual and multilingual education*, 3, 103-115.
- Cummins, J., & Swain, M. (1986). *Bilingual education*. Essex: Longman Group.
- Cuza, A. (2010). On the L1 attrition of the Spanish present tense. *Hispania*, 256-272.



- Dahl, A., Listhaug, K. F., & Busterud, G. (2022). The role of L1 Norwegian and L2 English in the acquisition of verb placement in L3 German. *Language Acquisition and Language Disorders*, 191-212.
- De Angelis, G. (2005). Multilingualism and non-native lexical transfer: An identification problem. *International journal of multilingualism*, 2(1), 1-25.
- De Angelis, G. (2007). *Third or additional language acquisition*. Multilingual Matters.
- De Angelis, G. (2011). Teachers' beliefs about the role of prior language knowledge in learning and how these influence teaching practices. *International Journal of Multilingualism*, 8(3), 216–234. <https://doi.org/10.1080/14790718.2011.560669>
- De Angelis, G., & Selinker, L. (2001). Interlanguage transfer and competing linguistic systems in the multilingual mind. *Bilingual Education and Bilingualism*, 42-58.
- De Bot, K., & Jaensch, C. (2015). What is special about L3 processing? *Bilingualism*, 18(2), 130–144. <https://doi.org/10.1017/S1366728913000448>
- De Bot, K., Lowie, W., & Verspoor, M. (2007). A dynamic systems theory approach to second language acquisition. *Bilingualism: Language and Cognition* 10, 7–21.
- De Houwer, A., Bornstein, M. H., & Putnick, D. L. (2014). A bilingual–monolingual comparison of young children's vocabulary size: Evidence from comprehension and production. *Applied psycholinguistics*, 35(6), 1189-1211.
- DeThorne, L. S., & Schaefer, B. A. (2004). A Guide to Child Nonverbal IQ Measures. *American Journal of Speech-Language Pathology*, 13, 275-290.
- Degani, T., Prior, A., & Tokowicz, N. (2011). Bidirectional transfer: The effect of sharing a translation. *Journal of Cognitive Psychology*, 23(1), 18-28.
- Dewaele, J. M. (1998). Lexical Inventions: French Interlanguage as L2 versus L3. *Applied Linguistics* 19(4). 471–490
- Dewaele, J. M. (2010). Multilingualism and affordances: Variation in self-perceived communicative competence and communicative anxiety in French L1, L2, L3 and L4. *International Review of Applied Linguistics in Language Teaching* 48, 105–129.
- Dewaele, J. M., & Botes, E. (2020). Does multilingualism shape personality? An exploratory investigation. *International Journal of Bilingualism*, 24(4), 811-823.
- Dewaele, J. M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in second language learning and teaching*, 4(2), 237-274.
- Dewaele, J. M., & MacIntyre, P. D. (2019). The predictive power of multicultural personality traits, learner and teacher variables on foreign language enjoyment

- and anxiety. In *Evidence-based second language pedagogy* (pp. 263-286).  
Routledge.
- Dewaele, J. M., & Stavans, A. (2014). The effect of immigration, acculturation and multicompetence on personality profiles of Israeli multilinguals. *International Journal of Bilingualism*, 18(3), 203-221.
- Dewaele, J. M., & Van Oudenhoven, J. P. (2009). The effect of multilingualism/multiculturalism on personality: No gain without pain for third culture kids?. *International Journal of Multilingualism*, 6(4), 443-459.
- Diab, N. (1996). The transfer of Arabic in the English writings of Lebanese students. *The ESP, Sao Paulo*, 18, (1), 71-83. Retrieved from <http://lael.pucsp.br/especialist/181diab.ps.pdf>
- Díaz, B., Mitterer, H., Broersma, M., Escera, C., & Sebastián-Gallés, N. (2016). Variability in L2 phonemic learning originates from speech-specific capabilities: An MMN study on late bilinguals. *Bilingualism: Language and Cognition*, 19(5), 955-970.
- Dijkstra, A., Van Jaarsveld, H., & Ten Brinke, S. (1998). Interlingual homograph recognition: Effects of task demands and language intermixing. *Bilingualism*, 1, 51–66.
- Dijkstra, T. & Van Heuven, W J B. (2002). The Architecture of the Bilingual Word Recognition System: From Identification to Decision. *Bilingualism: Language and Cognition*, (5), 175-197.
- Dijkstra, T. and Van Heuven, W J B. (1998). The BIA model and bilingual word recognition. In J. Grainger and A. Jacobs (Eds.). *Localist connectionist approaches to human cognition* (198-225). Hillsdale, NJ: Erlbaum.
- Dirdal, H., Hasund, I. K., Drange, E. M. D., Vold, E. T., & Berg, E. M. (2022). Design and construction of the Tracking Written Learner Language (TRAWL) corpus: A longitudinal and multilingual young learner corpus. *Nordic Journal of Language Teaching and Learning (NJLTL)*, 10(2), 115-135.
- Dryer, M. S., & Haspelmath, M. (Eds.) (2013). *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at <http://wals.info>, accessed on 2021-10-26.)
- Dulay, H. C., & Burt, M. K. (1974). Natural sequences in child second language acquisition 1. *Language learning*, 24(1), 37-53.
- Dulay, H., Burt, M., & Krashen, S. (1982). *Language two*. New York: Oxford University Press.

- Durkee, R. A. (2018). *Curriculum for Addressing Potential Linguistic Misconceptions of Early Elementary Somali-speaking Learners of English*. [Master's thesis]. Hamline University.
- Duskova, L. (1969). On Sources of Errors in Foreign Language Learning. *IRAL* 7(1), 11-36.
- Dussias, P. E. (2003). Syntactic ambiguity resolution in L2 learners: Some effects of bilinguality on L1 and L2 processing strategies. *Studies in Second Language Acquisition*, 25(4), 529-557.
- Dussias, P. E. (2004). Parsing a first language like a second: The erosion of L1 parsing strategies in Spanish-English bilinguals. *International Journal of Bilingualism*, 8(3), 355-371.
- Dypedahl, M., & Hasselgård, H. (2018). *Introducing English Grammar*. Fagbokforlaget.
- Dyssegaard, C. B., Egeberg, J. de H., Sommersel, H.B., Steenberg, K., & Vestergaard, S. (2015) *A systematic review of the impact of multiple language teaching, prior language experience and acquisition order on student's language proficiency in primary and secondary school*. Copenhagen: Danish Clearinghouse for Educational Research, Department of Education, Aarhus University.
- Ekiert, M. (2004). Acquisition of the English Article System by Speakers of Polish in ESL and EFL Settings. *Studies in Applied Linguistics & TESOL*. 4(1).
- Ellis, N. C. (2008). The dynamics of second language emergence: Cycles of language use, language change, and language acquisition. *The modern language journal*, 92(2), 232-249.
- Ellis, R. (1991). Grammaticality judgments and second language acquisition. *Studies in Second Language Acquisition*, 13 (2), 161–86.
- Ellis, R. (1994). *The study of second language acquisition*. Oxford University Press.
- Ellis, R. (1997, 1998). *Second Language Acquisition*. Oxford: Oxford University Press.
- Emmorey, K., Luk, G., Pyers, J. E., & Bialystok, E. (2008). The source of enhanced cognitive control in bilinguals: Evidence from bimodal bilinguals. *Psychological science*, 19(12), 1201-1206.
- Encheva, D. (2021). *L1 transfer in the acquisition of English articles. Evidence from L1 Bulgarian and L1 Norwegian learners* [Master's thesis]. UiT Norges Arktiske Universitet.
- Engen, T. O., & Kulbrandstad, L. A. (2004). *Tospråklighet, minoritetsspråk og minoritetsundervisning*. Oslo: Gyldendal Akademisk.
- English. *Arab World English Journal (AWEJ) Special Issue on Translation* 4, 269-288.

- Eno, M. A. (2017). Learning ESL in Somalia: perceptions of students in Mogadishu. *Journal of Somali Studies*, 4(1-2), 165-191.
- Epstein, S., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences*, 19, 677–714.
- Erdogan, V. (2005). Contribution of error analysis to foreign language teaching. *Mersin University Journal of the Faculty of Education*, 1(2), 261-270.
- Esteve, O., Fernández, F., Martín-Peris, E., & Atienza, E. (2017). The Integrated Plurilingual Approach: A didactic model providing guidance to Spanish schools for reconceptualizing the teaching of additional languages. *Language and Sociocultural Theory*, 4(1), 1-24.
- Eubank, L. (1994). On the transfer of parametric values in L2 development. *Language Acquisition*, 3, 183–208.
- Falk, Y., & Bardel, C. (2011). Object pronouns in German L3 syntax: Evidence for the L2 Status Factor. *Second Language Research*, 27, 59–82.
- Falk, Y., Lindqvist, C., & Bardel, C. (2013). The role of L1 explicit metalinguistic knowledge in L3 oral production at the initial state. *Bilingualism: Language and Cognition*. 18. 1-9. 10.1017/S1366728913000552.
- Fathman, A. (1975). The relationship between age and second language productive ability. *Language Learning*, 25 (2), 245–53.
- Fehri, A. F. (2012). *Key features and parameters in Arabic grammar* (Vol. 182). John Benjamins Publishing.
- Feldman, C., & Shen, M. (1971). Some language-related cognitive advantages of bilingual five-year-olds. *The Journal of Genetic Psychology: Research and Theory on Human Development*, 118(2), 235-2444.  
<http://dx.doi.org/10.1080/00221325.1971.10532612>
- Felix, S., & Zobl, H. (1994). Asymmetries in second language acquisition data. *Studies in Second Language Acquisition*, 16 (4), 475–84.
- Finch, G. (2000). *Linguistic terms and concepts*. New York: Palgrave.
- Fisher, L., Evans, M., Forbes, K., Gayton, A., & Liu, Y. (2020). Participative multilingual identity construction in the languages classroom: A multi-theoretical conceptualisation. *International Journal of Multilingualism*, 17(4), 448-466.
- Flege, J. E., MacKay, I. A., and Piske, T. (2002). Assessing bilingual dominance. *Applied Psycholinguistics*, (23), 567-598.
- Flege, J. E., Yeni-Komsian, G. H., & Liu, S. (1999). Age Constraints on Second Language Acquisition. *Journal of Memory and Language* (41), 78-104.

- Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. *Speech perception and linguistic experience: Issues in cross-language research*, 92, 233-277.
- Flege, J. E., & MacKay, I. R. (2004). Perceiving vowels in a second language. *Studies in second language acquisition*, 26(1), 1-34.
- Flege, J. E., Frieda, E. M., & Nozawa, T. (1997). Amount of native-language (L1) use affects the pronunciation of an L2. *Journal of phonetics*, 25(2), 169-186.
- Flege, J. E., Frieda, E. M., Walley, A. C., & Randazza, L. A. (1998). Lexical factors and segmental accuracy in second language speech production. *Studies in Second Language Acquisition*, 20(2), 155-187.
- Flynn, S., Foley, C., & Vinnitskaya, I. (2004). The cumulative-enhancement model for language acquisition: Comparing adults' and children's patterns of development in first, second and third language acquisition of relative clauses. *International Journal of Multilingualism*, 1(1), 3-16.
- Flynn, S. (1987). Contrast and construction in a theory of second language acquisition. *Language Learning*, 36, 1-37.
- Fromkin, V. A., Rodman, R., & Hyams, V. (2014). *An Introduction to Language* (10<sup>th</sup> ed.). Orlando, FL: Hartcourt Brace College Publishers.
- Fukui, N. (2006). The principles-and-parameters approach: a comparative syntax of English and Japanese. In *Theoretical Comparative Syntax* (pp. 100-131). Routledge.
- Fuligni, A. J., Witkow, M., & Garcia, C. (2005). Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. *Developmental psychology*, 41(5), 799.
- Gabiña, J. J., Gorostidi, R., Iruretagoiena, R., Olaziregi, I. & Sierra, J. (1986) *EIFE. La Enseñanza del Euskera: Influencia de los Factores*.  
[https://www.euskadi.eus/contenidos/informacion/eusk\\_documentacion\\_azterlana/k/es\\_def/adjuntos/EIFE-1-ESPANOL.pdf](https://www.euskadi.eus/contenidos/informacion/eusk_documentacion_azterlana/k/es_def/adjuntos/EIFE-1-ESPANOL.pdf)
- Gallardo, F. (2007). Is L3 phonological competence affected by the learner's level of bilingualism? *International Journal of Multilingualism* 4, 1-16.
- García Mayo, M. D. P., & González Alonso, J. (2015). L3 acquisition: A focus on cognitive approaches. *Bilingualism*. Cambridge University Press.  
<https://doi.org/10.1017/S136672891400039X>
- Garshol, L. (2019). *I Just Doesn't Know. Agreement errors in English texts by Norwegian L2 learners: Causes and remedies*. [Doctoral dissertation]. University of Agder.

