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**L1 transfer in the acquisition of English articles.  
Evidence from L1 Bulgarian and L1 Norwegian learners.**

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# 1 Introduction

1987. A communist country in a full lock out from the English-speaking world. The Beatles – banned. Books in English – illegally sold on the black market. Adapted literature in English – limited to children’s books. No internet. TV channels – only in the native language. A rigid school system introducing a foreign language only after 13-14 years of age. Teachers’ approach – strictly behaviouristic: repetition, translation of texts, memorizing by heart. Language input – only from teachers, textbooks, the hard-to-get unauthentic books, and the thick dictionaries in the school library. The only light in the tunnel were pen pals, but even they were not always native speakers of English.

I still remember spending a long time over a letter I was writing to my pen pal – should I write that *I had a cold*, or should I choose *I had flu*? The dictionary suggested both as correct but I finally chose the latter because it looked better to me. One of the most exhausting learning experiences I have ever had was trying to remember where exactly I needed to insert those useless (in my mind at that point in time) little words. It took a long time before my mind made space and gave meaning to something that does not exist in my mother tongue. That powerful was the impact of my native language!

The negative influence that I experienced is also known as *interference* – a term often used by Weinreich (1953). Some linguists choose to call it *transfer*, following the psychological concept of *transference*, which refers to applying any previous feeling (in this case, language) to a new situation (in this case, a new language). Odlin (1989) and Selinker (1972, 1992) suggest a more flexible interpretation, which implies *the influence of any other previously acquired language*. One of the most widely spread terms is *cross-linguistic influence (CLI)*, introduced by Kellerman & Sharwood-Smith (1986). It takes into account the influence of a language we know on the use of any other language we either newly acquire or have already acquired. No matter how this phenomenon is called, it has been a central research question in the field of second language acquisition (henceforth SLA). Thousands of research papers and linguistic books are devoted to *transfer*, approaching it from all possible aspects and at all possible linguistic levels. Yet, as Gass (1979, p. 327) puts it ‘despite the wide recognition of this phenomenon and the important role it has had in language learning and pedagogical research, its true nature has not been adequately established’.

Some studies provide evidence that L1<sup>1</sup> influence is the reason for errors L2<sup>2</sup> learners make (Slabakova, 2003; Jarvis & Pavlenko, 2008; White, 2003). However, there are errors that cannot be attributed to L1 transfer but rather to the features of the L2 (Doughty, 1991; Bailey, Madden & Krashen, 1974).

My personal experience has given me evidence of how difficult it was to ‘turn off’ my native language in the process of learning English. Now, more than 30 years later, despite the regular use of English in all walks of life, I still have doubts whether I use the English articles accurately. They turn out to be a huge challenge not only for second language learners but for native speakers as well.

Roger Brown, a Professor in child language research, proposed a developmental sequence, in which the morphemes/function words appear in the productions of English-speaking children (Brown, 1973) – a list of ten function words and endings showing the order in which they are acquired in child first language. Articles occupy the eighth position out of ten. This sequence shows that the acquisition of articles happens long after the appearance of morphemes, such as *-ing*, the prepositions *in*, *on*, plural *-s*, irregular past tense, possessive *'s*, the full form of the verb *to be* (uncontractible copula) and so on (O’Grady, 2005), and it takes many more years before the system is used in an adult-like way (Schaeffer & Matthewson, 2005).

Things look even more difficult for SL learners of English. According to Mayo (2008, p. 551), ‘the English article system is claimed to be one of the most difficult structural elements for second-language (L2) learners of English due to its high complexity and its frequency of use’. Master (2002) points out the source of difficulty – articles occur with very high frequency, they are function words which are usually unstressed and difficult to hear, many functions (such as definiteness, countability, number) are mapped onto just one single morpheme.

Despite the numerous research studies in the field of L1 transfer in the acquisition of articles, which cover a great variety of typologically different native languages, no study (to the best of my knowledge) has specifically addressed this phenomenon with respect to L1 Bulgarian and L1 Norwegian learners of English. This motivated me to take the first steps and carry out my own research on L1 transfer in article acquisition by learners of these two typologically different languages.

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<sup>1</sup> L1 – language one, or first language

<sup>2</sup> L2 – language two, or second language

Since this is a pilot study with no previous studies to build upon, my goal is to take the first steps and focus on general evidence of L1 transfer, defocusing the small details. Depending on the results of my research, grounds will be given for various aspects of more thorough investigation.

The thesis is organized in five main chapters. Chapter 2 outlines the theoretical background of the research. Section 2.1 presents the different views on L1 transfer. Section 2.2 gives an overview of previous research on L1 transfer in the acquisition of articles. Section 2.3 discusses the differences in the article systems between English and Norwegian, on the one hand, and English and Bulgarian, on the other hand. Chapter 3 presents the study – section 3.1 formulates the research question, section 3.2 introduces the target group, and section 3.3 explains the methodology and frames predictions. Chapter 4 is organized in two sections – section 4.1 presents the results from the statistical analysis, and section 4.2 presents the results from the whole dataset and discusses them. Chapter 5 summarizes and concludes the thesis.

## **2 Theoretical Background**

One of the most researched fields in SLA is how a language one has already acquired influences the other languages that one learns later in life. Transfer as a linguistic phenomenon has always been an inseparable part of the study of SLA but came into the focus of researchers around the middle of 20<sup>th</sup> century with the emerge of Behaviourism. There is no universal definition or interpretation of transfer. The spectrum is very broad and to a certain extend is justified by the level of development of the linguistic field at the specific period of time. In the following sections I will present different views on transfer: the specific hypotheses and evidence that back them up.

### **2.1 Different views on L1 transfer**

#### **2.1.1 Behaviorist view on transfer**

Already back in 1957 when Robert Lado published his *Linguistics Across Cultures* (Lado, 1957), the American structural linguist Charles Fries wrote in the foreword that learning a second language is very different from learning a native language, and the difficulties come from the ‘special “set” created by the first language habits’ (in foreword by Fries in Lado, 1957) but not from the difficulty of the features of the second language. Not only that, but L1 learners develop ‘blind spots’ (in foreword by Fries in Lado, 1957) – the skill of ignoring the features

that do not function as their native language. The key to learning a second language, therefore, is overcoming those blind spots.

Lado was the son of Spanish immigrants who eventually moved back to Spain before he could even learn English. At the age of 21, he returned to the USA and had to learn English as an adult. He thus became aware of the challenges people face when learning a second language and this became the turning point for his future research into SLA. His interest in how people learn a language other than their native one set the foundations for the *Contrastive Analysis Hypothesis* (CAH). The hypothesis predicts that the bigger the differences between the native language (L1) and the second language (L2), the more difficult it is for the learner. Conversely, there will be fewer problems with such aspects of phonology, grammar, vocabulary, etc., that are the same or similar in the learners' native language.

In his book, Lado proposes that a systematical comparison between L1 and L2 shows the patterns that will be difficult in the learning process as well as those that will be easy. He further claims (1957, p. 2) that 'individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native language and culture to the foreign language and culture.'

The CAH reflects the behaviourist view of language acquisition, the bottom line of which is that children learn their mother tongue by imitation. They listen and repeat what adults say. Language learning was considered to be like any other kind of learning – a process of trials, errors, and rewards for success.

The implication of CAH was mainly pedagogical – to assist the process of second language teaching and learning. Its main idea, as Alonso (2016) sums it up, is the formation of habits due to the relationship between stimulus and response. It was believed that the influence of L1 may have a negative effect, or interference, on L2. Based on the assumption that habits are transferred, Alonso (2016, p. 2) further posits that 'similar language patterns will lead to positive transfer and different language patterns will cause negative transfer'.

Wardhaugh (1970) suggests two forms of contrastive analysis – strong and weak. The strong form implies that all errors can be predicted as long as the differences between L1 and L2 are identified. Wardhaugh (1970) further backs up the importance and popularity of the strong version of the hypothesis with a few statements made by linguists engaged especially in language teaching. Following are the quotations taken from Wardhaugh's paper (1970, p. 4-5).



Firstly, long before Lado, Charles Fries wrote in his *Teaching and Learning English as a Foreign Language* (1945, p. 9):

‘The most efficient materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner.’

Secondly, if we go back to Lado’s *Linguistic Across Cultures* (1957, p. vii), in the preface he wrote:

‘The plan of the book rests on the assumption that we can predict and describe the patterns that will cause difficulty in learning, and those that will not cause difficulty, by comparing systematically the language and culture to be learned with the native language and culture of the student.’

Lastly, Banathy, Trager & Waddle in their book *Trends in Language Teaching* (1966, p. 37) support the strong version of the CAH by the following proposition:

‘. . . the change that has to take place in the language behavior of a foreign language student can be equated with the differences between the structure of the student's native language and culture and that of the target language and culture. The task of the linguist, the cultural anthropologist, and the sociologist is to identify these differences. The task of the writer of a foreign language teaching program is to develop materials which will be based on a statement of these differences; the task of the foreign language teacher is to be aware of these differences and to be prepared to teach them; the task of the student is to learn them.’

However, in his paper, Wardhaugh (1970) concludes that although the strong version of the CAH seemed very exciting and promising at its rise, it is not realistic, neither it is practical. Its influence and importance for second language learning and teaching has significantly decreased with time. One of the main reasons for that, as Nemser (1971) puts it, is that some of the predicted errors did not actually occur. To this argument, Quesada (1995) adds that learners did make unpredicted errors in areas where they were supposed to have no difficulties. She goes on to say that many of the errors are not a result of L1 interference but look like the developmental errors children make while acquiring their mother tongue.

Some credit has to be given to the weak version of the CAH. It can be used as a diagnostic tool because it identifies the errors resulting from interference. Once noticed, the errors can be better explained. Therefore, it has some practical implication and has proved to be helpful.

The essence of the CAH can be summarized in the following statements:

- a) transfer is limited to noticeable similarities and differences;
- b) similar language patterns lead to positive transfer, whereas different language patterns lead to negative transfer;
- c) learning L2 is difficult due to the interference from L1;
- d) the bigger the differences between L1 and L2, the more difficult it is for the second language learner.

Although some linguists, especially in the field of language teaching, still hold on to the CAH, it definitely needs to be reevaluated through the perspective of a more up-to-date view of the processes behind SLA that came with the Chomskyan revolution.

### **2.1.2 Mentalist view on transfer**

In the late 1960s, almost at the same time when Lado's CAH emerged, Chomsky proposed a radically different view of how a first language is acquired. This view became known as Universal Grammar (UG), or mental grammar, and its main postulate is that children possess an innate Language Acquisition Device (LAD), which contains modules and structures that are fundamental for all human languages. Chomsky names *principles* the grammatical properties that are common to all languages, and the variations from one language to another he calls *parameters*. In other words, there are certain properties that all languages share, and we are born with the innate ability to learn any language we are exposed to due to UG, which makes no distinction between learning L1 and learning L2 – a view elaborated in detail by Chomsky (2014) in his *Theory of Syntax*.

Schwartz (1989) in Birdsong (1990) argues that what works for first language acquisition, seems to work for SLA as well. Birdsong (1990, p. 332) goes on to say that 'adults trying to learn a second language would assume that principles apply and would go about resetting parameters to conform to input from the ambient target language.'

The original idea of UG was to describe language as knowledge, rather than behaviour, and explain how first language acquisition (FLA) works. However, Birdsong (1990, p. 332) approaches SLA from the UG perspective, justifying this by 'the magnitude and number of issues that can be subsumed under its umbrella', some of which are mentioned below.

*Critical period.* Language fully develops during the first years of life, presumably before puberty, after which language acquisition is less successful. If a child does not have a linguistic

input early in life, they cannot develop the expected output in their mother tongue, and it becomes increasingly more difficult the later the child starts being exposed to naturalistic input.

This idea is brought to a further level by Johnson & Newport (1989). In their study, they compared the English proficiency of 46 native speakers of Korean and Chinese, who immigrated to the United States between age 3 and 39. By the time of testing, they had lived in the USA between 3 and 26 years. The results of the study showed a very strong advantage for those who arrived in the USA at an earlier age. The research clearly showed that the *critical period* extends to SLA as well. The prediction that young children are better second language learners than adults and therefore are able to achieve higher levels of second language proficiency, proved to be true. However, according to White (1985, p. 36) ‘these arguments tend to be based on the acquisition of phonology rather than syntax.’

*Plato’s problem*, known also as the *logical problem* or the *poverty of stimulus*, is a term coined by Chomsky following Plato’s attempt to explain how we can know so much despite the limited experience we have. The question Plato’s problem triggers in linguistics is how we know more about languages than is given in the input. According to White (1984, 1985), SLA is not immune to this problem. In her paper (1985, p. 29) she writes:

‘The nature of the problem becomes apparent when we consider the end product of the acquisition process and compare this to the input data, which do not seem sufficiently rich or precise to allow the learner to work out all the complexities of the adult grammar, unless one assumes the availability of certain innate principles (UG). [...] If we focus on the successful second language (L2) learner, it would appear that he or she will also achieve complex knowledge of the L2 which goes well beyond the input. This suggests that UG might have a role to play in L2 acquisition as well, [...]’

White (1985, p. 32) further points out that ‘the acquisition literature, first and second, is full of examples of things that learners say in spite of not having heard them’. This raises the question whether UG is active for L2 learners and if so, whether it is equally active for both adult and young learners.

White (1985) further links UG and L1 transfer in an interesting way. She proposes that if L2 learners have already knowledge of one language (L1), they would probably be able to forget the process of L1 learning and reactivate UG for the new language (L2). In other words, start all over again and approach L2 learning as if it were their L1. This poses the question of whether

the special 'set' of UG created for the L1 affects the acquisition of L2, or as White (1985, p. 34) puts it 'can UG be reset to the null hypothesis for L2 or not?'

This gives another perspective to the principles of UG, which in particular are the fundamental grammatical rules that are common to all languages. Rather than seeing them as a rigid and invariable set across languages, they can be seen as parameters that are able to combine in various ways. The combinations predetermine the consequences. In other words, one language might have a set of principles designed by certain combinations, therefore the consequences will correspond to that particular set. Another language will have a different set of principles constructed by a different set of combinations, which, in its turn, will lead to different consequences, unique for this particular set. For some learners, a parameter for a certain principle might turn out to be the same in both L1 and L2. For others, a parameter in their L1 might differ from the one in L2.

White (2003, p. 10) highlights that 'parametric differences between grammars are associated with properties of lexical items, particularly so-called functional categories'. She further points out that functional categories constitute a part of UG and they include complementizer, inflection, negation, number and determiner (with articles being the most common determiners), to name a few. Some languages, for example, lack overt determiners, whereas others have it.

This opens up for testing whether UG in L2 acquisition can be reset to the null hypothesis. If so, no L1 transfer can be expected in learning the L2. If a reset is not possible and the L1 parameter interferes with L2 acquisition, L1 transfer can be predicted, even if only at the initial stages. In other words, L1 learners will have partial, or the so-called *indirect access* to UG (Cook, 1988; Cook & Newson, 1996) via their L1 grammar. This puts forth the question whether all aspects of a parameter are transferred. Could it be that one particular aspect of a parameter is acquired but others are not noticed and thus ignored? Whatever the case, White (1985) concludes that the solution to the logical problem for L2 acquisition should be approached differently than that for L1 learners.

The mentalist viewpoint of Dulay, Burt & Krashen (1982) reduces the effects of language transfer to the minimum. Influenced by UG, Dulay and Burt put forth the *Creative Construction Hypothesis* (CCH), which is the exact opposite of Lado's CAH. The CCH fosters the notion of L1=L2 hypothesis and implies that L1 does not have much influence on the acquisition of L2 or any other language. According to the authors, the process of both L1 and L2 acquisition are

governed by creative constructions. In other words, both L1 and L2 learners create hypotheses about the patterns of the target language, based on the input they receive.

In their study Dulay & Burt (1974a) compared the acquisition sequences of 11 English morphemes for L1 Chinese and L1 Spanish children learning English as a second language. Both language groups showed the same sequence of acquisition. This, according to the authors, is a strong evidence for the existence of universal strategies that children create in the process of L2 learning.

In another study (1974b) the same authors found out that children aged 5 to 8 independently constructed their L2 system, not relying on transfer or comparison. The results showed that L1 interference accounts for 4.7% of the errors, while 87.1% of the errors were a result of developmental strategies.

Gillis & Weber (1976) have similar findings. They observed for five months in a row two school aged Japanese boys learning English in a natural setting. The focus of the study were imperatives, negatives and interrogatives, and the results showed no evidence of L1 transfer.

Dulay & Burt have other studies (1972, 1973) that are in favour of the creative construction process over habit formation. However, their studies were discussed controversially by Tarone (1974) and Ellis (1986, p. 29), the latter claiming that Dulay and Burt have ‘underestimated the extent of interference’. Dulay and Burt themselves take a stand in the comments they provide in Tarone (1974, p. 59) by claiming that their ‘L2 = L1 hypothesis was very specific and narrow in scope. [...] it encompassed only syntactic error types – not the entire process of Language acquisition.’

Krashen (1981, p. 64) suggests a more flexible perspective on the role of L1 in SLA:

‘The issue now, as I see it, is not whether first-language-influenced errors exist in second language performance (they clearly do), [...], but, rather, where first language influence fits in the theoretical model for second language performance.’

He further claims (1981, p. 64) that L1 is just ‘one of several sources of error’ and his findings on transfer narrow down L1 influence to a few areas. Following is a summary of his findings which include the work of other researchers as well.

*Finding 1.* L1 is strongest in complex word order and in word-for-word translations of phrases.

Dušková (1969) analyzed written errors of Czech students, and the results clearly showed that L1 influenced word order and sentence construction. As an example, Dušková (1969) in Krashen (1981, p. 65) refers to ‘placement of the direct object after an adverbial, as in *I met there some Germans.*’

In the written works of the students, she found a lot of word-for-word translations of Czech collocations into English. As an example, Krashen quotes (1981, p. 65) ‘another my friend’ instead of ‘another friend of mine’.

The strong influence of L1 in word order was discussed by LoCoco. In her study (1975) of American university students, native speakers of English, who learned Spanish and German as a foreign language, she found out that L1 influence of English on German resulted in word order errors. An example that Krashen (1981, p. 65) quotes is:

Hoffentlich du bist gesund  
Hopefully you are healthy  
correct: Hoffentlich bist du gesund

However, LoCoco (1975) found that L1 English influence on L2 Spanish was not as strong as on L2 German. She concluded that this was due to the greater word order similarity between English and Spanish than between English and German. Therefore, ‘the incidence of mother tongue interference appears to be influenced by an interaction of L1 and L2’ (LoCoco, 1975, p.115).

LoCoco (1975) observed something similar to Dušková’s (1969) findings, namely that second level Spanish students had a greater number of errors related to word-for-word translations of an L1 expression or collocation.

*Finding 2.* L1 influence is weaker in bound morphology as compared to free morphemes.

As a general rule, bound morphemes are those which cannot stand alone. In other words, they mean something only if connected to a root or a base word. Some examples of bound morphology, given by Krashen (1981, p. 66), include ‘omission of plurals on nouns, lack of subject-verb agreement, adjective-noun agreement’.

In her study of Czech students learning English as a foreign language, Dušková (1969) found that only 19 out of 166 morphological errors were as a result of L1 Czech influence, and several of those 19 errors were free morphemes.

In another study, Dušková (1984) investigated whether L1 Czech learners of English use Czech morphemes in their oral and written English. No signs of L1 influence were identified. Therefore, Dušková (1984) concluded that transfer occurs less between languages that are perceived as different by learners. In her paper (1984, p. 1), she confirms the findings of Lee (1972) and claims that ‘a high degree of dissimilarity can be a facilitative factor in that it enables the learner to rid himself of the framework of his mother tongue’. Kellerman (1977) supports these findings, only adding that languages that are very closely related can be an exception to this – a view, suggested also by Di Pietro (1971), who claims that ‘not only a high degree of divergence, but also a high degree of similarity may cause difficulty’ (in Dušková 1984, p. 1). Consequently, this gave researchers another perspective of SLA, and they started to investigate whether learners’ perception of crosslinguistic differences could be a facilitator or hindrance for L1 transfer (Kellerman, 1979).

*Finding 3.* L1 influence is strongest in acquisition poor environment.

An acquisition poor environment is usually associated with learning English as a foreign language in a non-English speaking country, and remote areas in the world, deprived of educational resources.

In his study, Pasassung (2003) discusses in detail the characteristics of an acquisition poor environment, including the lack of proper and up-to-date textbooks and resources, the use of inefficient old-fashioned methodology, teaching practices which do not contribute to the learning process, including the fact that most teachers ‘barely spoke English’ (Pasassung, 2003, p.14).

Another study carried out by Kumar (2003) in the remote island of Mauritius, compared learners in urban and rural areas. The rural areas offered fewer opportunities for English language learning than the urban areas, and this resulted in the difference in the proficiency levels of the students. Those from urban areas were more proficient, although both groups showed low scores at the final exam of the Primary cycle. It is no wonder then that in an acquisition poor environment, students seem to rely more on their L1 than if they were in a more language learning friendly environment.

However, evidence of L1 influence is seen in immersion bilingual programs, which are the exact opposite of the acquisition poor environment. A study by Selinker, Swain & Dumas (1975) from a French immersion program in Toronto found that L1 had influence on L2, especially when it comes to ‘strategies of language transfer, simplification, and overgeneralization of TL<sup>3</sup> rules’ (Selinker et.al., 1975, p.139).

Mentalists do not completely deny the influence of L1 but their theory is vulnerable because it does not have enough empirical support, and evidence is quite variable and contradictory. By using error analysis, a method criticized by Schachter & Celce-Murcia (1977) for analyzing errors in isolation and ignoring non-errors, researchers showed that most errors L2 learners made were developmental and not as a result of L1 influence. However, even when evidence for L1 transfer was found (cf. Dulay & Burt, 1974b), no explanation was offered for that.

As a result, the researchers started to investigate the relation between L1 transfer and Universal Grammar. According to Zobl (1980, 1982) the two processes – transfer on the one hand, and natural sequence of acquisition on the other hand, interact and cannot be viewed as completely independent from one another. His study shows that L1 selectively influences L2 acquisition, and explores the parameters that determine the selectivity of L1 transfer. In his view, one of the effects L1 transfer has on SLA is slowing down the restructuring of the interlanguage. Which takes us to Selinker’s Interlanguage hypothesis.

### **2.1.3 Interlanguage Hypothesis**

*Interlanguage* is a term proposed by Selinker and in his paper (1972, p. 210) he defines it as a language situation ‘where an ‘adult’ attempts to express meanings, which he may already have, in a language he is in the process of learning.’ He further underlines that authentic interlanguage is observed in ‘meaningful performance situations’ (1972, p.210), which excludes situations where SL learners can reflect on what they have consciously learned about the target language rules, such as ‘drills in a second-language classroom [...] and experiments using nonsense syllables’. Interlanguage is therefore neither one’s native nor target language, but a transition between the two. It can be briefly described as an independent, self-governed linguistic system with its own rules that is systematic at all levels – phonological, morphological, syntactic, semantic, social, cultural, and so on.

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<sup>3</sup> TL – target language (my note)



Selinker's Interlanguage Hypothesis (ILH) is the intersection point at which the two previously discussed hypotheses meet. On the one hand, ILH takes into account the psychological approach of the CCH. On the other hand, similarly to CA, it recognizes transfer not only from L1 to L2, but extending it to its opposite – from L2 to L1.

The departure point of the psychological approach is Weinreich's (1953) book *Languages in contact*. It introduces the concept of a *latent psychological structure* which exists in the brain and is activated in the process of L2 learning. This concept was further discussed by Lenneberg (1967) as a *latent language structure*, which according to him, and as quoted by Selinker (1972, p. 211) '(a) is an already formulated arrangement in the brain, (b) is the biological counterpart to universal grammar'.

In line with this, Selinker (1972) assumes that the adults, who have mastered a second language to a native-like proficiency, have somehow managed to reactivate this latent language structure. He therefore concludes that those successful learners (1972, p. 213) 'must have acquired these facts [...] *without* having explicitly been taught them.' However, as Selinker (1972) suggests, this is the case with only about 5% of the SL learners. The language of the bigger portion of SL learners will bear the typical features of interlanguage, with *transfer* and *fossilization* being two central ones, among all the others.

*Transfer*, according to Selinker (1972), goes both ways – from native to target language, and from target to native. He further posits that there are no rules, neither can there be predictions as to what will or can be transferred. It operates selectively and as Hobson (1999, p. 7) puts it 'learners choose in an active and principled way whether or not to transfer and what to transfer' – a view supported also by Gass (1979, 1984) and Kellerman (1979). The question of what SL learners choose to transfer seems hard to answer. According to Gass (1984, p.117), 'the fact that L2 production contains forms which resemble forms in the native language does not necessarily mean that transfer as a process has taken place.'

And whereas transfer is described by Tarone (1982, p. 2) as just one of the 'cognitive processes that constitute the latent psychological structure', fossilization takes place when SL learners 'use more general cognitive processes, [...], rather than an innate language-specific UG'.

*Fossilization* occurs when SL learners are stuck at some point in their SL development and this prevents them from mastering it to a further level. In other words, the learning process stops. Fossilization was discussed already before Selinker's ILH by Weinreich (1953) and Nemser

(1971), but Selinker puts a focus on this phenomenon, emphasizing that it is one of the reasons why the field of SLA exists in the first place. He further proposes that fossilization is more likely to occur after puberty and not before that, because younger children are still able to employ the capacity of their active universal grammar.

Selinker & Lakshmanan (1992) link transfer and fossilization in their *Multiple Effects Principle* according to which interlanguage forms appear to be stabilized or fossilized when at least two factors function actively together. Han & Selinker (1996) found evidence for that in their longitudinal study of a 26 years old L1 Thai speaker who studied intensively L2 Norwegian for one academic year.

The application of ILH was initially limited only to adults, but eventually it was extended to child interlanguage as well. This is demonstrated by Selinker, Swain & Dumas (1975) in their findings from a French immersion program in Canada, which show that the SL speech of seven-year-old children is very different from the speech of native children at the same age. However, the acquisition setting of the study, as they point out (1975, p. 140), was ‘non simultaneous, and [...] in the absence of native speaking peers of the TL.’ In such settings, some errors become fossilized (cf. Naiman, 1974), exactly as it happens with adult SL speech. Conversely, when native language peers are present, the developmental errors go away with time (cf. Dulay & Burt 1972; Ervin-Tripp, 1974). However, according to Selinker et. al. (1975, p.140) ‘second-language speech rarely conforms to what one expects native speakers of the TL<sup>4</sup> to produce’.

The ILH opened up for a whole new arena of research in SLA, and its proposal of an *interlanguage* that serves as a bridge between L1 and L2, is a departure point for more recent approaches to the role of L1 in SLA, presented in the next sections.

#### **2.1.4 Full Transfer Full Access Hypothesis**

The Full Transfer Full Access Hypothesis (FTFA) was proposed by Schwartz & Sprouse (1994, 1996) and supported in their study by evidence from Turkish-German interlanguage data. *Full transfer* comes from the assumption that the complete set of L1 grammar is the starting point for L2. In other words, the final point of L1 acquisition will be where L2 starts, and learners use, or *transfer*, all the knowledge they have from their L1. In short, FTFA suggests that L1 is the initial state of L2.

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<sup>4</sup> TL = target language (my note)

This initial state of the development of the L2 interlanguage grammar will highly depend on the L2 input learners receive. If the input contains something unfamiliar, which is not represented in the learners' L1 grammar, they will be forced to search for it in the biggest database containing all possible options – the Universal Grammar. UG is available to everyone by default, and exactly this *full access* is meant in the name of the FTFA hypothesis.

Once L2 learners find the new feature, they have to position it correctly in their interlanguage. Finding the right place might result in certain restructuring, or resetting, which, according to Schwartz & Sprouse (1994, 1996), may happen very fast in certain cases, whereas in others it may be slow.

Snape (2008) tests the resetting of the Nominal mapping parameter by L1 Spanish and L1 Japanese learners of L2 English. Two experiments are in the focus of this study. One of them tests whether L2 learners are able to distinguish between count and mass nouns. The other tests different types of definite NPs in count and mass contexts. The three languages in the experiment – English, Spanish, and Japanese – have a different value of the Nominal mapping parameter, and the results show its successful reset by the Spanish and Japanese learners.

There are other studies of both child and adult L2 learners in support of the FTFA hypothesis, such as Zdorenko & Paradis (2008), Ionin, Zubizarreta & Maldonado (2008), which I will briefly review in section 2.2. where I discuss in particular previous research on transfer in article acquisition.

However, there are findings which do not support the FTFA. Dietrich & Schmidt (2015) revisited the hypothesis with a larger database in attempt to find out whether (Dietrich & Schmidt, 2015, p. 23) ‘the L2 development of an adult learner is guided by both the knowledge of his/her L1 language and the knowledge of universal syntactic principles’ as the FTFA suggests. The focus of the study was unguided acquisition of L2 German by L1 Turkish adults. German and Turkish have different sentence structures in terms of verb position in embedded sentences, and this is what Dietrich & Schmidt (2015) looked into.

Their study is in fact a revisit and extension of a previously conducted research by Schwartz & Sprouse (1994). A brief review of the latter shows that the authors base it upon Selinker's interlanguage hypothesis. They identify three successive stages – the first one is characterized by access to UG, the second stage is more target-like but still has ‘evidence for unrestricted access to UG in unguided adult L2 acquisition (*full access*)’ (Dietrich & Schmidt, 2015, p. 6),

and in the third stage the L1 Turkish learner of German produces correct sentence structures in German in 13% of the cases. Based exactly on these findings, Schwartz & Sprouse (1994) propose the FTFA hypothesis, postulating that ‘adult learners of a second language are guided in building up their L2 syntax by both the grammatical structures of their L1 \*knowledge and by universal grammatical principles’ (Dietrich & Schmidt, 2015, p. 26).