- Gass, S. M., & Selinker, L. (Eds.). (1992). *Language transfer in language learning: Revised edition* (Vol. 5). John Benjamins Publishing.
- Gass, S., & Selinker, L. (2001). *Second language acquisition: An introductory course* (2nd Ed.). London: Lawrence Erlbaum Associates.
- Gass, S. (1980). An investigation of syntactic transfer in adult second language learners. In R. Scarcella & S. Krashen (Eds.) *Research in second language acquisition*, 132-141. Newbury House.
- Gass, S. M. (1983). The development of L2 intuitions. *TESOL Quarterly*, 17 (2), 273–91.
- Gass, S. M. (1987). The resolution of conflicts among competing systems: a bidirectional perspective. *Applied Psycholinguistics*, 8 (3), 329–50.
- Gass, S. M., & Mackey, A. (2007). *Data elicitation for second and foreign language research*. Routledge.
- Gathercole, V. C. M. (1997). The linguistic mass/count distinction as an indicator of referent categorization in monolingual and bilingual children. *Child Development*, 68, 832-842.
- Gathercole, V. C. M., & Montes, C. (1997). *That-trace effects in Spanish-and English-speaking monolinguals and bilinguals*. In A. T. Pérez-Leroux & W. R. Glass (Eds.), *Contemporary perspectives on the acquisition of Spanish: Vol. 1: Developing grammar*, 75-95.
- Genesee, F. (1983). Bilingual education of majority-language children: The immersion experiments in review. *Applied Psycholinguistics*, 4, 1–46.
- Giirel, A. (2004). Attrition of LI competence: The case of Turkish. *First language attrition: Interdisciplinary perspectives on methodological issues*, 225-242.
- Ginther, A., & McIntosh, K. (2018). Language Testing and Assessment. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.) *The Palgrave Handbook of Applied Linguistics Research Methodology*. London: Palgrave Macmillan.
- Gleason, J. B., & Ratner, N B. (2013). *The Development of Language* (8th ed.). Upper Saddle River, NJ: Pearson.
- Golden, A. & Hvistendal, R. (2018) Skriveforskning i et andrespråksperspektiv. *NOA - Norsk som andrespråk*, 26(2), 33-66
- Golden, A. (2017). Emotions negotiated in L2 texts: A corpus study of written production by adult learners on a Norwegian test. In A. Golden, S. Jarvis & K. Tenfjord, K. (Eds.), *Crosslinguistic influence and distinctive patterns of language learning: Findings and insights from a learner corpus*, 188-230. Multilingual Matters.

- Golden, A., Kulbrandstad, L. I., & Tenfjord, K. (Eds.). (2007). *Norsk andrespråksforskning-utviklingslinjer fra 1980 til 2005*. Multilingual Matters.
- Gollan, T. H., & Acenas, L. A. (2004). What is a TOT? Cognate and translation effects on tip-of-the-tongue states in Spanish-English and Tagalog-English bilinguals. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 30(1), 246–269.
- Gollan, T. H., Montoya, R. I., Cera, C., & Sandoval, T. C. (2008). More use almost always means a smaller frequency effect: Aging, bilingualism, and the weaker links hypothesis. *Journal of Memory and Language*, 58, 787–814.
- Gollan, T. H., Montoya, R. I., Fennema-Notestine, C., & Morris, S. K. (2005). Bilingualism affects picture naming but not picture classification. *Memory & cognition*, 33(7), 1220-1234.
- Gollan, T. H., Weissberger, G. H., Runnqvist, E., Montoya, R. I., & Cera, C. M. (2012). Self-ratings of spoken language dominance: A Multilingual Naming Test (MINT) and preliminary norms for young and aging Spanish–English bilinguals. *Bilingualism: language and cognition*, 15(3), 594-615.
- Gombert, J. E. (1992). *Metalinguistic development*. University of Chicago Press.
- Gonzalez-Ardeo, J. (2000). Engineering students and ESP in the Basque Country: SLA versus TLA. In J. Cenoz, B. Hufeisen & U. Jessner, (Eds.), *Looking beyond second language acquisition: Studies in tri- and multilingualism* (75–95). Tübingen: Stauffenburg.
- Grainger, J., & Dijkstra, T. (1992). On the representation and use of language information in bilinguals. *Advances in psychology* (Vol. 83, pp. 207-220). North-Holland.
- Graus, S. (2014). *Crosslinguistic lexical influence from English (L2) on Italian (L3) in spontaneous written production*. [Master's thesis], University of Innsbruck.
- Grey, S., Sanz, C., Morgan-Short, K., & Ullman, M. (2018). Bilingual and monolingual adults learning an additional language: ERPs reveal differences in syntactic processing. *Bilingualism: Language and Cognition*, 21(5), 970-994. doi:10.1017/S1366728917000426
- Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and language*, 36(1), 3-15.
- Grosjean, F. (1992). Another view of bilingualism. *Advances in psychology* (Vol. 83, pp. 51-62). North-Holland.
- Grosjean, F. (1998). Studying bilinguals: Methodological and conceptual issues. *Bilingualism: Language and cognition*, 1(2), 131-149.

- Grosjean, F. (2008). *Studying bilinguals*. Oxford University Press.
- Grosjean, F. (2010). *Bilingual: Life and reality*. Cambridge, MA: Harvard University Press.
- Gross M., Buac, M., & Kaushanskaya M. (2014) Conceptual scoring of receptive and expressive vocabulary measures in simultaneous and sequential bilingual children. *American Journal of Speech-Language Pathology*, 23(4), 574-86. doi: 10.1044/2014\_AJSLP-13-0026.
- Guasti, M. T. (2017). *Language acquisition: The growth of grammar* (2nd ed.). Cambridge, MA: MIT Press.
- Guion, S. G., Flege, J. E., Liu, S. H., & Yeni-Komshian, G. H. (2000). Age of learning effects on the duration of sentences produced in a second language. *Applied Psycholinguistics*, 21(2), 205-228.
- Gujord, A. K. H., & Ragnhildstveit, S. (2018). Tverrspråkleg påverknad- status og trendar i norsk andrespråksforskning. In A. K. H. Gujord & G. T. Randen (Eds.) *Norsk som andrespråk: perspektiver på læring og utvikling*, 133-163. Cappelen Damm Akademisk.
- Gujord, A. K. H. (2013). *Grammatical encoding of past time in L2 Norwegian: The roles of L1 influence and verb semantics* [Doctoral dissertation]. The University of Bergen.
- Gujord, A. K. H. (2017). The 'Perfect Candidate' for Transfer: A discussion of L1 Influence in L2 Acquisition of Tense-Aspect Morphology. In A. Golden, S. Jarvis & K. Tenfjord (Eds.) *Crosslinguistic Influence and Distinctive Patterns of Language Learning: Findings and Insights from a Learner Corpus*, 29-63. Multilingual Matters.
- Gujord, A. K. H. (2022). Who succeeds and who fails? Exploring the role of background variables in explaining the outcomes of L2 language tests. *Language Testing*. <https://doi.org/10.1177/02655322221100115>
- Hakuta, K., & D'Andrea, D. (1992). Some properties of bilingual maintenance and loss in Mexican background high-school students. *Applied linguistics*, 13(1), 72-99.
- Hall, C. J. (2005). *An introduction to language and linguistics: Breaking the language spell*. A&C Black.
- Hammarberg, B. (2001). Roles of L1 and L2 in L3 production and acquisition. In J Cenoz, B. Hufeisen & U. Jessner (Eds.), *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives*. Multilingual Matters.



- Hammarberg, B. (2010). The languages of the multilingual: Some conceptual and terminological issues. *IRAL, International Review of Applied Linguistics in Language Teaching*, 48(2), 91-104.
- Hammarberg, B. (2014). Problems in defining the concepts of L1, L2 and L3. *Teaching and learning in multilingual contexts: Sociolinguistic and educational perspectives*, 96, 3-18.
- Hammarberg, B., & Hammarberg, B. (1993). Articulatory re-setting in the articulation of new languages. *Reports from the Department of Phonetics, University of Umeå, PHONUM2*, 61-67.
- Harley, B. (1989). Functional grammar in French immersion: a classroom experiment. *Applied Linguistics*, 19 (3), 331–59.
- Harley, T. A. (2014). *The psychology of language: From data to theory*. Psychology Press.
- Hasselgård, H. (2022). Adverb-adjective combinations in young writers' English (EL1 and EL2). *Nordic Journal of Language Teaching and Learning*, 10(2), 383-403.
- Hasselgård, H., Johansson, S., and Lysvåg, P. (2004). *English Grammar: Theory and use*. 3rd ed. Oslo: Universitetsforlaget.
- Hasund, I. K. (2022). Genres in young learner L2 English writing. *Nordic Journal of Language Teaching and Learning*, 10(2), 242-271.
- Hatch, E. (1978). Introduction. In E. Hatch (Ed.), *Second Language Data Collection in SLA Research 817 Acquisition: A Book of Readings*. Rowley, MA: Newbury House, 1–18.
- Haugen, T. A. (2019). Funksjonell grammatikk som metaspråk i skulen–ei mogleighet for djupnelæring i arbeid med språk og tekst. *Acta Didactica Norge*, 13(1), 9-22.
- Haukås, Å. (2001). *Frequenz, Transfer und/oder Grammatikunterricht? Der L2-Erwerb des deutschen hypothetischen Konditionalgefüges aus kognitiv linguistischer Sicht*. Tübingen: Stauffenburg.
- Haukås, Å. (2012). Lærarhaldningar til språklæringsstrategiar. *Norsk pedagogisk tidsskrift* (2), 114-129
- Haukås, Å. (2014). Metakognisjon om språk og språklæring i et flerspråklighetsperspektiv. *Acta Didactica Norge*, 8(2).
- Haukås, Å. (2015). A comparison of L2 and L3 learners' strategy use in school settings. *Canadian Modern Language Review*, 71(4), 383-405.
- Haukås, Å. (2016). Teachers' beliefs about multilingualism and a multilingual pedagogical approach. *International Journal of Multilingualism* 13 (1) s. 1-18

- Haukås, Å. (2022). Who Are the Multilinguals?: Pupils' Definitions, Self-Perceptions and the Public Debate. In W. Ayres-Bennett & L. Fisher (Eds.), *Multilingualism and Identity: Interdisciplinary Perspectives*, 281-298). Cambridge: Cambridge University Press. doi:10.1017/9781108780469.014
- Haukås, Å., Storto, A., & Tiurikova, I. (2021). Developing and validating a questionnaire on young learners' multilingualism and multilingual identity. *The Language Learning Journal*, 1-16.
- Haukås, Å., Storto, A., & Tiurikova, I. (2021a). The Ungspråk project: Researching multilingualism and multilingual identity in lower secondary schools. *Globe: A Journal of Language, Culture and Communication*, 12, 83-98.
- Haukås, Å., Storto, A., & Tiurikova, I. (2022). School students' beliefs about the benefits of multilingualism. *Journal of Multilingual and Multicultural Development*, 1-14. fisher et al 2020.
- Hawkins, J. (1986). *A comparative typology of English and German: Unifying the contrasts*. Routledge.
- Hebert, C. (2014). *Autism Assessment Scale for Children (AASC): The Development of a DSM-V Aligned Questionnaire to Screen School-Aged Children for High Functioning Autism*. Old Dominion University.
- Heger, H., & Wroldsen, N. (2006) *Crossroads 8b. Engelsk for Ungdomstrinnet*. Bergen: Fagbokforlaget.
- Heger, H., & Wroldsen, N. (2006a) *Crossroads 8b. Engelsk for Ungdomstrinnet*. Lærerveiledning. Bergen: Fagbokforlaget.
- Hegna, J., & Speitz, H. (2020). PPU-studenters oppfatninger om elevenes flerspråklighet som ressurs i alle fag. *Norsk pedagogisk tidsskrift*, 104(1), 18-29.
- Helland, A. K. (2005). *I møte med eit tempusprominent språk: ei undersøking av mellomspråka til vietnamesiske norskinnlærarar*. [Master's thesis]. University of Bergen.
- Helland, A. K. (2008). Utviklingen av perfektum i individ og språk-samfunn. *NOA* 2, 23-49.
- Herdina, P., & Jessner, U. (2002). *A dynamic model of multilingualism: Perspectives of change in psycholinguistics*. Clevedon: Multilingual Matters.
- Hermas, A. (2010). Language acquisition as computational resetting: verb movement in L3 initial state. *International Journal of Multilingualism*, 7(4), 343-362.
- 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.

- Higby, E., Kim, J., & Obler, L. K. (2013). Multilingualism and the brain. *Annual Review of Applied Linguistics*. <https://doi.org/10.1017/S0267190513000081>
- Hill, H. S. (1936). The effect of bilingualism on the measured intelligence of elementary school children of Italian parentage. *Journal of Experimental Education*, 5, 75–78.
- Hirosh, Z., & Degani, T. (2018). Direct and indirect effects of multilingualism on novel language learning: An integrative review. *Psychonomic Bulletin and Review*. Springer New York LLC. <https://doi.org/10.3758/s13423-017-1315-7>
- Hofer, B. (2017). Emergent multicompetence at the primary level: a dynamic conception of multicompetence. *Language Awareness*, 26(2), 96-112, DOI: 10.1080/09658416.2017.1351981
- Holmes, P., & Enger, H. O. (2018). *Norwegian: A comprehensive grammar*. Routledge.
- Housen, A., & Baetens Beardsmore, H. (1987). Curricular and extracurricular factors in multilingual education. *Studies in Second Language Acquisition*, 9, 83–102.
- Huang, Z. N. (2015). On syntactic tense in Mandarin Chinese. In *Proceedings of the 27th North American Conference on Chinese Linguistics* (Vol. 2, pp. 406-423). Los Angeles, CA: University of California, Los Angeles.
- Huddleston, R., & Pullum, G.K. (2005). *A Student's Introduction to English Grammar*. Cambridge University Press.
- Huguet, A., & Vila, I. (1997). Nuevas aportaciones a la Hipótesis de Interdependencia Lingüística de escolares bilingües. *Infancia y Aprendizaje*, 79, 21–34.
- Hulstijn, J. H. (2007). Psycholinguistic perspectives on language and its acquisition. In *International handbook of English language teaching* (pp. 783-795). Boston, MA: Springer US.
- Husby, O. (1999). *En kort innføring i albansk*. Tapir akademisk forlag.
- Husby, O. (2004). *En kort innføring i somali*. Trondheim: Tapir Akademisk Forlag.
- Hvenekilde, A. (1985). Ordformer i norske stiler skrevet av tyrkiske og vietnamesiske elever. *NOA 1*, 81–98.
- Hvenekilde, A. (1986). Norwegian essays written by four Turkish students in a bicultural class. *NOA 3*, 66–93.
- Hvenekilde, A. (1987). Feil i vokalgrafemene i norske stiler skrevet av elever med arabisk og berberisk som morsmål. *NOA 5*, 1–28.
- Hyltenstam, K. (1984). The use of typological markedness conditions as predictors in second language acquisition: The case of pronominal copies in relative clauses. In R. Andersen (Ed.), *Second languages: A cross-linguistic perspective*, 39-58. Newbury House.

- Iversen, J. (2016). *Equality of Opportunity in the EFL Classroom: Experiences of Minority Students*. [Master's thesis]. Norwegian University of Science and Technology.
- Iversen, J. (2017). The role of minority students' L1 when learning English. *Nordic Journal of Language Teaching and Learning*, 5(1).
- James, C. (1998). *Errors in Language Learning and Use: Exploring Error Analysis*. London: Pearson Education Limited.
- Jared, D., & Kroll, J F. (2001). Do bilinguals activate phonological representations in one or both of their languages when naming words? *Journal of Memory and Language*, (44), 2-31.
- Jared, D., & Szucs, C. (2002). Phonological Activation in Bilinguals: Evidence from Interlingual Homograph Naming. *Bilingualism: Language and Cognition*, 5, 225 - 239.
- Jarvis, S. (2000). Methodological rigor in the study of transfer: Identifying L1 influence in them interlanguage lexicon. *Language learning*, 50(2), 245-309.
- Jarvis, S. (2002). Topic continuity in L2 English article use. *Studies in second language acquisition*, 24(3), 387-418.
- Jarvis, S. (2003). Probing the effects of the L2 on the L1: A case study. In V. Cook (Ed.), *Effects of the second language on the first*, 3, 81-102. Multilingual Matters.
- Jarvis, S. (2010). Comparison-based and detection-based approaches to transfer research. *Eurosla yearbook*, 10(1), 169-192.
- Jarvis, S. (2017). Transfer: An overview with an expanded scope. In J. Jarvis, A. Golden & K. Tennfjord (Eds.) *Crosslinguistic influence and distinctive patterns of language learning*, 12-28. Routledge.
- Jarvis, S., & Odlin, T. (2000). Morphological type, spatial reference, and language transfer. *Studies in second language acquisition*, 22(4), 535-556.
- Jarvis, S., & Pavlenko, A. (2008). *Crosslinguistic influence in language and cognition*. Routledge.
- Jaspaert, K., & Lemmens, G. (1990). 2 Linguistic Evaluation of Dutch as. *Bicultural and trilingual education: The Foyer model in Brussels*, 54, 30.
- Javorovic, A. E. (2021). *Transfer of Verb-Second in L2 Acquisition: A Qualitative Corpus Study of L1 Norwegian Learners of L2 English* [Master's thesis]. NTNU.
- Jensen, B. U., & Steien, G. B. (2017). Intonasjonstrekk i flerspråklige taleres idiolekter i to post-S1-språk. *NOA-Norsk som andrespråk*, 33(2).
- Jensen, I. N., Slabakova, R., & Westergaard, M. (2017). The Bottleneck Hypothesis in L2 acquisition: Norwegian L1 speakers' knowledge of syntax and morphology in

- English L2. In M. LaMendola & J. Scott, (Eds.), *BUCLD 41: Proceedings of the 41st annual Boston University Conference on Language Development* (333-346). Somerville, MA: Cascadilla
- Jensen, I. N., Slabakova, R., Westergaard, M., & Lundquist, B. (2020). The Bottleneck Hypothesis in L2 acquisition: L1 Norwegian learners' knowledge of syntax and morphology in L2 English. *Second Language Research*, 36(1), 3-29.
- Jessner, U. (1999). Metalinguistic awareness in multilinguals: Cognitive aspects of third language learning. *Language awareness*, 8(3-4), 201-209.
- Jessner, U. (2006). *Linguistic awareness in multilinguals: English as a third language*. Edinburgh University Press.
- Jessner, U. (2008). Teaching third languages: Findings, trends and challenges. *Language teaching*, 41(1), 15-56.
- Jessner, U. (2008b). Multicompetence approaches to language proficiency development in multilingual education. In J. Cummins & N. H. Hornberger (Eds.), *Encyclopedia of language and education*, 5, 1-13). Berlin: Springer Science and Business Media LLC.
- Jessner, U., Megens, M., & Graus, S. (2016). Crosslinguistic Influence in Third Language Acquisition. In R. A. Alonso (Ed.), *Crosslinguistic influence in second language acquisition*, 193-214. Multilingual Matters.
- Jia, G., Aaronson, D & Wu, Y. (2002). Long-term attainment of bilingual immigrants: Predictive variables and language group differences. *Applied Psycholinguistics*, (23), 599-621.
- Jiang, W. (2009). *Acquisition of Word Order in Chinese a Foreign Language*. Mouton de Gruyter: Germany.
- Jin, F. (2007). *Second language acquisition and processing of Norwegian DP internal agreement*. [Doctoral dissertation]. Norwegian University of Science and Technology.
- Jin, H. G. (1994). Topic-prominence and subject-prominence in L2 acquisition: Evidence of English-to-Chinese typological transfer. *Language learning*, 44(1), 101-122.
- Jin, F. (2009). Third language acquisition of Norwegian objects: Interlanguage transfer or L1 influence? In Y. I. Leung (Ed.), *Third language acquisition and Universal Grammar* (144–161). Bristol: Multilingual Matters.
- Johansson, S. (2007). *Seeing through Multilingual Corpora*. John Benjamins.
- Johansson, S. (2008). *Contrastive analysis and learner language: A corpus-based approach*. University of Oslo, 9.

[https://www.hf.uio.no/ilos/english/research/groups/english-language-and-corpus-linguistics-research/papers/contrastive-analysis-and-learner-language\\_learner-language-part.pdf](https://www.hf.uio.no/ilos/english/research/groups/english-language-and-corpus-linguistics-research/papers/contrastive-analysis-and-learner-language_learner-language-part.pdf)

- Johansson, S., & Stavestrand, H. (1987). Problems in learning – and teaching – the progressive form. In I. Lindblad & M. Ljung (Eds.) *Proceedings from the Third Nordic Conference for English Studies. Stockholm Studies in English 73. Vol. 1*, 139-148. Stockholm: Almqvist & Wiksell.
- Johnson, J. S., & Newport, E. L. (1989). Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language. *Cognitive psychology*, 21(1), 60-99.
- Johnson, R. K. (1996). Discovering successful second language teaching strategies and practices: From program evaluation to classroom experimentation. A response. *Journal of Multilingual and Multicultural Development*, 17, 113–115.
- Jørgensen, C. F., & Siljan, H. (2021). Hva slags grammatikkarbeid inviterer læreboka til? En studie av grammatikkoppgaver i to norsklæreverk for ungdomstrinnet. *Norsk lingvistisk tidsskrift*, 39(2).
- Kachru, B. B. (Ed.). (1992). *The other tongue: English across cultures*. University of Illinois press.
- Kahin, M. (1997). *Educating Somali Children in Britain*. Stoke-on-Trent: Trentham Books Limited.
- Kahn-Horwitz, J., Kuash, S., Ibrahim, R., & Schwartz, M. (2014). How do previously acquired languages affect acquisition of English as a foreign language: The case of Circassian. *Written Language & Literacy*, 17, 40–61.
- Kahn-Horwitz, J., Schwartz, M., & Share, D. (2011). Acquiring the complex English orthography: A trilliteracy advantage? *Journal of Research in Reading*, 34, 136–156.
- Kalashnikova, M., Mattock, K., & Monaghan, P. (2014). The effects of linguistic experience on the flexible use of mutual exclusivity in word learning. *Bilingualism: Language and Cognition*, 18, 626– 638.
- Kamčev, N. (2013). *Jeg tenker, altså er jeg! Tilegnelse av tro, synes og tenke i BKS-språkliges norske mellomspråk. En korpusbasert studie*. [Master's thesis]. University of Bergen.
- Karpf, A. (1990). *Selbstorganisationsprozesse in der sprachlichen Ontogenese: Erst- und Fremdsprache(n)*. Tübingen: Narr.

- Kaushanskaya, M., Yoo J., & Van Hecke S. (2013) Word learning in adults with second-language experience: effects of phonological and referent familiarity. *Journal of Speech Language and Hearing Research* 56(2), 667-78.
- Kaushanskaya, M., & Marian, V. (2009). The bilingual advantage in novel learning. *Psychonomic bulletin & review* 16, 705-10.
- Kaushanskaya, M., & Marian, V. (2009b). Bilingualism reduces native- language interference during novel-word learning. *Journal of Experimental Psychology. Learning, Memory, and Cognition*, 35, 829–835.
- Kaushanskaya, M., Blumenfeld, H., & Marian, V. (2020). The Language Experience and Proficiency Questionnaire (LEAP-Q): Ten years later. *Bilingualism: Language and Cognition*, 23(5), 945-950. doi:10.1017/S1366728919000038
- Kavé, G., Eyal, N., Shorek, A., & Cohen-Mansfield, J. (2008). Multilingualism and cognitive state in the oldest old. *Psychology and aging*, 23(1), 70.
- Kazazoğlu, S. (2020). The impact of L1 interference on foreign language writing: A contrastive error analysis. *Journal of Language and Linguistic Studies*, 16(3), 1168-1188.
- Kellerman, E. (1983). Now you see it, now you don't. *Language transfer in language learning*, 54(12), 112-134.
- Kemp, C. (2007). Strategic processing in grammar learning: Do multilinguals use more strategies? *International Journal of Multilingualism*, 4(4), 241–261.  
<https://doi.org/10.2167/ijm099.0>
- Kemp, C. (2009). Defining multilingualism. In L. Aronin & B. Hufeisen (Eds.), *The Exploration of Multilingualism: Development of Research on L3, Multilingualism and Multiple Language Acquisition*. Amsterdam: John Benjamins, pp. 11–26.
- Kim K., Relkin N., Lee K., & Hirsch J. (1997) Distinct cortical areas associated with native and second languages. *Nature* 388, 171–174.
- Kim, S. Y., & Chao, R. K. (2009). Heritage language fluency, ethnic identity, and school effort of immigrant Chinese and Mexican adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 15(1), 27.
- Klein, E. (1995). Second vs. third language acquisition: Is there a difference? *Language Learning* 45(3), 419–465.
- Kleinmann, H. H. (1977). Avoidance behavior in adult second language acquisition 1. *Language learning*, 27(1), 93-107.
- Korzilius, H., Van Hooft, A., Planken, B., & Hendrix, C. (2011). Birds of different feathers? The relationship between multicultural personality dimensions and