Now, back to Dietrich & Schmidt (2015) who justify the revisit of the above-mentioned study with the following arguments:

- a) ‘it is based upon the interplay of a marginal database and the postulation of broad assumptions concerning second language acquisition’ (Dietrich & Schmidt, 2015, p. 9);
- b) Schwartz & Sprouse (1994) analyzed the interlanguage of only one out of the four L1 Turkish learners of German, interviewed within an *ESF* (European Science Foundation *Second Language*) project;
- c) the choice of data – in addition to film retellings, the researchers investigated also conversation data, which is ‘less checkable and comparable to the utterance structures from film retellings’ (Dietrich & Schmidt, 2015, p. 10).

Taking into account all this, Dietrich & Schmidt (2015) decided to include two more L1 Turkish learners of German, who were within the same age group as the participant in Schwartz & Sprouse’s study, as well as to restrict the data they use to the Charlie Chaplin and Harold Lloyd film retellings. However, despite the homogenous prerequisites (the same age group and restricted data), the results did not show ‘equally structured second language development’ (Dietrich & Schmidt, 2015, p. 12). In certain stages, one of the participants in the experiment shows a faster development than the other two, and the other way round.

Dietrich & Schmidt (2015, pp. 13-14) take as a starting point of their study Pienemann’s (1998) stages of syntactic development of L2 German: (1) stage X: canonical word order – NP-V-NP; (2) stage X+1: front position of adverb – AP-NP-VP; (3) stage X+2: particle shift – NP-Vfin-NP-Vpart; (4) stage X+3: subject-verb inversion – AP-Vfin-NP-Vpart. According to Pienemann (2005), L2 learners chronologically and predictably follow these four stages because the structures of the target language are acquired only when learners are able to process them.

In brief, contrary to the study of Schwartz & Sprouse (1994), the findings of Dietrich & Schmidt (2015) do not provide evidence for specific stages in the learners’ interlanguage. Neither do they show the three interlanguage stages which are the core of Schwartz & Sprouse’s study.

The detailed analysis Dietrich & Schmidt (2015) carried out could not verify that verb-second placement in German was acquired by L1 Turkish learners within three stages. Finally, the results did not give grounds for distinguishing an early stage in the acquisition process when the learners produced subject-NPs before verbs, followed by inversions with pronominal subjects, and further developed into inversions with non-pronominal subjects. Thus, according to Dietrich & Schmidt (2015), the conclusion Schwartz & Sprouse (1994) make that L2 learners strongly employ their L1 grammar, cannot be confirmed.

However, as Dietrich & Schmidt (2015) point out, the L2 learners' language was analyzed a year after they arrived in Germany. The learners have already had some input – either from German language courses they took, or from their daily contact with native speakers in work situations. Therefore, the conclusion that there are no signs of L1 transfer, apply to this specific context. Dietrich & Schmidt (2015) further researched for any effects of UG but no such indications were found.

Both Schwartz & Sprouse (1994) and Dietrich & Schmidt (2015) come up with radical conclusions of either strong L1 influence or no L1 influence at all, but newer approaches to L1 transfer give another perspective of this concept. Instead of viewing it as a two-step process of copying and restructuring, Westergaard (2019, p. 14) suggests that 'acquisition of one language should generally proceed without affecting the other, whether the languages are acquired simultaneously or sequentially, and it should therefore be unnecessary to make a copy of one of them to make sure that it remains stable'. Westergaard (2019, p. 15) further formulates this as the *Full Transfer Potential* (FTP), 'meaning that *anything may transfer*, not that *everything does transfer*.' Under this suggestion 'there is no wholesale transfer (copying) at the initial state; [...] transfer takes place as a result of parsing, property by property.' The bottom line is that there is no difference between L1 and L2 acquisition since both happen through learning by parsing. The only difference is that in the latter, the L2 learners have more data to choose from when parsing the target language. The entire L1 grammar remains active and L2 grammar expands step by step.

However, despite evidence and arguments that contradict FTFA hypothesis, its strong influence gave grounds for a new proposal, known as the Feature Reassembly Hypothesis.

### **2.1.5 Feature Reassembly Hypothesis**

The *Feature reassembly hypothesis* (Lardiere, 2009) sees interlanguage transfer through the perspective of 'feature matches/mismatches between L1 and L2 lexical items' (Shimanskaya,

2015, p. 35). Lardiere (2009) suggests that second language learners come with a complete set of L1 grammatical categories, combined in a unique way, which may be more or less different from that of the L2. Therefore, the learner has to figure out how to reassemble, or reconfigure, the feature bundles of his L1, and if necessary, draw new features from UG in order to assemble new bundles, corresponding to the needs of the target language. Not only that, but the learner might have to unselect or delete some L1 features in order to conform to the target language. According to Slabakova (2009) and Lardiere (2008, 2009), learners go through two stages. First, they need to observe and find out the similarities between the functional morphemes in L1 and L2, and map the L1 feature to the closest equivalent lexical item in L2. This is the *mapping stage*, which involves L1 transfer as an attempt by the learner to find a one-to-one correspondence between L1 and L2 features.

However, direct mapping will not be successful if such one-to-one correspondence is not found. In such case, learners need to adapt, or reassemble the feature sets from their L1 to the sets of the target language. Therefore, this part of the process is called the *reassembly stage*. At this point, learners might have to add new features to their inventory or delete L1 features which are not applicable to the target language.

Evidence from many studies support the predictions of the Feature reassembly hypothesis (FRH), especially with respect to L1 transfer during the *mapping stage*, such as Domínguez, Arche & Myles (2011), who studied the acquisition of aspect by L1 English learners of Spanish; Choi & Lardiere (2005), who studied how L1 English learners of Korean interpret wh-expressions in their L2, to name a few.

In their study Shimanskaya & Slabakova (2014) found evidence supporting both the mapping and the reassembly stage of FRH. The focus of their study was the acquisition of L2 French clitic object pronouns among L1 English speakers. Third person pronouns in both English and French are marked for the features *number* and *person*, but they express *gender* differently. Compare the object pronouns *him, her, it* in English, which encode both gender and [ $\pm$  human] feature to *le/la* in French. *Le/la* bear the gender distinction *masculine* vs. *feminine*, but lack the [ $\pm$  human] feature. It means that in French these pronouns can apply to both animate and inanimate referents.

Exactly this cross linguistic difference is argued to be problematic and is the focus of their study. In this case, in the reassembly stage, L1 English learners of French would have to delete a feature from their L1 inventory and apply the [-human] feature to pronouns they initially

perceive as [+human]. The results of the study showed that L1 influence was strong at the initial stage for L2 beginner learners. The advanced learners, however, had an accurate interpretation of *le/la* in both [+human] and [-human] context. This, according to Shimanskaya & Slabakova (2014), was evidence for a successful reassembly of morphosyntactic features and support for the two stages of the FRH.

Lardiere’s hypothesis takes for granted two assumptions – that (1) all features can be acquired, because they are manifestation of ‘fundamental cognitive categories’ (Harley & Ritter, 2002, p. 482), and (2) L2 learners detect the differences between L1 and L2. If not, they will not have grounds for the reassembly process. As a result, the reassembly stage relies highly on relevant L2 input as well as the good observation skills of L2 learners.

There are studies with evidence that not all features can be acquired, or to put it differently – some L1 features cannot be unlearned. Della Putta (2016) researched whether L1 Spanish speakers learning L2 Italian transfer two frequent Spanish constructions to Italian. The constructions are planned future periphrasis and iterative periphrasis. Periphrasis in linguistics is simply conveying the meaning of suffixes, prefixes, verbs, for example, by means of several words, such as *to take/have a shower* instead of *to shower*, or *most happy* instead of *happy-est*. Italian has literal syntactic overlapping equivalents but they are restricted to expression of spatial displacement meanings. Compare:

Spanish		Italian	
planned future periphrasis	iterative periphrasis	spatial displacement	
ir a + infinitive (‘go to’ + infinitive)	volver a + infinitive (‘return to’ + infinitive)	andare a + infinitive (‘go to’ + infinitive)	tornare a + infinitive (‘return to’ + infinitive)

Planned future and iteration in Italian are expressed by other means, such as verbal morphology or affixation.

The results of the study showed a persisting negative transfer, and evidence that ‘neither long-time exposure to Italian nor formal instruction [...] are sufficient to help Spanish-speaking learners unlearn the L1-based features used to construct iterative and planned future meanings’ (Della Putta, 2016, p. 237). On the one hand, the similarity between L1 and L2 will facilitate the learning process – a view, maintained by Kellerman’s (1983) psychotypology, and Jarvis & Pavlenko (2008) who posit that L1 transfer is easier if learners think that they have found a

corresponding equivalent in L2. On the other hand, ‘the effects of *transfer* [...] are stronger and longer-lasting when the L1 and the L2 are genetically and typologically related, and [...] learners will find it difficult to get rid of many transfer-generated errors, usually highly fossilized and impervious to pedagogical intervention.’ (Della Putta, 2016, p. 238).

Della Putta (2016) further discusses that in order to unlearn an L1 structure, learners need to realize that the structure is not allowed in L2. The unlearning problem is further deepened by the specificity of the L2 input. Sometimes, it is not targeted towards highlighting the ungrammaticality of the structure that has to be unlearned (Yin & Kaiser, 2011). In the abstract of their study of Chinese speakers’ acquisition of telicity in English, Yin & Kaiser (2011, in Abstract) point out that ‘L2 acquisition is especially difficult when successful acquisition requires ‘unlearning’ an L1-based property in the absence of negative evidence.’ According to Gass & Mackay (2002), the L2 input is focused primarily on positive evidence and rarely provides negative evidence as to what is not grammatical. The complexity of the unlearning problem is confirmed by other studies, such as Inegaki (2001), Larrañaga, P., Treffers-Daller, J., Tidball, F. & Ortega, M. G. (2012), White (1991), to mention a few.

Shimanskaya (2015) points out that in order to make accurate predictions about L1 transfer, it is important to thoroughly analyze the distribution of L1 and L2 features since, according to the FRH, they are the basis of the human grammatical knowledge.

With this literature overview I presented different views on L1 transfer. It covers the whole spectrum from no transfer to full transfer. Lado’s *Contrastive Analysis Hypothesis* and the conservative behaviourist view puts imitation and habit in the center of language learning. The bigger the differences between L1 and L2, the more difficult it will be for the second language learner and vice versa. L1 influence can either facilitate or hold back the learning process. Chomsky’s mentalist view took an entirely opposite standpoint with his proposal of *Universal Grammar* – we are born with the ability to learn any language by default, as long as we are exposed to it. Language is seen as knowledge, not as behaviour or habit. Next, *The Creative Construction Hypothesis*, put forth by Dulay and Burt, holds on to the idea of L1=L2, and claims that L1 does not affect the acquisition of any other language acquired after it. Krashen’s perspective is more balanced as he does not question the existence of L1 transfer, but he rather sees it as just one of the many other sources of error and limits its occurrence to just a few situations. Selinker’s *Interlanguage Hypothesis* is the middle point between Lado’s and Chomsky’s proposals. Interlanguage is an autonomous linguistic system with its own unique



rules, which transitions the native language towards the target one, with *transfer* and *fossilization* being two of its central features. According to the *Full Transfer Full Access Hypothesis*, proposed by Schwartz & Sprouse, learners use all the knowledge they have from their L1. If a certain feature is not available in the native language, they will search for it in the database of UG, which contains all language possibilities. Lastly, Lardiere's *Feature reassembly hypothesis* sees transfer as a reassembly of L1 feature bundles into new bundles, matching the needs of L2. If new features are needed for the assembly of a new bundle, they will be taken from UG.

Other important points came up from the research overview. According to Johnson & Newport (1989), young children are better second language learners than adults. White (1985) suggests that UG is available not only to L1 learners, but to L2 learners too. Dušková (1984) found out that transfer is less likely to occur between languages that are very different from one another. To this Di Pietro (1971) adds that similarity between languages may be problematic too. Di Pietro's view is supported by Della Putta (2016) who claims that if L1 and L2 are very related, it will be difficult for L2 learners to wipe out the transfer errors, which are usually highly fossilized.

Pasassung (2003) and Kumar (2003) suggest that L1 influence is stronger in acquisition poor environment, but the findings of Selinker, Swain & Dumas (1975), on the other hand, show that L1 transfer occurs in immersion bilingual programs. Zobl (1980, 1982) views transfer as a factor that slows down the restructuring of the interlanguage. Yin & Kaiser (2011), and Della Putta (2016) focus on the difficulty of unlearning an L1 structure, especially without the relevant negative evidence. Finally, many researchers, including Hobson (1999), Gass (1979, 1984) and Kellerman (1979), agree that the transfer process is actively controlled by the learners, because they choose whether and what to transfer. Whichever the case, Selinker et. al. (1975) sums up that a second-language learner will rarely achieve a native-like level of the target language, especially when it comes to production skills, such as speaking.

Although there is no doubt that *transfer* as a phenomenon exists, to this day there is no clear answer to the question as to what exactly is being transferred and how L2 learners choose what to transfer. In the next section, I will narrow down the literature review to findings on L1 transfer in the acquisition of articles in English as a second language.

## 2.2 Previous research on L1 transfer in acquisition of articles in English

According to Master (1990, p. 461), ‘the English article system is one of the most difficult aspects of English grammar for nonnative speakers and one of the latest to be fully acquired’.

In the following section I will review previous research related to the acquisition of English articles by L1 speakers of various languages. I will focus mainly on whether L1 influences this process, and whether the whole range of *no transfer to full transfer* applies to article acquisition as much as it applies to SL acquisition of any other aspects of English grammar, as seen from the previously reviewed studies.

Master (1987) analyzed the spoken interlanguage of English L2 learners with five different L1s. The native languages were Chinese, Japanese, and Russian [-Art] (no article system), Spanish and German [+Art] (with article systems). Four speakers of each language were interviewed. In addition, the speakers represented four consecutive proficiency levels. The results showed a huge difference between the [-Art] group and [+Art] group in favour of the latter, who produced a greater number of correct answers. Furthermore, Master (1987) found clear evidence that the beginner levels are strongly influenced by their L1s, as opposed to the more advanced learners. In a later research (Master, 1997, p. 228), he was more specific about this difference, claiming that ‘[-Art] learners are approximately one level behind [+Art] learners of English because they need to “create” the category’ [...] after which acquisition roughly parallels [+Art] acquisition’. He concluded that although L2 English learners of [-Art] languages need more time, they will eventually acquire the English article system. Sun (2016), however, found evidence that SL learners with L1 [+Art] languages do not acquire articles faster than L1 [-Art] learners, and that positive transfer does not necessarily occur when L1 and L2 are similar.

Snape, García-Mayo & Gürel (2013) had findings similar to Master (1987). They studied L2 acquisition of English generic NPs by learners with typologically different L1s – L1 Spanish [+Art], L1 Japanese [-Art], and L1 Turkish which has only indefinite article but no definite. Spanish, Turkish and Japanese differ in how they express generics, as compared to English, and the purpose of the study was to investigate the role of L1 in the L2 acquisition of this particular property. The participants in the study were upper intermediate and advanced L2 learners, and the testing method was a forced-choice elicitation task. The results of the three groups showed different patterns of article choice, which match the effects of L1 transfer. Snape et. al. (2013) concluded that L2 article preference was mainly influenced by the L1, even at a relatively high proficiency level of the students.