- foreign language mastery in business professionals working in a Dutch agricultural multinational. *International Journal of Intercultural Relations*, 35(5), 540-553.
- König, E. (2012). Contrastive linguistics and language comparison. *Languages in Contrast*, 12(1), 3-26.
- König, E., & Gast, V. (2012). *Understanding English - German Contrasts*. 3rd revised and expanded edition, Berlin: Erich Schmidt.
- Köpke, B. (2002). Activation thresholds and non-pathological first language attrition. In F. Fabbro (Ed.), *Advances in the neurolinguistics of bilingualism*, 119-142. Forum.
- Korver, T. E. (2013). *A Descriptive Syntactic Analysis of Somali ESL Errors in Writing*. [Master's thesis]. University of Minnesota.
- Krizman, J., Marian, V., Shook, A., Skoe, E., & Kraus, N. (2012). Subcortical encoding of sound is enhanced in bilinguals and relates to executive function advantages. *Proceedings of the National Academy of Sciences*, 109, 7877-7881.
- Kroll, J. F., & Stewart, E. (1994). Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language*, (33), 149-174.
- Kroll, J. F., & Bialystok, E. (2013). Understanding the consequences of bilingualism for language processing and cognition. *Journal of Cognitive Psychology*, 25(5), 497-514. <https://doi.org/10.1080/20445911.2013.799170>
- Kroll, J. F., & De Groot, A. M. (2002). Lexical and conceptual memory in the bilingual. *W: Altmann GTM (red.)*, *Psycholinguistics. Critical concepts in psychology*, 2, 203-234.
- Kroll, J. F., & Tokowicz, N. (2001). The development of conceptual representation for words in a second language. In J. L. Nicol (Ed.), *One mind, two languages: Bilingual language processing*, 49-71. Malden, MA: Blackwell.
- Krulatz, A. M., & Dahl, A. (2016) Baseline Assessment of Norwegian EFL Teacher Preparedness to Work with Multilingual Students. *Journal of Linguistics and Language Teaching* 7(2).
- Krulatz, A. M., & Torgersen, E. N. (2016). The role of the EFL classroom in maintaining multilingual identities: Issues and considerations in Sør-Trøndelag public schools. In K. Amanti, J. Álvarez Valencia & E. Mackinney (Eds.), *Critical Views on Teaching and Learning English Around the Globe*, 53-68. Charlotte, NC: Information Age Publishing.



- Krzyzanowski, H., & Drozdial, K. (1978). Do We Need Error Analysis in the EFL Classroom?. *Glottodidactica* 9, 33-40.
- Kufner, H. L. (1962). *The Grammatical Structures of English and German*. Chicago: Chicago University Press.
- Kush, D., Dahl, A., & Lindahl, F. (2023). Filler–gap dependencies and islands in L2 English production: Comparing transfer from L1 Norwegian and L1 Swedish. *Second Language Research*, 02676583231172918.
- Laka, I., Santesteban, M., Erdocia, K., & Zawiszewski, A. (2012). The Basque language in the minds of native and non-native bilinguals. *The challenge of a bilingual society in the Basque Country*, 157-172.
- Larsen-Freeman, D., & Long, M. H. (1991). *An introduction to second language acquisition research*. London: Longman.
- Larsen-Freeman, D., (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics*, 18(2), 141–165.
- Lasagabaster, D. (1997). *Creatividad y conciencia metalingüística: Incidencia en el aprendizaje del inglés como L3*. Leioa: Universidad del País Vasco.
- Lasagabaster, D. (2000). Three languages and three linguistic models in the Basque educational system. In J. Cenoz & U. Jessner (Eds.), *English in Europe: The acquisition of a third language*, 179–197. Clevedon: Multilingual Matters.
- Laufer, B., & Eliasson, S. (1993). What causes avoidance in L2 learning: L1–L2 difference, L1–L2 similarity, or L2 complexity? *Studies in Second Language Acquisition*, 15 (1), 35–48.
- Laugerud, S., Askeland, N., & Aamotsbakken, B. (2014). *Lesing, lekser og læring: Tilpasset opplæring og inkludering i den flerkulturelle skolen*. Oslo: Universitetsforlaget.
- Lemhöfer, K., & Broersma, M. (2012). Introducing LexTALE: A quick and valid lexical test for advanced learners of English. *Behavior research methods*, 44, 325-343.
- Leopold, W. F. (1939–1949). *Speech Development of a Bilingual Child. A Linguists' Record*, 4 volumes, Northwestern University Press, Evanston, IL.
- Leśniewska, J., & Witalisz, E. (2007). Cross-linguistic influence and acceptability judgments of L2 and L1 collocations: A study of advanced Polish learners of English. *EUROSLA Yearbook*. 7, 27-48.
- Levelt, W. J. (1983). Monitoring and self-repair in speech. *Cognition*, 14(1), 41-104.
- Levelt, W. J. (1993). Language use in normal speakers and its disorders. *Linguistic disorders and pathologies*, 1-15.
- Levelt, W. J. (1993a). *Speaking: From intention to articulation*. MIT press.

- Lewandowska, A. (2013). *The effectiveness of data-driven learning techniques in eliminating Polish advanced EFL learners' interference errors*. [Doctoral dissertation]. Uniwersytet im. Adama Mickiewicza, Poznan, Poland.
- Lindqvist, C. (2006). *L'influence translinguistique dans l'interlangue française: Etude de la production orale d'apprenants plurilingues*. [Doctoral dissertation]. University of Stockholm.
- Liu, H., & Cao, F. (2016). L1 and L2 processing in the bilingual brain: A meta-analysis of neuroimaging studies. *Brain and language*, 159, 60-73.
- Łockiewicz, M., & Jaskulska, M. (2017). Polish as L1, English as L2: the linguistic transfer impact on Second Language Acquisition stemming from the interlingual differences: implications for young learners' education. *Problemy Wczesnej Edukacji* 37, 68-76.
- Łockiewicz, M., & Jaskulska, M. (2019). Linguistic transfer in English as a Foreign Language in a single free writing task in Polish students with and without dyslexia. *ERL Journal*.
- Lohnes, W., & Hopkins, E. (eds). (1982). *The contrastive grammar of English and German*. Ann Arbor: Karoma.
- Lorenz, E., Krulatz, A., & Torgersen, E. N. (2021). Embracing linguistic and cultural diversity in multilingual EAL classrooms: The impact of professional development on teacher beliefs and practice. *Teaching and Teacher Education*, 105, 103428.
- Lozano, C. (2003). *Universal Grammar and focus constraints: The acquisition of pronouns and word order in non-native Spanish*. [Doctoral dissertation]. University of Essex.
- Lundberg, A. (2020). *Viewpoints about educational language policies: Multilingualism in Sweden and Switzerland* (Doctoral dissertation, Malmö universitet).
- Lysvåg, P. & Johansson, S. (1995). *Going for Grammar*. Oslo: Aschehoug.
- MacLeod, C. M. (1991). Half a Century of Research on the Stroop Effect: An Integrative Review. *Psychological Bulletin*, 109(2), 163-202.
- Macnamara, J. (1966). *Bilingualism and primary education: A study of Irish experience*. Edinburgh: The University Press.
- MacWhinney, B. (1987). The Competition Model. In B. MacWhinney (Ed.), *Mechanisms of Language Acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates, 249–308.

- MacWhinney, B. (1997). Second language acquisition and the Competition Model. In A. M. B. De Groot and J. F. Kroll (Eds.), *Tutorials in Bilingualism: Psycholinguistic Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates, 113–42.
- MacWhinney, B. (2005). A unified model of language acquisition. In J. F. Kroll & A. M. De Groot (Eds.) *Handbook of bilingualism: Psycholinguistic approaches*, 50-70. Oxford University Press.
- MacWhinney, B., & Bates, E. (Eds.). (1989). *The Crosslinguistic Study of Sentence Processing*. Cambridge: Cambridge University Press.
- Mady, C. (2014). Learning French as a second official language in Canada: Comparing monolingual and bilingual students at Grade 6. *International Journal of Bilingual Education and Bilingualism*, 1, 330–344.
- Mahmoud, A. (2000). Modern Standard Arabic vs. Non-Standard Arabic: where do Arab students of EFL transfer from?. *Language Culture and Curriculum*, 13(2), 126-136.
- Malcher, J. (2011). *Jeg liker å treffe folk i café. Man må nyter de fine tingene på verden!: preposisjoner og morsmålstransfer-en korpusbasert studie med i og på i fokus* [Master's thesis]. University of Oslo.
- Mangerud, T. (1988). *Analyse av tyrkiske grunnskoleelevers norske mellomspråk*. [Master's thesis]. University of Oslo.
- Manuel, H. T. (1935). A comparison of Spanish-speaking and English-speaking children in reading and arithmetic. *Journal of Applied Psychology* 19, 189–202.
- Marian, V., Blumenfeld, H. K. & Kaushanskaya, M. (2007). The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing Language Profiles in Bilinguals and Multilinguals. *Journal of Speech, Language and Hearing Research*, 50, 940-967.
- Marian, V., & Shook, A. (2012). The cognitive benefits of being bilingual. *Cerebrum : The Dana Forum on Brain Science*, 2012, 13. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/23447799>
- Marian, V., & Spivey, M. J. (2003). Competing activation in bilingual language processing: Within- and between-language competition. *Bilingualism: Language and Cognition*, 6, 97-115.
- Markman, E. M. (1990). Constraints children place on word meanings. *Cognitive Science*, 14, 57–77.
- Masood, M. H., Shafi, S., Rahim, M. Y., & Darwesh, M. A. (2020). Interference of L1 (Urdu) in L2 (English) in Pakistan: Teaching English as a second

- language. *International Journal of Applied Linguistics and English Literature*, 9(5), 110-118.
- Mathiassen, T. (1996). *A short grammar of Lithuanian*. Slavica Publishers.
- McDonald, J. L. (2000). Grammaticality judgments in a second language: Influences of age of acquisition and native language. *Applied Psycholinguistics*, 21 (3), 395–423.
- McGregor, W. B. (2015). *Linguistics: an introduction*. Bloomsbury Publishing.
- McLaughlin, B. (1977). Second-language learning in children. *Psychological Bulletin*, 84(3), 438.
- Meara, P. (1999). Self-organization in bilingual lexicons. In P. Broeder & J. Muire (Eds.), *Language and thought in development*, 127-144. Tübingen: Narr.
- Megens, M. (2011). *Language attrition after four months of non-use?: Emergence of lexical attrition in the English L2 oral production of multilingual learners*. [Master's thesis]. University of Innsbruck.
- Mejdell, G. (1978). Arabisk. In E. Hovdhaugen, K. Kristiansen, G. Mejdell & S. Mønnesland (Eds.), *Kontrastive Grammatikker*, 6-48. Oslo: Prøveutgave Voksenopplæringsrådet.
- Meng, Y., Lin, W., Lin, J., & Cai, C. (2016). The phonological or semantic activation of non-target language in an immediate cross-language switching paradigm. *Acta Psychologica Sinica*, 48(2), 121.
- Mesaros, B. T. (2008). *Learning English as a Third Language: The Case of the Romanian Community in Spain*. [Master's thesis]. Universitat Jaume I.
- Milroy, L. (1987). *Observing and Analysing Natural Language*. Oxford: Blackwell.
- Ministry of Church Affairs and Education. (1987). *Mønsterplan for grunnskolen M87*. Aschehoug. [https://www.nb.no/items/URN:NBN:no-nb\\_digibok\\_2007080200101?page=3](https://www.nb.no/items/URN:NBN:no-nb_digibok_2007080200101?page=3)
- Ministry of Church Affairs, Education and Research. (1996). *Læreplanverket for den 10-årige grunnskolen L97*. [https://www.nb.no/items/URN:NBN:no-nb\\_digibok\\_2008080100096?page=5](https://www.nb.no/items/URN:NBN:no-nb_digibok_2008080100096?page=5)
- Moe, E. (2010). Morsmålsbakgrunn og språkleg nivå i elevtekstar. In H. Johansen et al. (Eds.), *Systematisk, variert, men ikke tilfeldig*, 148-159. Oslo: Novus.
- Möhle, D. (1989). Multilingual interaction in foreign language production. In H. W. Dechert & M. Raupach (Eds.), *Interlingual Processes*, 179–94. Tübingen: Gunter Narr.
- Moore, D. (2006). Plurilingualism and strategic competence in context. *International Journal of Multilingualism*, 3(2), 125-138.

- Morales, A. (2017). Intercultural sensitivity, gender, and nationality of third culture kids attending an international high school. *Journal of International Education Research*, 13(1), 35–44.
- Moravcsik, E. A. (2012). *Introducing language typology*. Cambridge University Press.
- Morford, J. P., Wilkinson, E., Villwock, A., Piñar, P., & Kroll, J. F. (2011). When deaf signers read English: Do written words activate their sign translations?. *Cognition*, 118(2), 286-292.
- Moskvil, M. E. (2004) Temporalitet i morsmål, målspråk og mellomspråk, Unpublished MA thesis. Faculty of Humanities, University of Bergen
- Moulton, W. (1962). *The sounds of English and German*. Chicago: University of Chicago Press.
- Muñoz, C. (2000). *Segundas Lenguas*. Barcelona: Ariel.
- Nacey, S. L. (2022). Development of metaphorical production in learner language. *Nordic Journal of Language Teaching and Learning*, 10(2), 272-297.
- Nacey, S., & Graedler, A.-L. (2015). Preposition Use in Oral and Written Learner Language. *Bergen Language and Linguistics Studies* 6. <https://doi.org/10.15845/bells.v6i0.808>.
- Ness, K. (2008). *Multilingualism: Challenges facing minority background pupils learning English as a third language in Norwegian primary schools*. [Master's thesis]. University of Stavanger.
- Nistov, I. (1989). *Mellomspråk og morsmål. Ei longitudinell undersøkning av trekk i norske mellomspråkstekstar skrivne av fire tyrkiske elevar*. [Master's thesis]. University of Oslo.
- Nordanger, M. (2009). *Keiserens nye klær? Lingvistisk og konseptuell transfer i markeringen av grammatikalisert definitt referanse i russiskspråklige og engelskspråkliges norske mellomspråk: en studie basert på ASK*. [Master's thesis]. University of Bergen.
- Nordanger, M. (2010). Transferbegrepets komplekse vesen og betydningen av strategi i språklæringen. In H. Johansen et al. (Eds.). *Systematisk, variert, men ikke tilfeldig*, 190-200. Oslo: Novus.
- Norwegian Centre for Research Data. 2022. www. <https://www.nsd.no/en>
- O'Grady, W. (2005). *How children learn language*. Cambridge: Cambridge University Press.
- Odlin, T. (2003). Cross-linguistic influence. In C. Doughty & M. Long (Eds.) *The handbook of second language acquisition*, 436-486. Blackwell.

- Odlin, T. (2003a). *Language transfer: Cross-linguistic influence in language learning*. Cambridge University Press.
- Odlin, T., & Jarvis, S. (2004). Same source, different outcomes: A study of Swedish influence on the acquisition of English in Finland. *International Journal of Multilingualism*, 1(2), 123-140.
- Odlin, T. (1989). *Language transfer: Cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.
- OECD. (2019), "How does socio-economic status influence entry into tertiary education?", *Education Indicators in Focus*, No. 69, OECD Publishing, Paris, <https://doi.org/10.1787/b541bfcd-en>.
- Olaziregi, I., & Sierra, J. (1990). *EIFE –3: Euskararen irakaskuntza. Faktoreen eragina*. Vitoria-Gasteiz: Eusko Jaurlaritzako Gubierno Vasco.
- Oller, D. K., Pearson, B. Z., & Cobo-Lewis, A. B. (2007). Profile effects in early bilingual language and literacy. *Applied Psycholinguistics*, 28, 191–230.
- Olsbu, I. (2014). The future of literary texts in the L3 classroom. *Acta Didactica Norge*, 8(2).
- Olsen, S. (1999). Errors and compensatory strategies: a study of grammar and vocabulary in texts written by Norwegian learners of English. *System*, 27(2), 191-205.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.
- Paradis, M. (2009). *Declarative and procedural determinants of second languages*. Amsterdam: John Benjamins.
- Paulsen, G. (2009). *Bestemthet om bestemthet?* [Master's thesis]. University of Oslo.
- Pawley, A., & Syder, F. H. (2000). The one-clause-at-a-time hypothesis. In *Perspectives on fluency*. University of Michigan Press.
- Perani, D., Dehaene, S., Grassi, F., Cohen, L., Cappa, S. F., & Dupoux, E. (1996). Brain processing of native and foreign languages. *Neuroreport*, (7), 2439- 2444.
- Perani, D., Paulesu, E., Galles, N. S., Dupoux, E., Dehaene, S., Bettinardi, V., Cappa, S. F., Fazio, F. & Mehler, J. (1998). The bilingual brain. Proficiency and age of acquisition of the second language. *Brain: a journal of neurology*, 121(10), 1841-1852.
- Peters, L., & Mayer, C. (2016). Somali and English: Some Differences and the Implications for Writing Tutors and Instructors. *MinneTESOL Journal, Fall*. Retrieved from <http://minnetesoljournal.org/journal-archive/mtj-2016-2/somali->

- and-english-so me-differences-and-the-implications-for-writing-tutors-and-instructors/Learning Research Journal*, 9, 50-66.
- Peyer, E., Kayser, I., & R. Berthele (2010). The multilingual reader: Advantages in understanding and decoding German sentence structure when reading German as an L3. *International Journal of Multilingualism* 7, 225–239.
- Pfenninger, S. E., & Singleton, D. (2017). *Beyond age effects in instructional L2 learning: Revisiting the age factor* (Vol. 113). Multilingual Matters.
- Philipsson, A. (2007). *Interrogative clauses and verb morphology in L2 Swedish: Theoretical interpretations of grammatical development and effects of different elicitation techniques*. [Doctoral dissertation]. Stockholm University.
- Pierce, M. (2006). Jones, William, Sir (1746-1794). In K. Brown (Ed.), *Encyclopedia of Language and Linguistics*. 2nd edition. Amsterdam: Elsevier. 134-5.
- Piotrowska, J. (1995). *A Linguistic Analysis of Composition Errors Made by Native Speakers of Polish Studying English as a Second Language*. [Master's thesis]. Southern Connecticut State University.
- Pliatsikas, C., & Marinis, T. (2013). Processing empty categories in a second language: When naturalistic exposure fills the (intermediate) gap. *Bilingualism: Language and Cognition*, 16(1), 167-182.
- Polinsky, M. (2018). *Heritage Languages and their Speakers (Cambridge Studies in Linguistics)*. Cambridge: Cambridge University Press.  
doi:10.1017/9781107252349
- Poljaković, A. (2013). *Tilegnelse av definnitt referanse i norsk mellomspråk. Konseptuell transfer i et andrespråks- og et fremmedspråksperspektiv*. [Master's thesis]. University of Bergen.
- Poullisse, N. (1999). *Slips of the Tongue: Speech errors in first and second language production*. Benjamins.
- Prior, A., & MacWhinney, B. (2010). A bilingual advantage in task switching. *Bilingualism: Language and Cognition*, 13(2), 253–262.
- Proverbio, A. M., Leoni, G., & Zani, A. (2004). Language switching mechanisms in simultaneous interpreters: An ERP study. *Neuropsychologia*, 42, 1636–1656.
- Puig-Mayenco, E., González Alonso, J., & Rothman, J. (2020). A systematic review of transfer studies in third language acquisition. *Second Language Research*, 36(1), 31–64. <https://doi.org/10.1177/0267658318809147>

- Ragnhildstveit, S. (2010b). Kompleksitetsteori og andrespråklæring - "Sommerfugleffekt". In H. Johansen et al. (Eds.). *Systematisk, variert, men ikke tilfeldig*, 201-212. Oslo: Novus.
- Ragnhildstveit, S. (2009). *Genustildeling og morsmåltransfer i norsk mellomspråk: en korpusbasert studie*. [Master's thesis]. University of Bergen.
- Ragnhildstveit, S. (2010a). Genustildeling og morsmåltransfer i norsk mellomspråk. *NOA nr. 26* (1), 30–55.
- Ranong, S. N., & Leung, Y. K. I. (2009). Null objects in L1 Thai-L2 English-L3 Chinese: An empiricist take on a theoretical problem. *Third language acquisition and universal grammar*, 162-191.
- Ravem, R. (1968). Language acquisition in a second language environment. *International Review of Applied Linguistics*, 6, 165–85. Reprinted 1974 in J. Richards (Ed.), *Error Analysis*. London: Longman, 124–33.
- Read, C. (1978). Children's awareness of language, with emphasis on sound systems. In *The child's conception of language* (pp. 65-82). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Ricciardelli, L. A. (1992). Bilingualism and cognitive development in relation to threshold theory. *Journal of psycholinguistic research*, 21(4), 301-316.
- Rindal, U. (2020). English in Norway. In L. M. Brevik & U. Rindal (Eds.), *Teaching English in Norwegian classrooms: From research to practice* (pp. 23-42). Universitetsforlaget.
- Ringbom, H. (1987). *The role of the First Language in Foreign Language Learning*. Clevedon: Multilingual Matters.
- Ringbom, H. (2001). Lexical transfer in L3 production. In J. Cenoz, B. Hufeisen & U. Jessner (Eds.) *Bilingual Education and Bilingualism*, 59-68. Multilingual Matters.
- Ringbom, H. (2007). *The importance of cross-linguistic similarity in foreign language learning: Comprehension, learning and production*. Multilingual Matters.
- Rivers, W. P. (2001). Autonomy at all costs: An ethnography of metacognitive self-assessment and self-management among experienced language learners. *The modern language journal*, 85(2), 279-290.
- Rodríguez-Hernández, C. F., Cascallar, E., & Kyndt, E. (2020). Socio-economic status and academic performance in higher education: A systematic review. *Educational Research Review*, 29, 100305.
- Roehr-Brackin, K. (2024). Measuring children's metalinguistic awareness. *Language Teaching*, 1-17.



- Roelofs, A. (2003). Shared phonological encoding processes and representations of languages in bilingual speakers. *Language and Cognitive Processes*, 18(2), 175-204.
- Rosén, V. (1999). *Vietnamesisk. En kontrastiv og typologisk introduksjon*. Tapir akademisk forlag.
- Rothman, J., González Alonso, J., & Puig-Mayenco, E. (2019). *Third Language Acquisition and Linguistic Transfer* (Cambridge Studies in Linguistics). Cambridge: Cambridge University Press. doi:10.1017/9781316014660
- Rothman, J. (2010). On the typological economy of syntactic transfer: Word order and relative clause high/low attachment preference in L3 Brazilian Portuguese. *International Review of Applied Linguistics in Language Teaching (IRAL)*, 48(2-3), 245-273.
- Ruokonen, I., & Kairavuori, S. (2012). Intercultural sensitivity of the Finnish ninth graders. *Procedia-Social and Behavioral Sciences*, 45, 32-40. doi: 10.1016/j.sbspro.2012.06.540
- Rørvik, S. (2022). Noun-phrase complexity in the texts of intermediate-level Norwegian EFL writers: stasis or development?. *Nordic Journal of Language Teaching and Learning*, 10(2), 298-326.
- Saarik, K. (2006). Tilegnelsen av V2-regelen hos estisk- og finsktalendeinnlærere av norsk som andrespråk. In H. Sandøy & K. Tenfjord (Eds.). *Den nye norsken?* Oslo: Novus, 246-259.
- Sabbah, S. (2015). Negative transfer: Arabic language interference to learning English. *Arab World English Journal (AWEJ) Special Issue on Translation*, (4).
- Saeed, J. I. (1999). *Somali*. Amsterdam: John Benjamins.
- Saer, D. (1923). The effects of bilingualism on intelligence. *British Journal of Psychology* 14, 25-38.
- Sagasta Errasti, M. P. (2003). Acquiring writing skills in a third language: The positive effects of bilingualism. *International Journal of Bilingualism*, 7(1), 27-42.
- Salomonsen, L. (1995). *Pro-drop-parameteren og det-setninger: en undersøkelse av det-setningenes rolle ved fastsettingen av minusverdien på parameteren*. [Master's thesis]. University of Bergen.
- Sanders, M., & Meijers, G. (1995). English as L3 in the elementary school. *ITL Review of Applied Linguistics*, 107(8), 59-78.
- Sanz, C. (2000). Bilingual education enhances third language acquisition: Evidence from Catalonia. *Applied Psycholinguistics*, 21, 23-44.

- Sanz, C. (2007). The role of bilingual literacy in the acquisition of a third language. In C. Perez-Vidal, A. Bel & M. J. Garau (Eds.), *A portrait of the young in the new multilingual Spain*, 220-240. Clevedon: Multilingual Matters.
- Schachter, J., & Celce-Murcia, M. (1977). Some reservations concerning error analysis. *Tesol Quarterly*, 441-451.
- Schlepppegrell, M. J. (2013). The role of metalanguage in supporting academic language development. *Language learning*, 63, 153-170.
- Schoonen, R., Gelderen, A. V., Glopper, K. D., Hulstijn, J., Simis, A., Snellings, P., & Stevenson, M. (2003). First language and second language writing: The role of linguistic knowledge, speed of processing, and metacognitive knowledge. *Language learning*, 53(1), 165-202.
- Schwartz, M., Geva, E., Share, D. L., & Leikin, M. (2007). Learning to read in English as third language: The cross-linguistic transfer of phonological processing skills. *Written Language & Literacy*, 10(1), 25–52.
- Schwartz, M., Kahn-Horwitz, J., & Share, D. L. (2014). Orthographic learning and self-teaching in a bilingual and biliterate context. *Journal of Experimental Child Psychology*, 117, 45–58.
- Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research*, 12(1), 40–72.
- Scott, M., & Tucker, G. (1974) Error analysis and English-language strategies of Arab students. *Language Learning* 24, 69–7.
- Selinker, L. (1969). Language transfer. *General linguistics*, 9(2), 67-92.
- Selinker, L., & Baumgartner-Cohen, B. (1995). Multiple language acquisition: ‘Damn it, why can’t I keep these two languages apart?’. *Language, Culture and Curriculum*, 8(2), 115-121.
- Selinker, L., & Gass, S. M. (2008). *Second language acquisition*. Lawrence Erlbaum Ass.
- Selj, E., & Ryen, E. (2008). *Med språklige minoriteter i klassen: Språklige og faglige utfordringer*. Oslo: Cappelen Akademisk Forlag.
- Sierra, J., & Olaziregi, I. (1989). EIFE 2: Influence of Factors on the Learning of Basque. Study of the Models A, B, and D in Fifth Year Basic General Education. *Glottodidaktika-Lanak* 33. Servicio Central de Publicaciones, Gobierno Vasco, Duque de Wellington 2/01011 Vitoria-Gasteiz, Spain.
- Silverberg, S., & Samuel, A. G. (2004). The effect of age of second language acquisition on the representation and processing of second language words. *Journal of*

*Memory and Language*, 51(3), 381-398.