Ionin & Montrul (2010) also looked into how L1 Spanish [+Art] and L1 Korean [-Art] learners express genericity in their L2 English. The participants were matched by proficiency level, and they were tested by means of a truth-value judgment task. The focus was more specifically on the L2 acquisition of the plural NPs. Languages with article system, such as English and Spanish, differ in the way they express genericity – English employs bare plurals, whereas Spanish uses definite plurals for these purposes. The results showed that L1 Spanish speakers used the pattern from their native language and over accepted the expression of English definite plurals far more than L1 Korean speakers, whose native language lacks articles. A follow up study was carried out at a later point in time when the learners were at a more advanced proficiency level and had been exposed to more intensive immersion in the target language. The results showed that L1 Spanish speakers achieved the same level of the target language as L1 Korean speakers when it comes to expressing genericity by plural NPs.

In contrast, Wong and Quek (2007) carried out a study on the acquisition of the non-generic use of the English definite article by L1 speakers of Chinese [-Art] and Malay [-Art]. Mandarin Chinese expresses definiteness by means of word order or demonstratives, and in Malay language it is the demonstrative pronouns which are used to convey the meaning of definiteness. 50 Chinese and 50 Malay upper secondary students were employed for the purpose of the study. They represented three proficiency levels – advanced, intermediate and low. The students were asked to fill in *the* wherever they thought was necessary, according to their judgement. Wong and Quek (2007) identified four categories of the non-generic use of *the*, each of which implies a different level of difficulty: situation, cultural, structural, and textual. The findings showed that regardless of the L1, the sequence of acquisition followed the natural order of situation > structural > textual > cultural, with the first category (situation) being the most difficult. In addition, they found that the accuracy rate improved a lot with the increase of the proficiency level.

A year later, Mayo (2008) did a similar research in attempt to validate whether the suggested difficulty hierarchy followed the order of the four categories: situation > structural > textual > cultural. Her study was, in fact, a replicated extended version of yet another research, carried out earlier by Liu & Gleason (2002), whose target group were East Asian [-Art] learners of English as a second language. Mayo (2008), however, decided to check if the findings would apply to a language with an article system and therefore recruited L1 Spanish [+Art] speakers who studied English as a foreign language, rather than a second. Three proficiency levels were

differentiated – elementary, low intermediate and advanced. Furthermore, Mayo (2008) used the same test as Liu & Gleason (2002) – sentences with omitted articles in obligatory contexts. The participants were asked to read the sentences and use *the* wherever they thought it was appropriate. Her findings did indicate the same hierarchy order, and a better performance with the increase of the proficiency level – the latter being consistent with the findings of Liu & Gleason (2002). In addition, she concluded that ‘there is an important L1-transfer effect in the four nongeneric contexts of use’ (Mayo, 2008, p. 562). This finding is not consistent with Liu & Gleason (2002, p. 18), who concluded that ‘native language does not seem to be a significant factor’. They further pointed out that the results may not be completely reliable because they divided the participants into L1 speakers of Indo-European languages and all other languages. In addition, the first group was not so large – just one fourth of the whole, which might have influenced the results.

Following the *Full Transfer Full Access* and *Feature Reassembly* hypotheses, Ionin, Zubizarreta & Maldonado (2008) took a broader perspective and explored the influence of not only L1 transfer, but also the effect of L2 input and Universal Grammar on the acquisition of English articles, as well as the correspondence between these three factors and the choice of article. For their study, they recruited 24 adult L1 Spanish [+Art] speakers and 23 adult L1 Russian [-Art] speakers. The participants were tested by means of an elicitation task and a cloze test of L2 proficiency. It was predicted that L1 Spanish speakers will rely highly on transfer from their native language. Conversely, L1 Russian speakers, who do not have articles in their system, will depend on access to Universal Grammar. As Ionin et. al. (2008, p. 558) put it ‘specificity, like definiteness, appears to be a cross-linguistic semantic universal underlying article choice’. They further posit that (2008, p. 559) ‘in the absence of L1-transfer, L2-learners access both semantic universals – definiteness and specificity – provided by UG, but do not (at least initially) know which of these semantic universals is relevant for the choice of *the* versus *a* in English.’ As a result, L2 learners of [-Art] L1 fluctuate between these two possibilities and it is only through relevant L2 input that the accurate choices fall into place. In short, the findings of the study supported the predictions, and Ionin et. al. (2008) concluded that in the acquisition process of English articles L1 Spanish [+Art] speakers depend more on L1 transfer, whereas L1 Russian [-Art] speakers rely mostly on UG in combination with relevant L2 input, which eventually helps them find the right setting.

Zdorenko & Paradis (2008) were curious to find out whether the results of Ionin et. al. (2008) apply to children acquiring L2 English. Zdorenko & Paradis (2008) used a longitudinal corpus

of narratives from 17 children, aged 5;4 at the start of the research. The language background of the children was [-Art] L1s – Chinese, Korean, Japanese, and [+Art] L1s – Spanish, Romanian, Arabic.

Based on the findings of Ionin et. al. (2008), [+Art] L1 children were expected to transfer the definiteness from their native language, whereas the [-Art] L1s were expected to fluctuate. However, the results were contrary to the expectations, indicating that all children fluctuated in their article choice, regardless of L1 background. In addition, there was a very low degree of L1 influence. Nevertheless, as Zdorenko & Paradis (2008, p. 244) suggest, ‘this finding is perhaps not surprising in consideration of potential differences between child and adult L2 acquisition’.

A study similar to Ionin et. al. (2008) was carried out by Kwame (2018). The target group of the research was L1 Dagbani speakers. Dagbani is a language widely spoken in Northern Ghana. It is an [+Art] language which has no morphological marker for indefiniteness, thus employs bare nouns for both indefinite and generic contexts. The participants in the study were 45 L1 Dagbani speakers divided into low intermediate and high intermediate proficiency level groups. They were tested via a written forced-choice elicitation test, an acceptability judgement test, and a proficiency test. The results are consistent with the proposals of the *Full Transfer Full Access* and *Feature Reassembly* hypotheses, and showed that the three sources of knowledge – L1 transfer, L2 input and UG – influenced L2 English article acquisition. There was no fluctuation but rather evidence of L1 transfer of the article semantics on the interlanguage of the L2 English learners.

The findings of most of the research studies show that SL learners with L1 [+Art] languages acquire articles faster than L1 [-Art] speakers (Master, 1990, 1997; Park, 1996), and that positive transfer naturally occurs when L1 and L2 are similar (Master, 1987; Snape et. al., 2013; Ekiert, 2004). There are, however, studies with evidence that this is not necessarily the case. Sun (2016) collected data with a cloze test from 18 college students who study English as a second language in the USA. The participants had diverse L1 background and were divided into three proficiency levels. The advanced group had lived in the USA for 2 years before the experiment and their native languages were Korean, Chinese, Spanish, French, and Hebrew. The intermediate level group was represented by L1 speakers of Polish, French, Spanish, Russian, and Urdu, and they had lived in the USA for around 9 months before the test took place. Finally, the beginner level, with Spanish, French, Urdu, and Bangla as first languages,

had just 3 months of residence in the USA at the time of testing. The purpose of the study was to look into the sequence, differences and difficulties in the acquisition of English articles by speakers of [+Art] and [-Art] L1s. Interestingly, the advanced and beginner level participants of both [+Art] and [-Art] groups had almost the same accuracy rate. The only difference was in the intermediate level, where speakers of [+Art] L1s had a greater number of correct answers than those with [-Art] L1s. The *zero* article appeared to be the most difficult one for all participants in the experiment, regardless of their L1 background, and the indefinite *a* was the easiest, again for all of them. The [+Art] group experienced greatest difficulty with the definite *the*. Based on the results and the analysis, Sun (2016) concluded that positive transfer does not always occur between languages that are similar in terms of their article system, neither do L1 [+Art] speakers acquire the L2 article system faster than learners who do not have articles in their native language.

To sum up, the overview of the above studies shows that:

- a) [+Art] L1s depend more on L1 transfer, whereas [-Art] L1s rely on relevant L2 input and UG (Ionin et. al., 2008; Kwame, 2018; Ionin & Montrul, 2010).
- b) Positive transfer does not always occur when L1 is similar to L2 (Sun, 2016).
- c) L1s that have articles acquire the L2 English article system faster than L1s without articles (Master, 1987), but not necessarily always (Sun, 2016).
- d) Low proficiency levels are strongly influenced by their L1 (Master, 1987), but advanced learners are not immune to transfer either (Snape et. al., 2013).
- e) L1 transfer decreases with the increase of the proficiency level (Wong and Quek, 2007), and this applies also to learners of English as a foreign language (Mayo, 2008).
- f) Children show a very low degree of L1 transfer (Zdorenko & Paradis, 2008).

The acquisition of articles in L2 English has been a focus of a huge amount of research. The differences between English and the learner's L1 have been claimed to be one of the biggest factors in the process of L2 English article acquisition, as shown by Master (1997). He further posits that 'mastery of the article system does not occur until late in the interlanguage' (Master, 1997, p. 220).

Grannis (1972, p. 83) sums up the general conclusion on the matter that 'the English article system is a source of extreme frustration for the foreign language learner of English', and the difficulty becomes bigger when the native language does not have formal means which is identical to the English articles (Master, 1997).

In her study, Slabakova (2017, p. 3) elaborates on other factors that influence transfer, ‘such as construction frequency, availability of clear unambiguous input, prevalent use, and structural linguistic complexity, among others’. Khasinah (2014, p. 267) discusses the importance of individual differences in the process of SLA, such as ‘motivation, attitude, age, intelligence, aptitude, learning style, and personality’. She further points out that these differences can either support or impede the learning process, thus leading to a successful or unsuccessful attempt of mastering the L2.

I will next explore the differences between the article systems of Norwegian and Bulgarian as compared to English. My goal is to find out whether these differences give grounds for L1 transfer in the acquisition of English articles by native speakers of Norwegian and Bulgarian.

## **2.3 Article system in English, Norwegian and Bulgarian**

The present research study does not cover all aspects of the article systems. This field is so huge that no study before has even attempted to look into all the details and complexity that come along with the ESL acquisition of articles by learners with diverse L1 background. Each research study is designed to investigate a particular aspect, and so is this one. I have limited it to some of the straightforward differences which can be a prerequisite for L1 transfer between L1 Norwegian – L2 English, and L1 Bulgarian – L2 English. These mismatches are important as far as ‘any study of transfer must naturally provide a detailed consideration of cross-linguistic differences in structure’ (Odlin, 1989, p. 129).

The next section will discuss the differences between the three languages to which this study is narrowed. They are limited to some aspects of the obligatory use of the indefinite article in English and Norwegian, omission of the indefinite article in Norwegian in contexts where it is obligatory in English, generic use of nouns and the use of the definite article in some fixed expressions in English. The filler section will give me additional evidence whether L2 learners transfer from their L1. The fillers target word order – particularly, verb placement in sentences with habitual adverbs and in non-subject-initial declaratives. I will briefly touch upon these too.

### **2.3.1 Typological differences across English, Norwegian and Bulgarian**

#### **2.3.1.1 English and Norwegian**

Both English and Norwegian belong to the Indo-European language family, more specifically to its Germanic branch, and share the same Low German origin. Low German was spoken from about 1100 to 1600 and was the *lingua franca* all around the North Sea and the Baltic area, thus

having a strong influence on the Scandinavian languages. Although technically divided into West Germanic (English) and North Germanic (Norwegian), they are typologically very close and this is easily identified at all levels of the language. Norwegian, just like English, uses the Latin alphabet. This is a very comfortable start for Norwegian learners of English because obstacle number one – the alphabet – is easy to overcome. The two languages have a lot in common in terms of vocabulary as well. Compare *hear* vs. *høre*, *tea* vs. *te*, *can* vs. *kan*, *milk* vs. *melk*, the list can go on. In terms of grammar, both languages require an overt subject. Compare *I see a boat* vs. *Jeg ser en båt*. If an adjective is added, the noun phrases in both English and Norwegian will be constructed identically, with an overt determiner preceding the adjective before the noun (Det-Adj-N), as in *I see a white boat* and *Jeg ser en hvit båt*.

### 2.3.1.2 English and Bulgarian

Bulgarian is an Indo-European language, and belongs to the South Slavic dialect continuum of the huge Indo-European language family. In contrast to English and Norwegian, Bulgarian language uses the Cyrillic alphabet. Although the alphabet is not related to language structures, it is still one of the first challenges that a Bulgarian learner of English faces – the difference in the script. Compare *hear* vs. *чувам [chuvam]*, *tea* vs. *чай [chai]*, *can* vs. *мога [moga]*, *milk* vs. *мляко [mlyako]* – the square brackets show the pronunciation of the word in Bulgarian. As seen from this list, the difference is not only in the graphical visualization of the words but in the vocabulary as well. It would be a lot easier for a Norwegian learner to associate *hear* with *høre* than for a Bulgarian to make a connection between *hear* and *чувам [chuvam]*. At a higher grammatical level, these differences are even more complex since Bulgarian is a pro-drop language and does not necessarily require a subject in the sentence. The verb inflection implies who or what the subject is. Compare *I see a boat* vs. *(Аз) Виждам лодка [(Аз) vizhdam lodka]*. This sentence in Bulgarian is grammatical without the subject because *-м [m]* at the end of the verb points to first person singular. Another important difference here is that Bulgarian language does not overtly mark indefiniteness. Therefore, an indefinite noun in Bulgarian is not preceded by an overt indefinite article, as is in both English and Norwegian.

To sum up, English and Norwegian are typologically closer to each other than English and Bulgarian. It may be expected that Norwegian, having a more similar article system to English than Bulgarian, will be more facilitative than Bulgarian.



### 2.3.1.3 Norwegian and Bulgarian

As mentioned earlier, both Norwegian and Bulgarian belong to the Indo-European language family. However, all languages in this large family are historically related, so one might think of them as a big infusion of language traits which have either converged or diverged, depending on the influence from neighbouring languages, among other factors. According to Malja-Imami (2012, p. 10) ‘convergence is present most in Albanian, Romanian, Bulgarian, and Macedonian language’. She goes on to say that

‘Appearance of definite article in two South Slavic languages, namely Bulgarian and Macedonian, regardless that the definite article is not present in any other Slavic language, may be explained through the internal development processes supported by the definite demonstrative pronouns but also under the influence of neighboring languages such as Albanian and Romanian where the post-positive definite article has developed earlier.’ (Malja-Imami, 2012, pp. 10-11)

Asenova (1989) agrees with this claim, saying that the postposed definite article in Bulgarian is rooted in the influence of one Balkan language onto another, specifically pointing to the Albanian – Bulgarian – Romanian linguistic triangle, which all have a postposed definite article.

Despite many other typological differences, Bulgarian and Norwegian share the postposed definite article but not the indefinite one, as seen below.