<http://dx.doi.org/10.1016/j.jml.2004.05.003>

- Singleton, D. (1989). *Language Acquisition: The Age Factor*. Clevedon. Multilingual Matters.
- Skifjeld, H. (2016). “Jeg kunne ingen noprsk, da kom jeg til Norge»: En studie om tilegnelse av subjektskravet og V2-kravet i norsk som andrespråk. [Master’s thesis]. Norwegian University of Science and Technology.
- Skutnabb-Kangas, T. (1984). *Bilingualism or not*. Clevedon: Multilingual Matters.
- Skutnabb-Kangas, T., & McCarty, T. (2008). Key concepts in bilingual education: Ideological, historical, epistemological, and empirical foundations. In J. Cummins & N. Hornberger (Eds.), *Encyclopedia of language and education: Bilingual education* (2nd ed., Vol. 5, pp. 3–17). New York, NY: Springer.
- Snyder, W. (2007). *Child language: The parametric approach*. Oxford: Oxford University Press.
- Song, J. J. (2010). *The Oxford Handbook of Linguistic Typology*. Oxford Academic.
- Sørland, K. (2010). Utvikling av substantivfrasar i tidleg innlærarnorsk. In H. Johansen et al. (Eds.). *Systematisk, variert, men ikkje tilfeldig*. Oslo:Novus, 78–93.
- 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.
- Spivey, M. J., & Marian, V. (1999). Cross Talk Between Native and Second Languages: Partial Activation of an Irrelevant Lexicon. *Psychological Science* 10: 281–84.
- Staksrud, E., Kolstad, I., & Enebakk, V. (Eds.). (2022). *Guidelines for Research Ethics in the Social Sciences and the Humanities*. 5<sup>th</sup> edition, English version. The Norwegian National Research Ethics Committees. Accessed on 17.08.2022 <https://www.forskningsetikk.no/globalassets/dokumenter/4-publikasjoner-som-pdf/guidelines-for-research-ethics-in-the-social-sciences-and-the-humanities.pdf>
- Stark, W. A. (1940). The effect of bilingualism on general intelligence: an investigation carried out in certain Dublin primary schools. *British Journal of Educational Psychology*, 10, 78-79.
- Statistics Norway. (2023). *Overall achievement marks, by subject, immigration category and sex 2009 – 2023 (07499)* <https://www.ssb.no/en/statbank/table/07499/>
- Statistics Norway. (2023a). *Fakta om innvandring*. <https://www.ssb.no/innvandring-og-innvandrere/faktaside/innvandring>

- Statistics Norway. (2023b). Pupils in primary and lower secondary school.  
<https://www.ssb.no/en/statbank/table/07523>
- Statistics Norway. (2023c). *07170: Pupils in national tests, by grade, test, mastering level, immigration category/country background and parents' educational attainment level (per cent) 2007 – 2020 (07170)*.  
<https://www.ssb.no/en/statbank/table/07170/>
- Statistics Norway. (2023d). *Average score points on national tests, by grade, test, sex and immigration category/country background 2014 – 2020 (10793)*.  
<https://www.ssb.no/en/statbank/table/10793/>
- Steinberg, D. D., & Sciarini, N. V. (2013). *An introduction to psycholinguistics*. Routledge.
- Studnitz, R. E., & Green, D. (2002). Interlingual homograph interference in German-English bilinguals: Its modulation and locus of control. *Bilingualism: Language and Cognition*, 5(1), 1-23.
- Sung, K. Y. (2011). Factors influencing Chinese language learners' strategy use. *International journal of multilingualism*, 8(2), 117-134.
- Šurkalović, D. (2014). Forbereder grunnskolelærerutdanningen engelsklærere for undervisning i engelsk som tredjespråk i Norge? *Acta Didactica Norge*, 8(2), 1-17.
- Swain, M., Lapkin, S., Rowen, N., & Hart, D. (1990). The role of mother tongue literacy in third language learning. *Language, Culture and Curriculum* 3, 65–81.
- Swan, O. E. (2002). *Grammar of Contemporary Polish*. Columbus, Ohio: Slavica.
- Swarte, F., Schüppert, A., & Gooskens, C. (2013). Do speakers of Dutch use their knowledge of German while processing written Danish words? *Linguistics in the Netherlands*, 30(1), 146-159.
- Szymanska, O. (2010). *Konseptualisering av rommet hos polske norskinncærere-utfordringer og diagnoser. En korpusbasert studie med i og på i fokus*. [Doctoral dissertation]. Adam Mickiewicza University, Poznan, Poland.
- Taguma, M., Shewbridge, C., Huttova, J., & Hoffman, N. (2009). *OECD review of migrant education: Norway*.
- Talamas, A., Kroll, J F & Dufour, R. (1999). From form to meaning: Stages in the acquisition of second language vocabulary. *Bilingualism: Language and Cognition*, (2), 45–58.
- Tan, K. H., Shojamanesh, V., Lutsenko, O., & Lutsenko, G. (2019). Usage-based and universal grammar-based approaches to second language acquisition. *Active Learning-Theory and Practice*.

- Tao, H., & Thompson, S. A. (1991). English backchannels in Mandarin conversations: A case study of superstratum pragmatic 'interference'. *Journal of pragmatics*, 16(3), 209-223.
- Tavakol, M. & Jabbari, A. (2016). Syntactic transfer in the initial stages of adult third language and fourth language acquisition. *Indonesian Journal of Applied Linguistics*, 186-198.
- Taylor, M. (2013). *Reading for pleasure in Britain: trends, patterns, and associations* (Doctoral dissertation, Oxford University, UK).
- Thagg Fisher, U. (1985). *The sweet sound of concord: A study of Swedish learners' concord problems in English*. CWK Gleerup, Lund.
- The Council of Europe.(2021). *Common European Framework of Reference for Languages (CEFR)*. <https://www.coe.int/en/web/common-european-framework-reference-languages>
- The Council of Europe. (2021). *European Language Portfolio (ELP)*. <https://www.coe.int/en/web/portfolio/introduction>
- The Education Act. (1999). *Act relating to Primary and Secondary Education and Training* (LOV-1998-07-17-61). Lovdata. <https://lovdata.no/dokument/NLE/lov/1998-07-17-61>
- The Norwegian Directorate for Education and Training. (2019). *Fakta om grunnskolen skoleåret 2019-20*. <https://www.udir.no/tall-og-forskning/finn-forskning/tema/fakta-om-grunnskolen-2019-20/>
- The Norwegian Directorate for Education and Training. (2019). *The Norwegian Education Mirror, 2019*. <https://www.udir.no/in-english/education-mirror-2019/compulsory-education--facts-and-learning-outcomes/>
- The Norwegian Directorate for Education and Training. (2020). *Curriculum in English (ENG01-04)*. <https://www.udir.no/lk20/eng01-04?lang=eng>
- The Norwegian Directorate for Education and Training. (2020). *Grunnskolen informasjonssystem*. <https://gsi.udir.no/app/#!/view/units/collectionset/1/collection/88/unit/1/>
- The Norwegian Directorate for Education and Training. (2020). *Statistikk grunnskole*. <https://www.udir.no/tall-og-forskning/statistikk/statistikk-grunnskole/>
- The Norwegian Directorate for Education and Training. (2023). *Vurdering og vekting av eksamenssvar*. Retrieved 07.02.2024. <https://deltager.eps.udir.no/?deliveryExecutionId=c87e682837d2-suomynona%25233a51ca2dc49a%2523504a3bd1d38b79d8e78a027b1848cd7a58c04481%25232&refreshTokenId=c87e682837d2->

[suomynona%25233a51ca2dc49a%2523504a3bd1d38b79d8e78a027b1848cd7a58c04481%25232](https://www.regjeringen.no/no/aktuelt/forny-er-innholdet-i-skolen/id2606028/?expand=factbox2606063)

- The Norwegian Government. (26.06.2018). *Forny-er innholdet I skolen*. Press release. <https://www.regjeringen.no/no/aktuelt/forny-er-innholdet-i-skolen/id2606028/?expand=factbox2606063>
- Thierry, G., & Wu, Y. J. (2007). Brain potentials reveal unconscious translation during foreign-language comprehension. *Proceedings of the National Academy of Sciences*, 104(30), 12530-12535.
- Thomas, J. (1988). The role played by metalinguistic awareness in second and third language learning. *Journal of Multilingual and Multicultural Development*, 9, 235–246.
- Thompson-Panos, K., & Thomas-Ruzic, M. (1983) The least you should know about Arabic: Implications for the ESL writing instructor. *TESOL Quarterly* 17, 609–23.
- Thorsen, C., & Unnerud, H. D. (2008). *Stairs 7- textbook*. Cappelen.
- Tishakov, T., & Tzagari, D. (2022). Language beliefs of English teachers in Norway: Trajectories in transition?. *Languages*, 7(2), 141.
- Tiurikova, I., Haukås, Å., & Storto, A. (2021). The link between multilingualism, language learning and open-mindedness in secondary school students in Norway. *Nordic Journal of Language Teaching and Learning*, 9(2), 1-24.
- Todeva, E., & Cenoz, J. (Eds.). (2009). *The multiple realities of multilingualism: Personal narratives and researchers' perspectives* (Vol. 3). Walter de Gruyter.
- Toledo, C. C. (1995). *Subjektløshet og underinversjon i spanskspråklige elevers norske mellomspråk: en tilnærming til spørsmålet om UGs rolle i voksen andrespråkstilegnelse*. [Master's thesis]. University of Bergen.
- Tolentino, L. C., & Tokowicz, N. (2011). Across languages, space, and time: A review of the role of cross-language similarity in L2 (morpho) syntactic processing as revealed by fMRI and ERP methods. *Studies in Second Language Acquisition*, 33(1), 91-125.
- Tomlin, R. S. (1986). *Basic Word Order: Functional Principles*. London: Croom Helm.
- Tragant, E. (2006). Language learning motivation and age. In C. Muñoz (Ed.), *Age and the rate of foreign language learning* (pp. 237–268). Clevedon: Multilingual Matters.
- Trim, J., Coste, D., North, M. B. & Sheils, M.J. (2001) *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Strasbourg: Council of Europe.

- Tveit, R. G. (2009). *Inversjon i norsk: når polsk og tysk er morsmål*. [Master's thesis]. University of Oslo.
- United Nations. (2023, 3. October). *Global issues: International migration*. <https://www.un.org/en/global-issues/migration>.
- Vainikka, A., & Young-Scholten, M. (1996). The early stages in adult L2 syntax: Additional evidence from Romance speakers. *Second Language Research*, 12(2), 140–176.
- Van Der Zee, K. I., & Van Oudenhoven, J. P. (2000). The Multicultural Personality Questionnaire: A multidimensional instrument of multicultural effectiveness. *European journal of personality*, 14(4), 291-309.
- Van Gelderen, A., Schoonen, R., de Glopper, K., Hulstijn, J., Snellings, P., Simis, A., & Stevenson, M. (2003). Roles of linguistic knowledge, metacognitive knowledge and processing speed in L3, L2 and L1 reading comprehension: A structural equation modeling approach. *International Journal of Bilingualism*, 7(1), 7-21.
- Van Hell, J. G., & De Groot, A M B. (1998). Conceptual representation in bilingual memory: Effects of concreteness and cognate status in word association. *Bilingualism: Language and Cognition*, (1), 193-211.
- Van Hell, J., & Dijkstra, T. (2003). Foreign language knowledge can influence native language performance in exclusively native contexts. *Psychonomic bulletin & review*. 9. 780-9.
- Van Hell, J. (1998). *Cross-language processing and bilingual memory organization*. [Doctoral dissertation]. University of Amsterdam.
- Van Lier, L. (1988). *The Classroom and the Language Learner*. London: Longman.
- Verhoeven, L. (1994). Transfer in bilingual development: The linguistic interdependence hypothesis revisited. *Language Learning*, 44, 381– 415.
- Vikøy, A. (2006). Med italiensk som morsmål og norsk som andrespråk. Ein språktypologisk basert studie med fokus på inversjon. In H. Sandøy & K. Tenfjord (Eds.). *Den nye norsken?* Oslo: Novus, 260–277.
- Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.
- Wach, A. (2016). L1-based strategies in learning the grammar of L2 English and L3 Russian by Polish learners. *System*, 61, 65-74.
- Wagner, D. A., Spratt, J. E., & Ezzaki, A. (1989). Does learning to read in a second language always put the child at a disadvantage? Some counterevidence from Morocco. *Applied psycholinguistics*, 10(1), 31-48.

- Wagner, L., & Hoff, E. (2012). Language development. *Handbook of Psychology, Second Edition*, 6.
- Wang, T., & Saffran, J. R. (2014). Statistical learning of a tonal language: The influence of bilingualism and previous linguistic experience. *Frontiers in Psychology*, 5, 953.
- Wei, L. (2000). Dimensions of bilingualism. In L. Wei (Ed.), *The bilingualism reader*. London: Routledge, 3–25.
- Weinreich, U. (1953). *Languages in contact*. The Hague: Mouton.
- Westergaard, M. (2003). Unlearning V2: Transfer, markedness, and the importance of input cues in the acquisition of word order in English by Norwegian children. *EUROSLA yearbook*, 3(1), 77-101.
- 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.
- Wexler, K. (1998). Very early parameter setting and the unique checking constraint: A new explanation of the optional infinitive stage. *Lingua*, 106(1-4), 23-79.
- White paper on education and training- Teaching and learning- towards the learning society. (1995) The European Commission. <https://op.europa.eu/en/publication-detail/-/publication/d0a8aa7a-5311-4eee-904c-98fa541108d8/language-en>
- White, B., Strandskogen, A. B., & Strandskogen, R. (1994). *Norwegian: An essential grammar*. Routledge.
- White, L. (2003). *Second language acquisition and Universal Grammar*. Cambridge: Cambridge University Press.
- Whorf, B. L. (1956). *Language, thought, and reality*. (Edited by John B. Carroll). Wiley.
- Williams, S., & Hammarberg, B. (1998). Language switches in L3 production: Implications for a polyglot speaking model. *Applied linguistics*, 19(3), 295-333.
- Willim, E. & Mańczak-Wohlfeld, E. (1997). *A contrastive approach to problems with English*. Warszawa: Wydawnictwo Naukowe PWN
- Wirbacz, K., & Buttkewitz, P. (2017). Transfer or no transfer; that is the question: The role of the L1 & L2 in L3 acquisition. In T. Angelovska & A. Hahn (Eds.) (2017). *L3 Syntactic Transfer: Models, new developments and implications* (103-127). Amsterdam: John Benjamins Publishing Company.
- Witney, John Clifford (2015) *Lateral (morpho)syntactic transfer: An empirical investigation into the positive and negative influences of French on L1 English learners of Spanish within an instructed language-learning environment*. [Doctoral dissertation]. Birkbeck, University of London.



- Wold, S. H. (2017). *INGLISH English. The progressive construction in learner narratives*. [Doctoral dissertation]. University of Bergen.
- Woll, N. (2016). *The role of metalinguistic awareness and of L2 proficiency in positive lexical transfer from English (L2) to German (L3) by French-speaking Quebecers* [Doctoral dissertation]. Université Laval.
- Wood, J. F. (2017). Errors in second/foreign language learning and their interpretations. *Education and Linguistics Research*, 3(1), 1-14.
- Xiao, M. (2004). *Comparative study of English and Japanese/Korean speakers' acquisition of null subjects and null objects in Chinese*. [Master's thesis]. Ohio University.
- Yoshida, H., Tran, D. N., Benitez, V., & Kuwabara, M. (2011). Inhibition and adjective learning in bilingual and monolingual children. *Frontiers in Psychology*, 2, 210.
- Zilmer, K., & Laanemets, A. (2006). Nu kan jeg några nye ord som jeg kan legga in i svenska meninger. Svensk som bakgrunnsspråk ved innlæring av norsk. *NOA. Norsk som andrespråk*, 1, 49-59.
- Zobl, H. (1980). Developmental and transfer errors: Their common bases and (possibly) differential effects on subsequent learning. *Tesol Quarterly*, 469-479.
- Zobl, H. (1992). Prior linguistic knowledge and the conservation of the learning procedure: Grammaticality judgments of unilingual and multilingual learners. In S. M. Gass & L. Selinker (Eds.) *Language transfer in language learning*, 176-196. John Benjamins.
- Zobl, H., & Liceras, J. (1994). Functional categories and acquisition orders. *Language learning*, 44(1), 159-180.

## 12. Appendices

### 12.1. Appendix 1- Questionnaire items

1. Hvor gammel var du da du begynte å lære norsk
2. Hvor lærte du norsk
3. Hvor godt kan du forstå norsk
4. Hvor godt kan du snakke norsk
5. Hvor godt kan du lese norsk
6. Hvor godt kan du skrive norsk
7. Jeg liker å bruke norsk
8. Jeg er stolt over å kunne norsk
9. Hvor gammel var du da du begynte å lære engelsk
10. Hvor lærte du engelsk
11. Hvor godt kan du forstå engelsk
12. Hvor godt kan du snakke engelsk
13. Hvor godt kan du lese engelsk
14. Hvor godt kan du skrive engelsk
15. Jeg liker å bruke engelsk
16. Jeg er stolt over å kunne engelsk
17. Med foreldrene dine
18. Med søsknene dine
19. Med besteforeldrene dine
20. Med tanter/onkler/søskenbarn
21. Med naboer
22. Når du er sint
23. Når du drømmer
24. Når du teller
25. Når du snakker med deg selv
26. Når du skriver meldinger på mobil/nett til familien
27. Når du skriver meldinger på mobil/nett til venner
28. Med venner fra skolen
29. Med venner utenom skolen
30. Når du leser
31. Når du hører på musikk
32. Når du ser på tv
33. Når du er på ferie
34. Jeg vil gjerne lære de samme språkene som foreldrene mine kan
35. Det er uhøflig å snakke et språk som ikke alle i rommet forstår
36. Hvis en ikke kan snakke et språk skikkelig, er det best å la være
37. Man må være flink i språket som brukes i det landet man bor i
38. For å gjøre det bra på skolen må man være flink i språk

39. For å få en bra jobb må en være flink i språk
40. Det er viktig å kunne engelsk
41. Hvis en skal gjøre det bra I fremtiden, må en kunne flere språk
42. De fleste reiser så mye at det er nyttig å kunne flere språk
43. Det er viktig å kunne andre språk i tillegg til engelsk
44. Hvilket fag synes du selv at du er flinkest i? Skriv inn svar, flere svar mulig
45. Jeg liker å lære nye ting
46. Jeg synes det er vanskelig å konsentrere meg når jeg skal lære nye ting
47. Jeg liker å lese på fritiden
48. Jeg synes det er gøy å lære språk
49. Hvis man kan flere språk, er det lettere å lære nye språk
50. Jeg har lyst til å studere på universitet når jeg blir eldre
51. Jeg har mange ulike interesser
52. Jeg liker å bli kjent med nye mennesker
53. Jeg liker å snakke med folk som har andre meninger enn meg selv
54. Jeg lever meg lett inn i historier og fortellinger
55. Kjønn? Gutt/jente
56. Alder? År og måneder
57. Hvis du gikk i barnehage, hvor var det? Velg mellom tre alternativer:  
Norge/annet land/gikk ikke i barnehage
58. Hvor begynte du i 1. Klasse? Velg mellom to alternativer: Norge/annet land
59. Hvilke språk vet du at din mor kan? Skriv inn, flere mulige
60. Hvilke språk vet du at din far kan? Skriv inn, flere mulige
61. Har foreldrene dine studert på universitet eller høyskole?

## 12.2. Appendix 2- Full test

Hei!

Du skal nå delta i et prosjekt hvor jeg er interessert i å finne ut mer om hvordan du bruker språk.

Først kommer det noen spørsmål hvor du skal svare på spørsmål om hvilke språk du kan, hvor godt du selv synes at du kan dem og når du bruker dem. Hvis du kan mange språk vil jeg gjerne vite mer om alle.

Det er ingen riktige og gale svar her, du svarer det som passer best for deg.

Denne delen av prosjektet er på norsk.

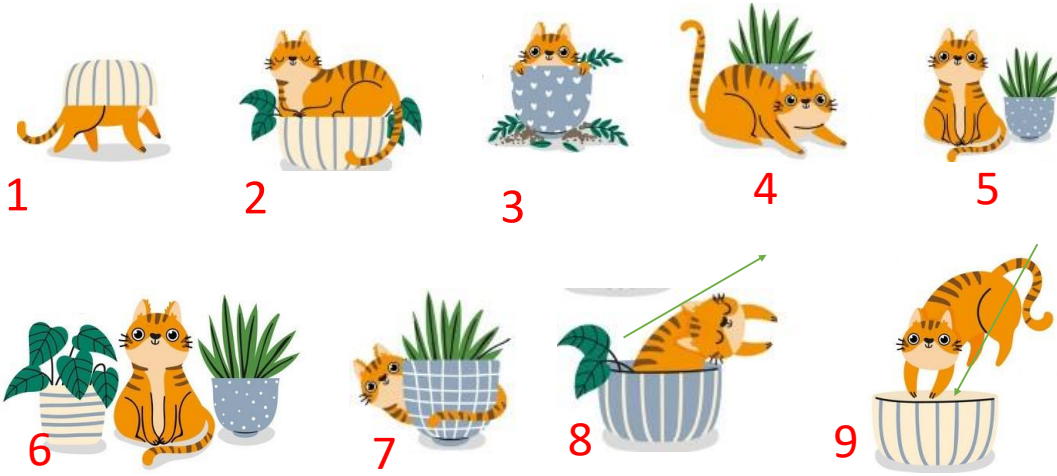
Den andre delen av prosjektet er på engelsk, og inneholder oppgaver du skal svare på. Hvis du er usikker på noen av oppgavene vil jeg at du skal gjøre ditt beste og skrive det slik du tror er rett. Jeg er interessert i å se hvordan DU skriver på engelsk.

In the following pages you will get some tasks in English. For some of them you will do some writing in English and some are sentences where I want you to find an error.

Don't worry if you're not sure about the answers to some of the tasks, just give it your best try.

Have fun!

This cat is playing among the plants and flowerpots. Where is he in each picture?



Complete the sentences

1. Where is the cat?           The cat \_ -  
\_\_\_\_\_.
2.                                    The cat \_ -  
\_\_\_\_\_.
3.                                    The cat \_ -  
\_\_\_\_\_.
4.                                    The cat \_ -  
\_\_\_\_\_.
5.                                    The cat \_ -  
\_\_\_\_\_.
6.                                    The cat \_ -  
\_\_\_\_\_.
7.                                    The cat \_ -  
\_\_\_\_\_.
8. Where is the cat going?       The cat \_ -  
\_\_\_\_\_.
9. Where is the cat going?       The cat \_ -  
\_\_\_\_\_.

When you play hide and seek, where is your best hiding place, and why?  
Please write three sentences.

1. My best hiding place
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Every day Peter watch TV after school.
2. Lottie played gmaes on her phone.
3. Philip has two jackets but he prefers red one.
4. Claire had corn flakes for the breakfast.
5. You doesn't know what the surprise is.

How many dogs do each of these people have? What colours are the dogs?



Peter and Jenny



Susan



Oliver and Amelia



George and Emma



David



Thomas and Ava



Charlie

Complete the sentences.

1. Peter and Jenny \_\_\_\_\_ dogs. 2. The dogs \_\_\_\_\_ brown.

3. Susan \_\_\_\_\_ dog. 4. The dog  
\_\_\_\_\_ grey.
5. Oliver and Amelia \_\_\_\_\_ dogs. 6. The dogs  
\_\_\_\_\_ brown.
7. George and Emma \_\_\_\_\_ dog. 8. The dog  
\_\_\_\_\_ brown.
9. David \_\_\_\_\_ dog. 10. The dog \_\_\_\_\_ brown.
11. Thomas and Ava \_\_\_\_\_ dogs. 12. The dogs  
\_\_\_\_\_ brown, yellow and grey.
13. Charlie \_\_\_\_\_ dog. 14. The dog  
\_\_\_\_\_ brown.

Do you have a pet? What is your dream pet?

Please write three sentences.

- 1.
- 2.
- 3.