	English	Norwegian	Bulgarian
Indefinite article	yes	yes	-----
Definite article	preposed	postposed	postposed

### 2.3.2 Obligatory use of the indefinite article in English and Norwegian

The best way to understand the meaning of the indefinite articles, is perhaps to see them in contrast with the definite – an approach, used in Ionin’s (2003) definition, as quoted by Ekiert (2007, p. 11):

‘(In)definiteness: an NP is definite if its referent is known to both speaker and hearer, and is unique in the contextually relevant domain. Otherwise, the NP is indefinite.

definite: (I read a book.) The book was interesting.

indefinite: I read a book yesterday.’

Following Ekiert (2007, p. 6), who suggested that ‘A fundamental understanding of English articles as a pervasive and persistent L2 acquisition problem must derive from an analysis of (1) the TL forms and meanings, and, (2) their L1 equivalents. Without the contrastive dimension, nothing can be established about the impact of language differences’, I will take a comparative and contrastive approach between the language pairs in my study.

One of the typical and most frequent uses of the indefinite article *a, an* in English is (1) to imply that something is *one in number*, as in *I’d like to have a cup of tea*, and (2) to refer to a non-specific member of a group or a category, as in *They watched a movie yesterday*.

Norwegian grammar (Faarlund, Lie & Vannebo, 1997, p. 290) also refers to the indefinite noun phrase as ‘a phrase with non-unique reference’<sup>5</sup>. Similarly to Ionin (2003), Hagen’s (2000, p. 57) approach is contrastive and defines indefinite reference as ‘any case of individual reference where the condition for definite reference is not present’.

That said, it will be very logical to use the Norwegian indefinite article in contexts like *Jeg vil gjerne ha en kopp te* (*I’d like to have a cup of tea*), and *Vi så på en film i går* (*We watched a movie yesterday*).

In contrast to English and Norwegian, Bulgarian does not have an overt indefinite article. Yordanova-Petrova (2018), following Stankov & Ivanova (1998), differentiates between specific and non-specific indefiniteness in Bulgarian. The language has developed two separate tools to indicate this difference, namely (Yordanova-Petrova, 2018, p. 2) ‘*edin, edna, edno, edni* – for expressing specific indefiniteness, and *zero* – for expressing non-specific indefiniteness’. *Edin* (masculine), *edna* (feminine), *edno* (neutral), *edni* (plural, implying *some/any/no matter which*) – all imply the numerical meaning of *one*, conjugated for gender and number. This, in turn, gives Stankov & Ivanova (1998) grounds to classify *edin, edna, edno, edni* (henceforth *edin*) as an indefinite article, but only if it ‘denotes an object, known to the speaker, but not specific enough to the listener’ (Lakova, 1983, p. 151). Lakova (1983) further proposes that the use of *edin* points to a specific subject, and thus, makes difference in meaning, whereas the lack of an overt marking, or the *zero* article, refers to the conceptual content of the word. This is also confirmed by Stankov & Ivanova (1998) who are categorical

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<sup>5</sup> All translations from Norwegian and Bulgarian are mine unless otherwise specified.

in that the use of *edin* is not optional, and there is a clear difference in the grammatical meaning of two versions of a phrase – one containing *edin*, and one without it.

It will be therefore accurate to say that the lack of an overt indefinite article in Bulgarian corresponds to the contextual use of the earlier mentioned examples with regards to English and Norwegian. Compare:

- |              |  |
|--------------|--|
| (1) English: | I'd like to have <b>a</b> cup of tea.            |
| Norwegian:   | Jeg vil gjerne ha <b>en</b> kopp te.             |
| Bulgarian:   | Bih iskala(a) <b>Ø</b> chasha chai. <sup>6</sup> |
| (2) English: | We watched <b>a</b> movie yesterday.             |
| Norwegian:   | Vi så på <b>en</b> film i går.                   |
| Bulgarian:   | Gledahme <b>Ø</b> film vchera.                   |

Although for different reasons, Norwegian too, can omit the indefinite article, and thus behave similarly to Bulgarian – at the occurrence of specific verbs, and within particular contexts. This linguistic situation in Norwegian is referred to as *nakent substantiv*, or bare noun.

### 2.3.3 Omission of the indefinite article in Norwegian

Faarlund et. al. (1997, p. 293) describe bare nouns as ‘noun phrase without determiners in non-referential use’, which apply to singular countable nouns. They further specify (p. 293) that bare singular countable nouns (henceforth *bare nouns*) most frequently occur with verbs denoting *possession* like ‘have, get/receive, obtain or the like’ (*ha, få, skaffe seg*), but not limited to these only.

Alkema (1993) is more specific about how the use of bare nouns filters the meaning. For example, if the noun after a possession verb refers to an object like a house, a car, a fridge and so on (of which we usually possess only one item), then the bare form of the noun is more appropriate. Conversely, if the noun refers to objects like books, cups, clothes and so on, of which we usually possess many items, then the indefinite article is used. Compare the following examples, taken from Alkema (1993, p. 4):

- (3) Jeg har/skal kjøpe hytte vs. Jeg har/skal kjøpe en bok.  
I have/will buy **a** cabin vs. I have/will buy **a** book.

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<sup>6</sup> All examples in Bulgarian are latinized by me unless otherwise specified.

She further suggests that when the bare noun is used, the speaker implies, and the listener understands, that it refers to a single item. No emphasis is placed on the number. Conversely, adding the indefinite article will put a contrastive emphasis on the number of items – namely, that it is *one*, but not two, three or more of them. Alkema (1993, p. 6) supports this statement with the example *De har bil* (*They have a car*), which implies that the car is just one – emphasis is not put on the number but on the very object – it is *a car*, not a boat or a bicycle. In other words, the bare noun is a tool used for pointing out a contrast. The emphasis through contrast rule can also apply to the above-mentioned *book* example. Even when one single item is meant, if the speaker needs to differentiate it from another, the wording might look like (Alkema, 1993, p. 7):

(4) Jeg har kjøpt bok til henne – ikke CD-plate.

I have bought her **a** book – not **a** CD.

However, when the object is specified by a relative clause, an indefinite article is required. This applies to all verbs that denote *possession*. Alkema (1993, p. 8) illustrates this with the following contrasting pair:

(5) Trenger du tolk? Trenger du en tolk som kan tysk?

Do you need **an** interpreter? Do you need **an** interpreter who knows German?

Here, again, it is a matter of contrast. The emphasis is on an interpreter who knows *German*, but not English, Dutch or any other language. Below are some further examples supporting the contrasting technique intertwined in the *bare noun/indefinite article* opposition, taken from Alkema (1993, p. 9):

(6) De har \*hund/en hund som er gammel.<sup>7</sup>

They have \*dog/a dog that is old.

‘They have a dog that is old.’

(7) De har \*hund/en hund på ti år.

They have \*dog/a dog that is 10 years old.

‘They have a dog that is 10 years old.’

(8) De har hund, nemlig en labrador.

\*They have dog, more particularly a Labrador.

‘They have a dog, more particularly a Labrador.’

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<sup>7</sup> The asterisk (\*) is for ‘not correct’.

The group of the *possession* verbs that behave in a similar way and collocate with bare nouns is quite large. The detailed list is provided in Alkema (1993, p. 7), but here I will mention just a few of them, relevant to my study – *trenge (need)*, *bestille (order, book, as in book an appointment)*, *ha (have, possess)*.

Alkema (1993), following Golden, Mac Donald & Ryen (1988), and Hvenekilde (1984), claims that the indefinite article is often omitted when the noun is closely linked to the verb into one intact meaning, and when this collocation denotes ordinary, everyday situations or actions, such as in (Alkema, 1993, p. 3) *ha hus – ha et fantastisk hus (have a house – have a fantastic house)*. The occurrence of an adjective, however, makes a difference. Again, if the adjective logically belongs to the noun, the indefinite article can be omitted, as in (Alkema, 1993, p. 5) '*ha god/dårlig uttale (have a good/bad pronunciation)*, *ha kort/lang/stor/liten nese (have a short/long/big/small nose)*', and Faarlund et. al. (1997, p. 294) '*Han har (høy) feber (He has a (high) fever)*', to mention a few examples. Alkema (1993) further suggests that the judgement whether an adjective goes logically together with a noun, is a matter of a very subjective perception and can differ from one person to another. This explains the presence of an indefinite article in the example above – *ha et fantastisk hus (have a fantastic house)*. The noun *house* can be described in various ways, all of which might be perceived as logical and accurate, and one can hardly point to certain adjectives that stand out as the only logical ones. As Golden et. al. (1988) sums it up, there can be inconsistency in the use (or not) of an indefinite article in such situations.

Another typical use of the bare noun in Norwegian, as opposed to English, is with nouns denoting professions. In such cases, it is the function that is put in focus, and not so much the individual person who practices the profession, as in (Alkema, 1993, p. 11):

(9) De ble sendt til lege/fysioterapeut/tannlege/spesialist/psykiater.

They were sent to a doctor/physiotherapist/dentist/specialist/psychiatrist.

To these examples, Faarlund et. al. (1997, p. 295) add:

(10) Hun er lærer.

She is a teacher.

(11) Peter er dansk lektor ved universitetet.

Peter is a Danish associate professor at the university.

Lastly, I will refer to another difference between Norwegian and English, namely the use of bare nouns in *leisure activities* contexts, as in (Alkema, 1993, p. 12):

gå/være på circus/ diskotek/ kino/restaurant  
go to/ be at **the** circus/disco/cinema/restaurant

As seen from the examples, Norwegian employs bare nouns for such contexts, whereas English requires the definite article. The same applies to musical instruments, which in Norwegian occur as bare nouns in fixed expressions like *spille piano/gitar* (*play **the** piano/**the** guitar*) but in English require a definite article most of the time. In saying this, I refer to the complexity of how these fixed expressions can be interpreted in English, depending on the context they appear in. As a rule of thumb, if we ask someone whether they play an instrument, we might get an answer like *I play the guitar*. However, if that person is a band player and the question is specified as to what instrument they play in the band, we might get an answer like *I play guitar*. This said, English can drop the article just like Norwegian, but in a very specific context, which is not central for this thesis, and probably not so frequent in the ESL input.

A note to make here is that the definite article in the English translation of the sentences above appears as a part of fixed expressions, and does not directly point to the opposition definiteness/indefiniteness. In addition, central in this discussion are bare nouns in Norwegian and the equivalent ramification in English. Therefore, definiteness is outside the scope of this thesis.

In sum, bare nouns in Norwegian are a very complex phenomenon with somewhat fluctuating rules. They occur in a variety of diverse context situations, but this thesis is limited to bare nouns collocating with verbs denoting possession, leisure activities, professions, as well as their function as a contrasting/emphasizing linguistic expression.

Before I conclude this section, and with regards to the cross linguistic purpose of this overview, I will add that in all *bare noun* situations described above, Bulgarian language by default will appear without an article. This applies also to the leisure activity contexts which come with the definite article in English.

The next section will discuss how the omission of the definite article in English maps the meaning of genericity on nouns, and how genericity is manifested in Norwegian and Bulgarian.

### **2.3.4 Genericity**

Genericity is a huge topic and in no way is the purpose of this thesis to cover all its aspects. However, I will give a brief overview of how it is manifested in Norwegian and Bulgarian, as compared to English. I will touch upon some of the main possibilities in passing, but for the

sake of relevance to my experiment, I will pay more attention to how definite plural and bare plural noun phrases behave in their generic use.

#### 2.3.4.1 Genericity in Norwegian

In her research on genericity in the Norwegian language, Kurek (2017) summarizes that this phenomenon is not thoroughly researched by scientists, and even in reliable grammar books such as *Norsk Referansegrammatikk* (Faarlund et. al., 1997) it is described in a very superficial way. She further points out that most often genericity refers to all five noun forms – bare noun, indefinite and definite singular forms, and indefinite and definite plural forms. The choice of the form depends on the context.

In the introduction of *The Generic Book of Carlson and Pelletier* (1995), in my opinion the most influential work done on genericity so far, Krifka et. al. (1995, p. 2) specify two main groups of contexts – generic statements with ‘reference to a kind’, and characterizing sentences that ‘report a kind of *general property*’.

According to Faarlund et. al. (1997, p. 292), examples (12) and (13) express a special type of reference, which is not directed to one specific specimen but rather to a whole species. In such occasions, the nouns in Norwegian can appear in singular, plural, indefinite or definite forms, as seen below:

(12) En ulv er et rovdyr – ulven er et rovdyr  
A wolf is a predator – the wolf is a predator

(13) Ulver er rovdyr – ulvene er rovdyr  
Wolves are predators – the wolves are predators

There are four possibilities to express genericity in Norwegian, but they cannot be used interchangeably. When the reference is to a particular type of species, ‘the definite singular form is the preferred one’ (Faarlund et. al., p. 292), as seen from examples (14) and (15) on p. 293:

(14) Ulven står i fare for å bli utryddet  
**The** wolf is in danger of extinction

(15) Makrellen kom i 1939 under Norges Makrellag (Furre, 1991)  
**The** mackerel came in 1939 thanks to Norges Makrellag.

Kurek (2017) adopts Carlson & Pelletier’s (1995) interpretation of genericity, which divides generic statements into two main groups.

**Group (1)** Sentences that refer to species and are not bound to a given period of time since they describe characteristic features of a species or a group (cf. Ionin, Montrul & Santos, 2011; Pelletier, 2010), as in the example, which Kurek (2017) borrows from the Great Norwegian Encyclopedia *Store Norske Leksikon* (Østbye & Hansen, 2019):

- (16)      Elefantene er planteetende  
            **The** elephants are herbivorous

This *reference to a kind* carries the notion that all elephants in general eat plants, but not just a certain group of them.

The same article about elephants (Østbye & Hansen, 2019) contains instances of both indefinite (bare) plural nouns (17) and definite plurals (18), (19), (20), used as *reference to a kind*:

- (17)      Elefanter er eneste nålevende pattedyrfamilie i [...]  
            ElephantPL.INDEF. are the only living mammals in [...]  
            ‘Elephants are the only living mammals in [...].’

- (18)      Elefantene er de største av alle landdyr.  
            ElephantPL.DEF. are the largest of all land animals.  
            \***The** elephants are the largest of all land animals.  
            ‘Elephants are the largest of all land animals.’

- (19)      Elefantene trives best i fuktig varme [...]  
            ElephantPL.DEF. thrive best in hot humid weather [...]  
            \***The** elephants thrive best in hot humid weather [...]  
            ‘Elephants thrive best in hot humid weather [...].’

- (20)      Elefantene er flokkdyr som dels lever i grupper [...]  
            ElephantPL.DEF. are herd animals that partly live in groups [...]  
            \***The** elephants are herd animals that partly live in groups [...]  
            ‘Elephants are herd animals that partly live in groups [...].’

**Group (2)** Habitual sentences, which describe repetitive actions or habits (Kurek, 2017, p. 6):

- (21)      Hunder bjeffer.  
            DogPL.INDEF. bark.  
            ‘Dogs bark.’



- (22) Brannmenn er vanligvis intelligente.<sup>8</sup>  
 FiremanPL.INDEF. are usually intelligent.  
 ‘Firemen are usually intelligent.’