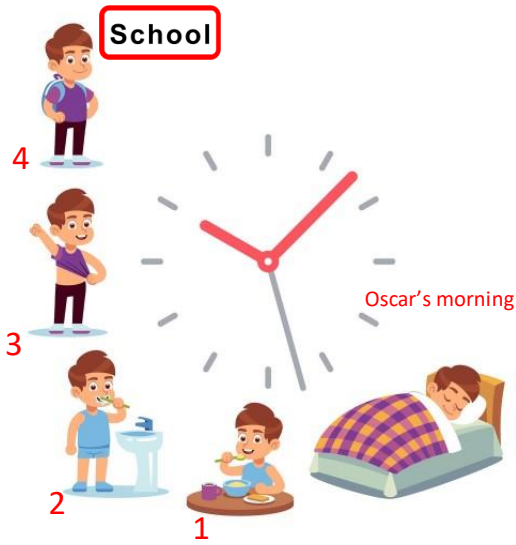
There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. David always eat corn flakes for breakfast.
2. I am going to Denmark in week after easter.
3. Yesterday I finishing the essay for next week.
4. We often goes to the cinema on Fridays.
5. Polly cut her finger on a scissors.

What does Oscar do every morning?





Complete the sentences.

1. Every morning

\_\_\_\_\_.

2. Every morning

\_\_\_\_\_.

3. Every

morning \_\_\_\_\_.

4. Every morning -

\_\_\_\_\_.

How do you get ready in the morning?

Please write three sentences.

- 1.
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Michael read through his essay for last time.

2. Liz eated the spaghetti and meat balls.
3. Linda have a cat and a dog.
4. There was a good film on the TV.
5. I doesn't like walking the dog.

What does Claire do every day?

Claire's day

Morning



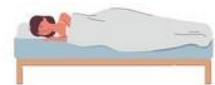
Lunch time



Afternoon



Evening



Night

Complete the sentences.

1. Every morning  
\_\_\_\_\_.
2. Every day at lunchtime  
\_\_\_\_\_.
3. Every afternoon  
\_\_\_\_\_.
4. Every evening  
\_\_\_\_\_.
5. Every night  
\_\_\_\_\_.

What do you do after school?

Please write three sentences.

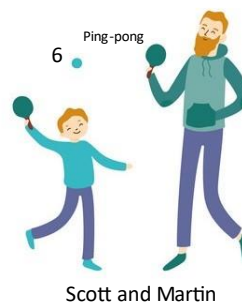
1. After school
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. John like to read fantasy books.
2. Anna has brother and two sisters.
3. William jumped onto the pool.
4. The Christmas is in December.
5. I always gets an easter egg from my parents.

What do these people do on Saturdays?



Complete the sentences

1. On Saturdays  
\_\_\_\_\_.
2. On Saturdays  
\_\_\_\_\_.
3. On Saturdays  
\_\_\_\_\_.
4. On Saturdays  
\_\_\_\_\_.
5. On Saturdays  
\_\_\_\_\_.
6. On Saturdays  
\_\_\_\_\_.
7. On Saturdays  
\_\_\_\_\_.

What is your favourite thing to do on a Saturday?

Please write three sentences.

1. My favourite thing to do on Saturdays
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. My favourite colour is the red.
2. I'm spending the weekend on my cabin.
3. Jenny don't like the new jumper.
4. Megan went to the shop and bought t-shirt.
5. You plays the piano very well.

Where in the house are these things?



Complete the sentences.

1. The pictures of fruit? \_\_\_\_\_ The pictures of fruit \_\_\_\_ -  
\_\_\_\_\_.
2. The orange sofa? \_\_\_\_\_ The orange sofa  
\_\_\_\_\_.
3. The mirrors? \_\_\_\_\_ The mirrors  
\_\_\_\_\_.
4. The tablecloth with dots? \_\_\_\_\_ The tablecloth with dots  
\_\_\_\_\_.
5. The swimming pool? \_\_\_\_\_ The swimming pool  
\_\_\_\_\_.
6. The yellow and the orange towels? \_\_\_\_\_ The yellow and the orange towels  
\_\_\_\_\_.

What things do you have in your room?

Please write three sentences.

1. In my room
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Susan like to go to the cinema.
2. It's dangerous to look at sun.
3. They doesn't want to watch the film.
4. Sally is wearing a blue trousers.
5. Tom is almost two metres high.





Complete the sentences

1. What do you see in this picture? In this picture  
\_\_\_\_\_.
2. Which red fruits can you see on the plate? On the plate  
\_\_\_\_\_.
3. Which yellow fruits can you see on the plate? On the plate  
\_\_\_\_\_.
4. Where on the plate is the lemon? The lemon  
\_\_\_\_\_.
5. Where on the plate is the watermelon? The watermelon  
\_\_\_\_\_.

What is your favourite food and why? When do you eat it?

Please write three sentences

- 1.
- 2.
- 3.

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Yesterday Cathy baked a bread.
2. Jenny want to go on holiday to Denmark.
3. Have you understood the instructions?
4. Katie can play guitar.
5. We eats turkey for Christmas.

What colour clothes do they have? What kind of food do they hold?



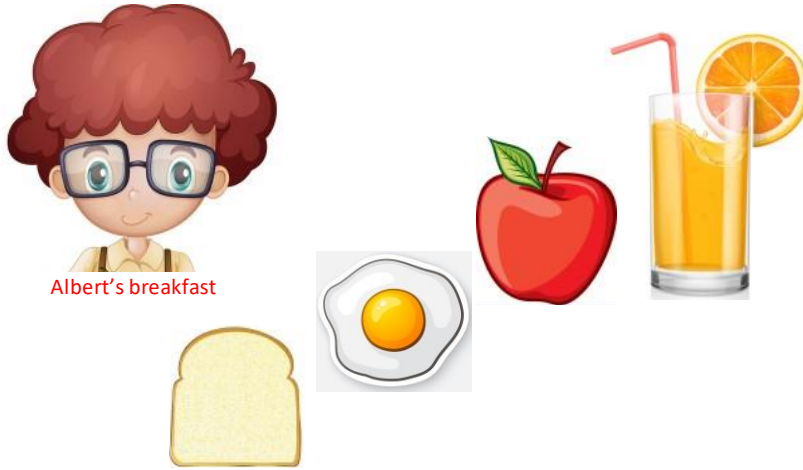
Complete the sentences

1. Charles \_\_\_\_\_ trousers 2. \_\_\_\_\_ top.
3. He \_\_\_\_\_ bread.
4. Charlotte \_\_\_\_\_ skirt 5. \_\_\_\_\_ apron 6. \_\_\_\_\_ top.
7. She \_\_\_\_\_ cake.
8. Liam \_\_\_\_\_ trousers 9. \_\_\_\_\_ apron
10. \_\_\_\_\_ top.
11. He \_\_\_\_\_ pizza.
12. Connor \_\_\_\_\_ trousers 14. \_\_\_\_\_ top.
15. He \_\_\_\_\_ sushi.
16. Olivia \_\_\_\_\_ trousers 17. \_\_\_\_\_ apron
18. \_\_\_\_\_ top.
19. She \_\_\_\_\_ cookies.

You can choose any colour clothes and any food to make. What would you choose?

1.

This is Albert's breakfast.



What does he eat?

Complete the sentence

1. For breakfast \_\_\_\_\_.

What's your favourite breakfast? You can choose anything!

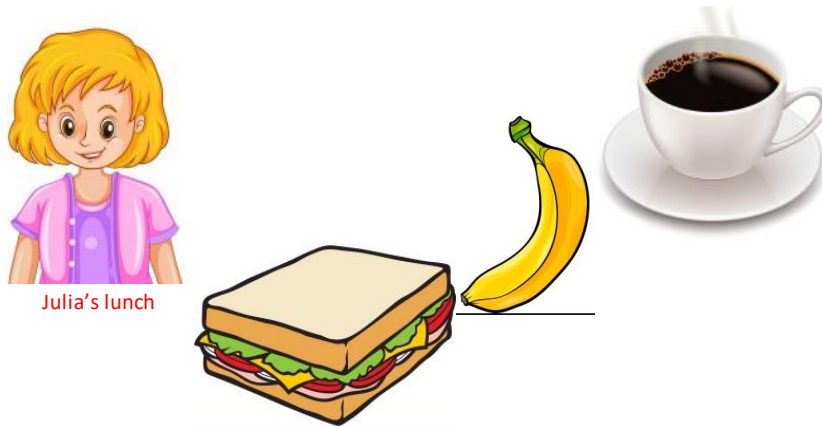
1. My favourite breakfast

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Nina and James has a cat.
2. It are five million people in Norway.
3. I usually relaxes on Saturdays.
4. Liam wants new bike for his birthday.
5. Camilla takes the bus to the school.

This is Julia's lunch.



What does she eat?

Complete the sentence

1. For lunch

---

What's your lunch today? What is your favourite lunch?

1. My lunch today

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Rose often go for walks on Sundays.
2. Kevin took his dog for walk.
3. Lydia and Jane sings a song they like.
4. My favourite jacket is a blue.
5. I have went to school for six years.

This is Lauren's dinner.



Lauren's dinner



What does she eat?

Complete the sentence

1. For dinner

---

What do you eat for dinner if you can choose?

1. If I can choose my dinner

There is an error in each of these sentences- can you find it?

Click on the word you think is wrong or in the space where you think something is missing.

1. Joe is having a new computer.
2. Michael don't read a lot of books.
3. Can I borrow pencil from you?
4. I plays a lot of computer games.
5. I like to play the tennis.

What kinds of house work do these people do?



Complete the sentences

1. They \_\_\_\_\_.
2. They \_\_\_\_\_.
3. They \_\_\_\_\_.
4. He \_\_\_\_\_.
5. They \_\_\_\_\_.
6. They \_\_\_\_\_.
7. They \_\_\_\_\_.
8. They \_\_\_\_\_.
9. She \_\_\_\_\_.

Do you help out at home? What do you do?

Please write three sentences.

- 1.
- 2.
- 3.



## 12.3. Appendix 3- Letter to participants



Til elever og foresatte

### Informasjon om deltakelse i forskningsprosjekt

I samarbeid med UiA elevene i deres klasse delta i et forskningsprosjekt som omhandler barn og unges språkvaner og ferdigheter i engelsk.

### Hva er formålet med studien?

Målet med studien er å se på hvordan barn og unge vurderer sine egne språkferdigheter og hvordan språkbakgrunn påvirker engelsklæringen deres. Prosjektet skal også vurdere hvilke utfordringer elever med ulike språkbakgrunner har når de lærer engelsk, med hensikt å kunne bidra til en bedre og mer tilpasset undervisning.

Bjørn H Handeland, som er doktorgradsstipendiat ved Universitetet i Agder, er prosjektansvarlig for studien.

### Hva skal elevene gjøre?

I løpet av mai skal elevene besvare en anonym elektronisk undersøkelse hvor de først svarer på spørsmål om språkbakgrunn, språkferdigheter, hvordan de bruker språk i hverdagen og hvilke oppfatninger de har om språklæring. Spørsmålene omfatter også hvilke språk familien kan og hvordan dere bruker dem. De skal deretter skrive og fullføre enkle setninger på engelsk.

Spørreundersøkelsen besvares på PC og tar ca 2 timer å gjennomføre. Den skal svares på i timen, så eleven trenger ikke å bruke fritiden sin.

**Det er frivillig å delta**

Det er frivillig å delta i prosjektet. Hvis man ikke ønsker å delta kan man gjøre det ved å kontakte prosjektansvarlig, når som helst og uten å oppgi noen grunn. Hvis foreldre/foresatte ønsker å se spørreundersøkelsen før barna deres kan delta, kan de be om å få lese den i forkant.

### Personvern

Studien gjennomføres i henhold til UiAs retningslinjer for datahåndtering. Alle besvarelser er anonyme. Svarene er kun synlige for prosjektteamet, skolen har ikke tilgang på elevenes besvarelser. Datainnsamlingen foregår digitalt gjennom SurveyXact. Verken deltagere eller skoler involvert i prosjektet kan gjenkjennes i noe av materialet som i etterkant vil bli publisert. Prosjektet avsluttes 31.12.2023, og etter dette vil lagrede persondata slettes.

### Dine rettigheter

Alle deltakere har rett til:

innsyn i hvilke personopplysninger som er registrert om deg,

å få rettet personopplysninger om deg,

få slettet personopplysninger om deg,

få utlevert en kopi av dine personopplysninger (dataportabilitet), og

å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

### Hva trenger jeg som forelder/foresatt å gjøre?

Dersom du ikke har spørsmål om prosjektet trenger du ikke foreta deg noe. Elevene svarer på undersøkelsen i skoletiden, og alle data er fullstendig anonyme. Dette brevet er kun informasjon.

### Hvor kan jeg finne ut mer?

Hvis du har spørsmål kan du kontakte prosjektansvarlig, Bjørn H Handeland på epost: [bjorn.handeland@uia.no](mailto:bjorn.handeland@uia.no) eller telefon: 91150856.

UiAs personvernombud, Ina Danielsen, kan og kontaktes på epost: [ina.danielsen@uia.no](mailto:ina.danielsen@uia.no) eller telefon: 38142140.