For comparison reasons, I will go back to some of these examples when I discuss genericity in Bulgarian later in the thesis.

Kurek (2017, p. 15) concludes this complex topic by saying that there are no clear-cut rules and it seems as though ‘it is only the linguistic intuition that determines which forms convey generic interpretation and in what contexts.’

### 2.3.4.2 Genericity in Bulgarian

Bulgarian is one of the only two Slavic languages, along with Macedonian, ‘that have the definite article (DA), which is postposed to the left-most element of the noun phrase (NP)’ (Molle, 2003, p. 1). Molle further points out in the same paper that the role of the definite article in Bulgarian is not limited to the function of definiteness only. Definiteness can be generic, among other properties, and in this function, it refers to ‘a class of objects, i.e. all elements included in the extension of the notion, to which the noun or the NP refer’ (Molle, 2003, p. 3).

Following this, genericity in Bulgarian can be expressed by definite nouns – both definite singular nouns (23), (24), (25) and definite plural nouns (26), among other options, which I will not discuss here since they are outside the scope of my research.

- (23) Rozata e rastenie. (Molle, 2003, p. 10)  
 The-rose is plant.  
 ‘The rose is a plant.’

- (24) ВЪЛКЪТ НИКОГА НЕ СЕ СМЕЕ.<sup>9</sup> (Leafgren, 2010, p. 37)  
 Vulkut nikoga ne se smee.  
 Wolf-**the** never laughs.  
 The wolf [generic] never laughs.  
 ‘Wolves never laugh./A wolf never laughs.’

In their paper, Tasseva-Kurktchieva, Dubinski & Brett (2020, p. 1) posit that ‘all Bulgarian generics always display definiteness [...] and the language does not make a distinction between

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<sup>8</sup> Mari, Beyssade & del Prete, 2013 in Kurek, 2017

<sup>9</sup> Appears in Cyrillic in Leafgren, 2010.

exceptionless and characterizing generics’, as is the case with English. They further illustrate this with examples (25) and (26) below.

- (25) Komar-**ət** e nasekomo/ prenasja maraija<sup>10</sup>  
mosquito-the is an.insect/ carries malaria  
‘The mosquito is an insect/ carries malaria.’
- (26) Komari-te sa nasekomi/prenasjat malarija  
mosquitos-the are insects/ carry malaria  
‘The mosquitos are insects/ carry malaria.’

The next example taken from Alexander (2000, p. 72), combines both singular and plural definite nouns with a generic meaning.

- (27) Течението е много опасно за малките.  
Techenieto e mnogo opasno za malkite.  
Draft-**the** is very dangerous for little-the.  
The draft is very dangerous for the little  
‘Drafts are very dangerous for children.’

So far, we see that Bulgarian language employs the definite article in order to mark genericity. My further overview will be narrowed down to the definite plural nouns in order to be consistent with the examples in my research.

That said, I will now go back to some of the sentences I discussed earlier for Norwegian (18), (19), (20), and will compare them to contextually similar sentences in Bulgarian (28), (29), (30). For the sake of consistency, I will refer to an article about elephants, taken from Wikipedia in Bulgarian<sup>11</sup>. Compare:

- (18) Elefantene er de største av alle landdyr.  
\***The** elephants are the largest of all land animals.  
‘Elephants are the largest of all land animals.’

and

- (28) Slonovete sa nai-edrite suhozemni bozainitsi na planetata. (Wikipedia, 2021)  
**The** elephants are the largest land mammals on the planet.  
‘Elephants are the largest land mammals on the planet.’

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<sup>10</sup> Tasseva-Kurktchieva et.al., 2020, p. 1

<sup>11</sup> Latinization and translation of the Bulgarian examples are mine.

Compare:

- (19) Elefantene trives best i fuktig varme...  
**The** elephants thrive best in hot humid weather...  
'Elephants thrive best in hot humid weather...'

and

- (29) Slonovete obichat vodata [...] (Wikipedia, 2021)  
**The** elephants like **the** water [...]  
'Elephants like water [...]

Compare:

- (20) Elefantene er flokkdyr som dels lever i grupper...  
**The** elephants are herd animals that partly live in groups ...  
'Elephants are herd animals that partly live in groups ...'

and

- (30) Slonovete se dvizhat na stada, [...] (Wikipedia, 2021)  
**The** elephants move in herds, [...]  
'Elephants move in herds, [...]

In these examples, Norwegian and Bulgarian are very much the same. However, recall that genericity in Norwegian can employ all possibilities of definite and indefinite singular and plural nouns, and it is often one's intuition that points to the right choice. In this sense, Bulgarian is more rigid as genericity is limited within the use of the definite nouns only.

#### 2.3.4.3 Genericity in English

In Chapter IV of his dissertation, Lawler (1973) specifies three kinds of generic noun phrases in English. First, the definite generic, formed with a definite singular noun, as in (31):

- (31) The tiger is found in India. (Lawler, 1973, p.105)

Lawler specifies that 'definite generics are both syntactically and semantically singular' (p.106). It refers to a *prototype* of a species and is rather an abstract concept, which prompts that the speaker is speculating, guessing or expecting this to be true of each and any representative of the species.

As seen earlier, the definite singular is borrowed for generic purposes in both Norwegian and Bulgarian. However, it is not directly relevant to my study, since I am interested in generic plural noun phrases.

Second, English can express genericity by means of indefinite singular nouns. According to Lawler (1973, p.106), ‘the indefinite generic, like the definite, is singular, perhaps even more so than the definite.’ Lawler goes on to say that it refers ‘not to the type of species, [...], but to an individual member of the species alone’. It thus defines the species by suggesting properties that are mandatory for anything in order to be a member of that particular species, as in (32), where *polyphonic* is a required property:

(32) A madrigal is polyphonic. (Lawler, 1973, p.109)

Note that the definite singular can be used here as well, as in (33):

(33) The madrigal is polyphonic. (Lawler, 1973, p.112)

Instead of a required *property*, the referral here will be to a required *characteristic*. In other words, *polyphonic* characterizes madrigals.

Third, genericity can be expressed by the grammatical indefinite (bare) plural in order to refer to the concept of the *norm* of a species, or what is normal in general for a certain species, but not necessarily for each and every individual member. This normality is not so much a result of facts, surveys or statistics, but is rather based on the speaker’s impression, experience or perception of the species, as implied in sentence (34) below:

(34) Madrigals are polyphonic. (Lawler, 1973, p.114)

It is very unlikely that the speaker has carried out a research on madrigals, but it is his or her experience, understanding, and impression that *polyphonic* is normal for them.

Table 1 below summarizes the discussion on genericity for the three languages, as presented in this thesis.

Table 1. Overview of genericity in Norwegian, Bulgarian and English

Article	Norwegian	Bulgarian	English
Definite singular	reference to a particular type of species	reference to a class of objects	(1) reference to a prototype of a species; (2) reference to a required characteristic, not property
Examples	Ulven står i fare for å bli utryddet. WolfDEF.SG. is in danger of extinction. The wolf is in danger of extinction.	Rozata e rastenie. RoseDEF.SG. is plant The rose is a plant.	<b>The</b> tiger is found in India. (1)  The madrigal is polyphonic. (2)

Definite plural	reference to a kind	reference to a class of objects	-----
Examples	Elefant <b>ene</b> er de største av alle landdyr. ElefantDEF.PL. are the largest of all land animals. Elephants are the largest of all land animals.	Slonov <b>ete</b> sa nai-edrite suhozemni bozainitsi na planetata. ElephantDEF.PL. are the largest land mammals on the planet. Elephants are the largest land mammals on the planet.	
Indefinite singular	reference to a kind, a whole species	-----	reference to an individual member of a species
Examples	En ulv er et rovdyr. Wolf INDEF.SG. is a predator. A wolf is a predator.		A madrigal is polyphonic.
Indefinite (bare) plural	(1) reference to a kind, a whole species; (2) reference to repetitive actions, habits	-----	Reference to a norm – what is normal for certain species but not necessarily for each and every individual member
Examples	Elefan <b>ter</b> er eneste nålevende pattedyrfamilie i...(1) ElephantINDEF.PL. are the only living mammals in... Elephants are the only living mammals in...  Hunder bjeffer. (2) DogPL.INDEF. bark. Dogs bark.		Madrigals are polyphonic.

I have highlighted in orange the types of expression relevant to my experiment. As illustrated, only Norwegian has an equivalent. Moreover, the *reference to a kind* type of genericity is conveyed by both indefinite singular and indefinite (bare) plural nouns in Norwegian. Thus, as Kurek (2017) suggests, it is a matter of intuition as to which of the two will be used.

In this section I reviewed some aspects of the article systems in English, Norwegian and Bulgarian. The brief cross linguistic typological comparison showed that English and Norwegian share a lot of similarities, as opposed to English and Bulgarian, which differ in many ways. Both Norwegian and English have indefinite articles, Bulgarian does not. However,

Norwegian can omit the indefinite article and employ bare nouns in certain contexts at certain conditions – for example, with verbs denoting *possession*, *leisure activities*, *professions*. Norwegian bare nouns are also a very intuitive linguistic tool for emphasizing and contrasting. I also presented some of the main ways in which genericity is manifested across the three languages. Central to my study is the generic use of bare plural nouns in English. Norwegian also uses the same form for generic purposes. However, it adds one more – the definite plural noun, and in this sense, it is similar to Bulgarian, which uses only definite singular or definite plural nouns for generic contexts.

In Table 2 below I have summarized the differences central to my study across the three languages for a better overview of the areas which might give grounds for L1 transfer.

Table 2. Differences between English, Norwegian and Bulgarian, central to this thesis

	<b>English</b>	<b>Norwegian</b>	<b>Bulgarian</b>
Indefinite article	yes	yes	no
Omission of the indefinite article (bare nouns)	no	yes	yes
Genericity	Indefinite plural	Indefinite plural	Definite plural

### **3 The study – research question and methodology**

This chapter presents the study. The research question is formulated in section 3.1. Section 3.2 introduces the target group, and section 3.3. explains the methodology and states my predictions.

#### **3.1 Research question**

In the previous chapter, I outlined some areas of match and mismatch across the three languages, central to this research. Its purpose is to investigate L1 transfer in the acquisition of English articles by native speakers of Norwegian and Bulgarian. The theoretical background in chapter 2 presented evidence that L2ers with various L1 background of both [-Art] and [+Art] languages tend to transfer the structural properties of their native languages in the acquisition of English articles. However, to the best of my knowledge, and after a thorough research and communication with specialists in SLA, I found out that this topic has not been researched before with regard to L1 Norwegian and L1 Bulgarian. My effort to identify previous research on this topic for L1 speakers of languages that share the same article system with Norwegian (Swedish and Romanian – overt indefinite article, postposed definite article) and Bulgarian

(Macedonian, Albanian, Icelandic – no overt indefinite article, postposed definite article) gave no results either. Therefore, I have no previous studies on the languages which are in the focus of this thesis to build upon. This gives me the opportunity to take the first step and lay the grounds for filling in this gap in the SLA field. That said, I have formulated the following research question:

RQ: Is there evidence of L1 transfer in the SLA of the English article system by native speakers of Norwegian and Bulgarian?

Based on the differences and similarities between Norwegian and English on the one hand, and Bulgarian and English on the other, for the purposes of this study, I have identified the following areas of possible L1 influence, which will be the departure point for my predictions later on:

1. Obligatory use of indefinite article in English and Norwegian – both English and Norwegian have indefinite article, whereas Bulgarian does not have an overt indefinite article. Norwegian is similar to English, but Bulgarian behaves differently.
2. Genericity – Bulgarian marks generic contexts through definite plural nouns. English employs indefinite plurals (in the current study I only focus on these contexts). Norwegian can fluctuate between indefinite plurals and definite plurals. Bulgarian is different from English, but Norwegian partly overlaps with both English and Bulgarian.
3. Omission of indefinite article in Norwegian (bare nouns) – Norwegian can omit the indefinite article in contexts where it is obligatory in English. In this respect, Norwegian is similar to Bulgarian, but English is different.
4. Definite article in fixed expressions in English (such as *play the guitar*) – English requires a definite article. Norwegian omits articles and employs bare nouns in such contexts. Bulgarian does not require an article either. Bulgarian and Norwegian are similar, but English is different.

## **3.2 Target group**

For my empirical study, I have chosen to test students in the 6<sup>th</sup> and 7<sup>th</sup> grade in Norwegian and Bulgarian state schools. At this age, they have already received some input of English at school but are not very advanced yet. Many research studies and hypotheses claim that L1 transfer is more typical for the early phases of acquisition when learners strongly rely on their knowledge of the native language (recall the FTFA hypothesis, Schwartz & Sprouse 1994, 1996), and the entire L1 grammar remains active while L2 gradually expands (recall the Full Transfer Potential hypothesis, Westergaard, 2019).

In Bulgaria, students start school at the age of 7. They are 12 years old in grade 6, and 13 years old in grade 7. In Norway, school starts at the age of 6. Therefore, students in grade 6 are 11 years old, and in grade 7 – 12 years old. I took the information about the number of English periods students have at school (school input) from Utdanningsdirektoratet for Norway, and from the Ministry of Education for Bulgaria in September 2020. The detailed overview of the distribution of school input across grades in Bulgaria and Norway is given in Appendix 1. As seen from Table 3 below, the ideal match in terms of school input and age would be grade 6 in Bulgaria (494 school periods in total from grade 1 to 6), and grade 7 in Norway (488 school periods in total from grade 1 to 7). The overlap is highlighted in orange.

Table 3. Number of English periods at school in Bulgaria and Norway

<b>Bulgaria</b>		<b>Norway</b>	
English starts in grade 2		English starts in grade 1	
grade/age	N periods/weeks in total from grade 2 to grade 6(7)	grade/age	N periods/weeks in total from grade 1 to grade 6(7)
<b>Grade 6</b> 12 years old	<b>494</b> periods 164 weeks	Grade 6 11 years old	374 periods 228 weeks
Grade 7 13 years old	602 periods 200 weeks	<b>Grade 7</b> 12 years old	<b>488</b> periods 266 weeks

However, students in Bulgaria are in a more or less poorer acquisition environment than students in Norway. Recall the findings of Pasassung (2003) and Kumar (2003), presented in section 2.1.2.

According to Busby (2018), who refers to Bonnet (2004), ‘Norwegians have some of the highest levels worldwide of English language proficiency among non-native speakers. To this, Graddol & Meinhof (1999) add that although English is a foreign language in Norway, it has gained the status of a second language, considering the large amount of English input Norwegians are exposed to on an everyday basis. Taking into account this advantage of Norwegian students, factors such as grade, age and school input will not be as critical for my study as the proficiency level of the students.

For my experiment, I have tested a total of 412 students in two Norwegian and two Bulgarian schools. After assessing the tests, I excluded a total of 44 participants. Most of them (N=37)



reported influence from other languages they acquired naturalistically. Some of the Bulgarian<sup>12</sup> students have a mother tongue different from Bulgarian, others are bilingual and equally use the other language in their everyday life – Greek, Turkish, Russian, Italian, English. Some of the Norwegian<sup>13</sup> students reported Lithuanian, Icelandic, Arabic or Russian as their mother tongue. A few Norwegian students (N=7), who took the test on paper, had not completed it. Since half of the answers were missing, I excluded those students from the experiment as well. As a result, I used 368 tests for my analysis, out of 412 collected in total. Table 4 shows the distribution of the participants across grades and first language.

Table 4. Distribution of the number of students included in the experiment across grades and first language

BG Grade 6	BG Grade 7	NOR Grade 6	NOR Grade 7
112	122	68	66
234		134	

### 3.3 Methodology and predictions

The study consists of two tests – a Grammaticality Judgement Test and a Placement test for controlling the proficiency level. Earlier in the thesis I have already justified the importance of the proficiency test as a more accurate comparison tool than age and amount of school input. My choice to use Grammaticality Judgement Test (GJT) reflects the nature of the study. As discussed in the background theoretical literature, even native speakers often rely on their intuition, especially for grammatical aspects which are not subject to clear-cut rules, such as bare nouns in Norwegian (recall Kurek, 2017). White (1985, p. 37) extends this to second language learners suggesting that ‘grammaticality judgment tasks will be a very important source of data, a means to tap into learner intuitions about the L2’. In addition to this, a GJT is very practical because it is easy to use with students at all proficiency levels, and it does not require much time. Long tests are usually time and effort consuming, which demotivates students.

#### 3.3.1 The Placement Test

The purpose of the placement test was to determine the proficiency level of the students. I used a ready one designed for the *Straightforward* textbooks by Macmillan Publisher. The test is

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<sup>12</sup> *Bulgarian* will be sometimes abbreviated as BG

<sup>13</sup> *Norwegian* will be sometimes abbreviated as NOR

downloadable at <http://www.macmillanstraightforward.com/resources/tests/>. The original contains 50 multiple choice questions – 40 grammar and 10 vocabulary items. I have proportionally reduced it from 50 to 20 questions in order to keep it shorter and doable within 10 min. Here is how I did this in order to keep the integrity and the balance of level distribution across the test.

Each question in the original test was marked for proficiency level. For example, the first one ‘Mike is \_\_\_’ is marked for Beginner level, the fourth one ‘My brother is \_\_\_ artist’ is Elementary level and so on. I first found out how many questions of each section (grammar and vocabulary) I need in order to keep the ratio. I calculated that 40 grammar questions out of 50 accounts for 80% of the total, and 10 vocabulary questions out of 50 is 20% of the total. This gives me a proportion of 80/20. I applied this proportion to 20 questions in total (the reduced test). Thus, 80% out of 20 is 16, and 20% out of 20 is 4. This is how I calculated that my adapted test has to include 16 grammar and 4 vocabulary items.

Next, I counted the number of sentences for each level in the original test – Beginner, Elementary, Pre-Intermediate, Intermediate, Upper-Intermediate (the first 40 questions) and Advanced (the last 10). This information is given in the original test. Five out of 40 grammar items in the original test were marked as Beginner level. This accounts for 12.5%. I applied 12.5% to the total of 16 and got 2. Hence, I need to choose only two sentences from Beginner level for my adapted test. I used this methodology for all levels.

Finally, I adapted the assessment scale, again keeping the original proportions. Table 5 below presents the assessment scale of the original and the adapted one.

Table 5. Original and adapted assessment scales for the placement test

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 – 6	Beginner
16 – 24	7 – 10	Elementary
25 – 32	11 – 13	Pre-intermediate
33 – 39	14 – 16	Intermediate
40 – 45	17 – 18	Upper Intermediate
46 – 50	19 – 20	Advanced

Here is how I did this. Let us take the Beginner level. In the original test, it scores from 0 to 15 points out of 50 in total. 15 accounts for 30% of 50. I applied this to 20, the reduced number of

questions (points) – 30% out of 20 is 6 points. Therefore, I need a scale from 0 to 6 points for the Beginner level of the adapted test. This procedure was applied to all levels. Appendix 2 describes in detail the steps I took in adapting the test and the assessment scale.

The same placement test was used for all grades, both in Norway and Bulgaria. Here are some examples of multiple-choice questions include in the test:

Sorry, I can't talk. I \_\_\_\_\_ right now.

- a) driving
- b) 'm driving
- c) drives
- d) drive

Take a warm coat, \_\_\_\_\_ you might get very cold outside.

- a) otherwise
- b) in case
- c) so that
- d) in order to

### 3.3.2 The Grammaticality Judgement Test

I designed 36 pairs of sentences for this test. Each pair consists of one grammatical and one ungrammatical sentence. Here is an example of two pairs:

#### Pair 1

- a) I would like to have a cup of coffee.
- b) \*I would like to have cup of coffee.

#### Pair 3

- a) I walk to work because I don't have a car.
- b) \*I walk to work because I don't have car.

Sentence 1a) is grammatical, 1b) is ungrammatical, 3a) grammatical, 3b) ungrammatical and so on. Next, I split the 36 pairs into two mirroring lists. Appendix 3 shows the complete list of all pairs before they were split into two. Here is an example of how List 1 and List 2 look.

List 1	List 2
1. I would like to have a cup of coffee.	1. I would like to have cup of coffee.
2. Tom never wears a hat.	2. Tom wears never a hat.
3. I walk to work because I don't have car.	3. I walk to work because I don't have a car.
4. London is nice town.	4. London is a nice town.

Both lists were equally distributed among the classes. For example, List 1 was given to grade 6A and List 2 – to grade 6B. Every student got a list of 36 sentences. The students had to check

each sentence with OK if they perceive it as grammatically acceptable, or with NO if they think it is ungrammatical. Each sentence controls for one grammatical item.

The choice of sentences in the test is based on the areas of differences that I have identified in section 3.1. The 36 sentences are divided into three groups – Condition 1, Condition 2, and Fillers. Each group consists of 12 sentences. This information is not available to the students. It was done just for the purpose of the analysis.

### Condition 1

Within Condition 1 I have identified two sub-conditions.

The first one contains sentences controlling for L1 transfer of indefinite article. It reflects the first area of mismatch, repeated below for easier reference:

**Obligatory use of indefinite article in English and Norwegian** – both English and Norwegian have indefinite article, whereas Bulgarian does not. Norwegian is similar to English, but Bulgarian behaves differently.

**Prediction 1** – L1 Norwegian learners will outperform L1 Bulgarian learners.

Some examples here can be:

List 1: I need a doctor who can help me.

List 2: I need doctor who can help me.

List 1: We have dog that barks a lot.

List 2: We have a dog that barks a lot.

The other sub-condition corresponds to the second area of mismatch. Recall:

**Genericity** – Bulgarian marks generic contexts through definite plural. English denotes it through indefinite plural (in the current study). Norwegian can fluctuate between indefinite plural and definite plural. Bulgarian is different from English, but Norwegian overlaps with both English and Bulgarian.

**Prediction 2** – L1 Norwegian learners will either outperform, or behave similarly to L1 Bulgarian learners.

Some examples can be:

List 1: The bananas come originally from India.

List 2: Bananas come originally from India.

List 1: Penguins are birds that can't fly.

List 2: The penguins are birds that can't fly.

### Condition 2

Two sub-conditions are combined under Condition 2.

One of them refers to the third area of differences I have identified. Here it is again:

**Omission of the indefinite article in Norwegian** – Norwegian can omit the indefinite article in contexts where it is obligatory in English. Norwegian is similar to Bulgarian, but English is different.

**Prediction 3** – L1 Norwegian learners and L1 Bulgarian learners will perform approximately the same.

Below are some examples:

List 1: John has a fever today.

List 2: John has fever today.

List 1: I walk to work because I don't have car.

List 2: I walk to work because I don't have a car.

The other sub-condition results from the fourth area of mismatch. Think back to:

**Definite article in fixed expressions in English** (such as *play the guitar*) – English requires definite article. Norwegian omits articles and uses bare nouns in such phrases. Bulgarian does not require an article either. Bulgarian and Norwegian are similar, but English is different.

**Prediction 4** – L1 Norwegian learners and L1 Bulgarian learners will perform approximately the same.

Following are some examples:

List 1: She has been learning to play guitar.

List 2: She has been learning to play the guitar.

List 1: Everyone laughs when he plays the clown.

List 2: Everyone laughs when he plays clown.

### Fillers

These 12 sentences serve as an additional tool for detection of L1 influence. In addition, the Fillers will contribute to the overall balance of the test because Condition 1 and Condition 2 give more advantage to L1 Norwegian learners. This is a logical and natural consequence of the typological and grammatical similarities between Norwegian and English. There are, however, important grammatical areas where these two languages differ from each other. Norwegian is a V2 language, meaning that the verb occupies the second position in non-subject initial declaratives. English is a SVO language, and this can be a bit tricky for L1 Norwegian speakers because the verb in this word order appears in second position as well. However, while in English V2 is not required, in Norwegian it is obligatory. The verb movement to

complementizer position in Norwegian results in V2 in topicalized structures (35) and adverbial sentences (36).

(35) Yesterday we **went** to the cinema.

I går **gikk** vi på kino.

(36) He **often** plays football.

Han spiller **ofte** football.

This poses a challenge for Norwegian learners of English because they need to unlearn the V2 rule. Previous research (Westergaard, 2003, p. 85) shows ‘massive transfer of V2 word order into the children’s English, not only at the early stages’. The findings of her research showed that even in grade 5 almost 70% of the students still used the V2 word order in translation tasks. Following Kayne (1995) and Vikner (1995), Westergaard (2003) states that SVO is the unmarked word order and as such it is the only one recognized and allowed by Universal Grammar. In other words, it can be perceived as the default word order. Conversely, V2 word order is marked. According to Westergaard (2003, p. 83) it may be hypothesized that ‘unmarked features may be transferred from one language to another, while marked features will not, as speakers will not expect to find these marked, or unusual, features in the foreign language’. On the other hand, Westergaard (2003) shares her informal impression of advanced L1 Scandinavian learners of L2 English who have mastered the SVO to excellence, while speakers of SVO languages have hard times restructuring their system to V2 word order. My personal experience confirms this observation as well.

That being said, I find the SVO/V2 difference between English and Norwegian to be the perfect arena for additional L1 transfer check. Finally, I need to add that L1 Bulgarian speakers are in a peculiar position when it comes to word order. Although Bulgarian is a SVO language, just like English, it allows a lot of flexibility, and word order sequences like OVS, SOV, VSO are not something unusual for the language. The SVO word order is the basic one, used in everyday life. The others are often used in books, poems, songs, or if we need to put emphasis on a specific word in the sentence. Native speakers certainly have preferences depending on the context, but these types of word order are all grammatically correct and acceptable. Compare:

(37) SVO: Az govorya ruski.

I speak Russian.

(38) OVS: Ruski govorya az.

\*Russian speak I.

‘I speak Russian.’

- (39) SOV: Az ruski govorya.  
\*I Russian speak.  
'I speak Russian.'
- (40) VSO: Govorya az ruski.  
\*Speak I Russian.  
'I speak Russian.'

Adverbs in Bulgarian can move a lot too, without any substantial changes to the meaning of the sentence. Compare:

- (41) Az cheta vseki den.  
I read every day.
- (42) Vseki den az cheta.  
Every day I read.
- (43) Az vseki den cheta.  
\*I every day read.  
'I read every day.'

Crucially however, Bulgarian doesn't require the verb to always appear in the second position. Both word orders may seem grammatical to Bulgarian learners, while Norwegian learners may perceive the correct English word order as ungrammatical.

Based on all this, I can make the following prediction for the Filler part of the experiment:

**Prediction 5** – L1 Bulgarian learners will outperform L1 Norwegian learners in both sub-conditions.

Some examples of sentences included in this section can be:

- List 1: Tom never wears a hat.  
List 2: Tom wears never a hat.
- List 1: On Monday had I a very difficult test at school.  
List 2: On Monday I had a very difficult test at school.

### 3.3.3 The pilot study

Before the main experiment, I did two pilot tests in order to control for overall difficulty of the vocabulary, time length, and unexpected issues that I might have overlooked. I did the pilot test in Bulgaria with the son of my relatives. The parents agreed and a signed consent form was not necessary. As per September 2020, the boy was in grade 6 in a Bulgarian state school. The test

was done through screen sharing in Zoom. We started with the first three questions about grade, native language and other languages spoken in the family. Next, he took the placement test. I noted down his answers. After that, he marked the sentences in the GJT with OK or NO. I wrote down these answers as well. The pilot test in Norway was done on paper with the son of a colleague of mine. Again, a signed consent form was not necessary. As per September 2020, the boy was in grade 7 in a state school in Norway. Since my colleague is a teacher, she got instructions from me on how to do the testing at home. She then handed out the results to me, as well as the impressions of her son on possible challenges he might have had in the process. Overall, the pilot testing showed that the time needed for completing the whole test – the placement task and the GJT – is about 20 minutes. The vocabulary was not challenging for either of them, and they both felt comfortable with the format of the tests.

The results from the piloting showed that I could move on to the main experiment. The tests were completely anonymous and no personal information was collected about the students, except for their grade, native language and other language(s) they speak (in case of bilinguals). These three questions are organized in a separate section before the placement test. After presenting the experiment to the principals of the schools, I was assured that no parent consent was required for such type of anonymous research inquiries. The teachers got detailed and clear instructions from me about the procedure. Students were not informed that English articles were the target item of the test. They were told that this is a general test in English.

The placement test and the GJT were done one after the other on the same day within one school period. They were stapled together as one whole test with three sections. The two complete variants of the tests are available in Appendix 4. Bulgarian schools chose to take the tests online. The law in the country is flexible when it comes to this, and an online version in google survey complies with the legal requirements, as long as no personal information is collected. However, the students used the computers in the school IT classroom and the online test was shared with them through the school secured IP in order to avoid any possible traces to personal IP. The classes were divided into small groups which used the IT classroom on different days and times. All students that participated in the study were tested within two weeks. The collected results were extracted on an xl spreadsheet on a school computer and sent to me by the teachers.

The Norwegian schools chose to do the test on paper in order to minimize the time students spend on their laptops. The teachers set aside one school period from their curriculum to do the testing. Students were given clear instruction on the procedure and a reminder that no personal



information should be written on the paper test, including name initials, nicknames or whatsoever. The completed tests were handed out to the teachers. When all classes were done, I personally collected the tests from the schools. Norwegian schools needed just a couple of days for this. They had planned one day for testing grade 6 and one for grade 7. The speed and the screen-free environment, however, seem to be the only advantages of the paper version of the test. In the process of preparing and executing my experiment, I have noticed the following advantages and disadvantages of paper vs. online tests:

#### Paper tests

- a) The number of tested students was reduced because not everyone was present on the test day due to illness or other reasons.
- b) Some students did not complete the middle page, just the first and the third one. I assume that the sheets were stuck together and when they turned over to the next page, they involuntarily skipped the middle. This reduced the number of tested students even more since I had to exclude the incomplete tests.
- c) Processing the results was extremely time and effort consuming because all answers (7 504 items) were manually filled in an xl spreadsheet by me. For the sake of accuracy, I had to double check. Hence, even more time was used for technicalities.
- d) Some students skipped an answer if they were not sure. This is not possible with an online test because technically they are required to answer all questions in order to move forward.
- e) Some students wrote both OK and NO when they were not sure (although instructed to choose only one of these), whereas the online test requires them to make a choice – either OK or NO.

#### Online test

- a) The answers came ready in a downloadable xl version. I did not use time to manually fill in and organize them in an xl spreadsheet.
- b) All answers are technically obligatory, so it was not possible to skip.
- c) Students could take the test even if they were not at school on the day their group was tested. They could join another group on a different day.
- d) Students had to choose either OK or NO and did not have the option to choose both together.

## **4 Results and discussion**

The collected data for this study was analyzed using the R statistical software. For this purpose, I organized all test results in an xl sheet which was later converted into a csv file. The file

contains 13 248 lines. Table 6 represents the first and last segment of the csv file, and gives an idea of its structure.

Table 6. The first and the last segment of the csv file used for R analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ID	Participant	Proficiency Grade	Language	Sentence	Condition	Pair	Question	Marker	Grammaticality	Acceptability	Correct	
2	1	Student1	Elem	6	BG	I would like to ha	Cond1	1	a	indef	OK	NO	wrong
3	2	Student2	Adv	6	BG	I would like to ha	Cond1	1	a	indef	OK	OK	correct
4	3	Student3	Inter	6	BG	I would like to ha	Cond1	1	a	indef	OK	OK	correct
5	4	Student4	Elem	6	BG	I would like to ha	Cond1	1	a	indef	OK	NO	wrong
6	5	Student5	Beg	6	BG	I would like to ha	Cond1	1	a	indef	OK	NO	wrong
7	6	Student6	Elem	6	BG	I would like to ha	Cond1	1	a	indef	OK	OK	correct
8	7	Student7	Beg	6	BG	I would like to ha	Cond1	1	a	indef	OK	OK	correct
9	8	Student8	Beg	6	BG	I would like to ha	Cond1	1	a	indef	OK	NO	wrong
13240	13239	Student359	Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13241	13240	Student360	Adv	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13242	13241	Student361	Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13243	13242	Student362	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13244	13243	Student363	Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	OK	wrong
13245	13244	Student364	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13246	13245	Student365	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	OK	wrong
13247	13246	Student366	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13248	13247	Student367	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	OK	wrong
13249	13248	Student368	Upp-Inter	7	NOR	My sister studies a	Filler	36	b	adv	NO	NO	correct
13250													

The data is based on several variables. *Participant* contains an anonymous ID, such as Student1, Student2, and so on. Under *Proficiency*, I have noted the level of the respective student – for example, Elem is for elementary level, Adv stands for advanced level. *Grade* informs about the grade of the students, so the values are either 6 (for grade 6) or 7 (for grade 7). *Language* identifies the native language – BG for Bulgarian and NOR for Norwegian. *Sentence* shows the text of the sentence that has been tested. *Condition* is coded for the two conditions and the fillers, respectively – Cond1 is for Condition 1, Cond2 is for Condition 2, Filler is for the filler sentences. *Pair* indicates the 36 pairs of sentences included in the GJT, and *Question* differentiates between List 1 (a) and List 2 (b). *Marker* codes for the tested grammatical items – indef (indefinite article), indef absent (lack of indefinite article), def (definite), def absent (lack of definite article), generic (generic use of the noun), adv (adverb placement in declarative sentences), V2 (word order in non-subject initial declaratives)<sup>14</sup>. The **adv** variable can be illustrated with a sentence like *She never drinks coffee* which Norwegians are expected to perceive as wrong due to the adverb placement after the main verb in Norwegian word order, as in *Hun drikker aldri kaffe*. The **V2** variable can be exemplified by a sentence pair like *She drank tea yesterday* vs. *Yesterday she drank tea* where Norwegians are expected to judge the second sentence as wrong influenced by the obligatory verb second position in Norwegian even in non-subject initial declaratives, as in *I går drakk hun te*. Notice that a word order like *I går hun drakk te* is not grammatically acceptable according to the Norwegian grammar.

<sup>14</sup> In the statistical analysis V2 appears also as **top** for topicalization.

*Grammaticality* indicates whether the sentence is grammatically correct in English or not. *Acceptability* (appears also as *accuracy* later in the discussion) is the answer given by the student – whether they judged the sentence as correct (OK) or wrong (NO). And finally, under *Correct* I noted whether the student’s answer was correct or not. A complete list of all sentences, coded for marker and grammaticality, is presented in Appendix 5.

Let us take the first line (highlighted in blue) in Table 6 as an example.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ID	Participant	Proficiency Grade	Language	Sentence	Condition	Pair	Question	Marker	Grammaticality	Acceptability	Correct	
2	1	Student1	Elem	6	BG	I would like to ha	Cond1	1	a	indef	OK	NO	wrong
3	2	Student2	Adv	6	BG	I would like to ha	Cond1	1	a	indef	OK	OK	correct

What it tells us is that Student1’s proficiency level is Elementary. He or she is Grade 6 and speaks Bulgarian as a native language. The student was tested on the sentence *I would like to have a cup of coffee*. This sentence is from Condition 1, Pair 1a (List 1). The purpose of the sentence is to control for the use of the indefinite article and it is grammatically correct. The student answered NO, meaning that he or she perceived the sentence as wrong. This answer is wrong because the sentence is grammatically correct.

## 4.1 Results from the statistical analysis

### Proficiency level

A total of 368 students took part in the experiment – L1BG (N=234) and L1NOR (N=134). This number does not include the ones that were removed due to influence from other languages or other factors. Table 7 shows the distribution of the placement test scores across proficiency levels and native languages presented in count and percentage. For example, 59 (25%) should be interpreted as 59 L1BG students are at elementary level. This makes 25% of 234.

Table 7. Number of students across proficiency level and native language

Level	L1	
	L1 BG	L1 NOR
Beginner	59 (25%)	11 (8%)
Elementary	77 (33%)	18 (13%)
Pre-Intermediate	22 (9%)	18 (13%)
Intermediate	26 (11%)	35 (26%)
Upper-Intermediate	29 (12%)	36 (27%)
Advanced	21 (9%)	16 (12%)
<b>Total</b>	<b>234</b>	<b>134</b>

More than half of the Bulgarian students (58%) are clustered at the lower levels – Beginner and Elementary, highlighted in orange in the table above. More than half of the Norwegian students (53%) scored at the higher end of the level bar – Intermediate and Upper-Intermediate.

Figure 1 visualizes the number of participants in each proficiency level for the whole dataset. The levels in the histograms are presented as numbers from 1 to 6, where 1 is for the lowest level (Beginner), 6 is for the highest (Advanced).

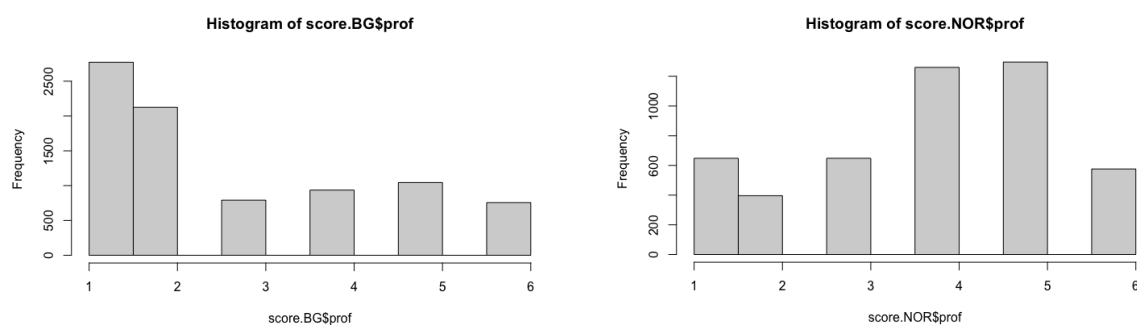


Figure 1. Whole dataset proficiency levels – number of participants in each proficiency level

The mean proficiency score of the Norwegian students is one level higher than that of the Bulgarian students. The values indicate significant difference – BG (2.7) vs. NOR (3.8) out of 6 (comparison in Appendix 6). This difference will be taken into consideration and discussed in the next section.

### Accuracy by Condition and Group

By *Accuracy* here is meant *Acceptability* – whether the student judged the sentence as correct or wrong. By *Group* we mean the language group – L1BG and L1NOR. Figure 2 shows how *Accuracy* interacts with Condition and Group. There is a clear and almost equal difference in accuracy between the two language groups in the two conditions and the fillers. Norwegian students appear to be more accurate in all situations, including the fillers where they were expected to perform worse than the Bulgarian students.

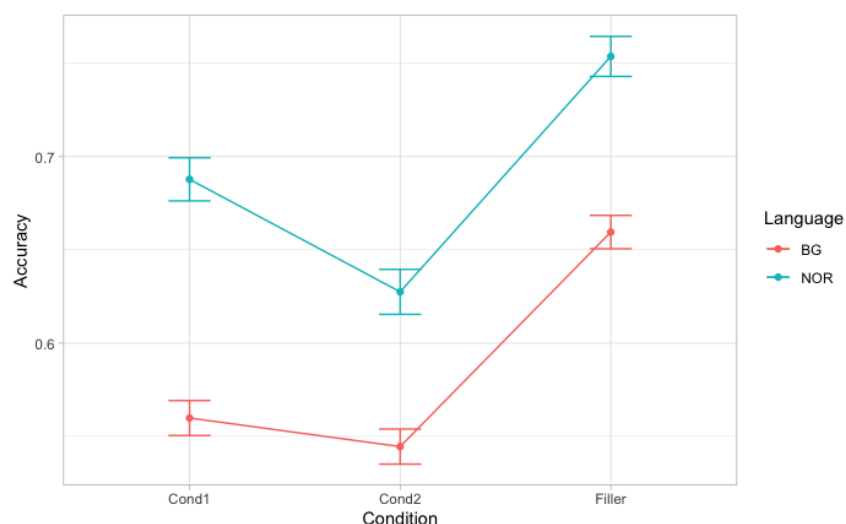


Figure 2. Accuracy by Condition and Group – whole dataset not matched for proficiency level

However, as seen in Figure 1, the two language groups differ significantly in terms of proficiency and, therefore, this data alone does not give reliable information about cross linguistic influence. That is why we decided to match the groups by proficiency levels, illustrated in Figure 3 – Accuracy by Condition and Group matched for proficiency level. This was done by selecting an equal number of participants from each language group for each proficiency level. The participants were selected alphabetically by choosing the ones with the lowest participant number. The resulting subset included 118 students from each group, or 236 participants in total. Table 8 compares the initial dataset that included all participants (N=368) to the dataset with a reduced number of participants (N=236).

Table 8. Whole dataset compared to the reduced dataset

Proficiency level	Whole dataset		Reduced dataset	
	L1BG	L1NOR	L1BG	L1NOR
Beginner	59	11	11	11
Elementary	77	18	18	18
Pre-Intermediate	22	18	18	18
Intermediate	26	35	26	26
Upper-Intermediate	29	36	29	29
Advanced	21	16	16	16
Total	234	134	118	118
	368		236	

To analyze the results statistically<sup>15</sup>, we fit a generalized linear mixed effects logistic regression model where Accuracy (the participant's judgement whether the sentence is correct or wrong) was predicted by an interaction of Language (L1BG vs. L1NOR) and Condition (Cond1 vs. Cond2 vs. Filler). Grade (6 vs. 7) was added as a separate fixed effect. Participants and Items (Sentence and Pair) were included as random effects. The variables were dummy-coded. The model revealed a significant effect of Language ( $\beta= 0.45, p <0.0001$ ), Condition-Filler ( $\beta= 0.73, p <0.0001$ ) and Grade ( $\beta= 0.22, p = 0.008$ ). Furthermore, two interactions were significant: Language and Condition-Cond2 ( $\beta= -0.22, p = 0.05$ ) and Language and Condition-Filler ( $\beta= -0.43, p =0.0003$ ). No other effects were significant. The syntax and the full output of the model is presented in Appendix 7.

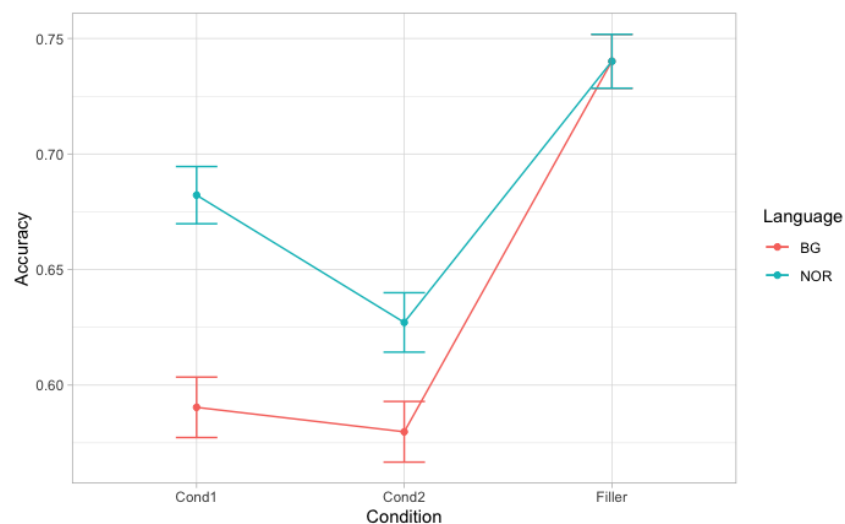


Figure 3. Accuracy by Condition and Group matched for proficiency level

The new model shows some important observations. After matching the two groups by proficiency level, the difference in Filler disappeared and both language groups (BG and NOR) show high accuracy. Another thing we notice is that the difference between the two groups in Condition 1 and Condition 2 remain. However, the difference between BG and NOR in Condition 1 is significantly larger than the one in Condition 2. This corresponds to the predictions I made earlier. These results, particularly the significant interactions between Language Group and Condition variables, will be discussed in detail in the Discussion section.

<sup>15</sup> All generalized linear mixed effects models in this Thesis were fit using the lme4 package (Bates, Maechler, Bolker, & Walker, 2015) of the software R version 4.0.3 (2020-10-10). Post-hoc pairwise comparisons were run using the R package emmeans (Lenth, Singman, Love, Buerkner, & Herve, 2019).

### Accuracy by sub-condition and group

I have differentiated six sub-conditions within the three main ones (Condition 1, Condition 2, Fillers). Condition 1 targets for obligatory use of indefinite article (1\_indef), and generic use of nouns (1\_generic). The brackets indicate how they appear on the plot. Condition 2 checks whether Bulgarian and (especially) Norwegian students will omit the indefinite article considering the corresponding bare noun in their L1 (2\_indef); it further targets the use of definite article in fixed expressions in English (2\_def). The filler section is subdivided into controlling for adverb position in the sentence (3\_adv), and verb second, or topicalization (3\_top).

To investigate the effects of individual sub-conditions, we fit an additional generalized linear mixed effects logistic regression where Accuracy was predicted by an interaction of Language and Sub-condition. Participants and Items (Sentence and Pair) were included as random effects. The variables were dummy-coded. The following effects were significant: subcondition:1\_indef ( $\beta = 0.47, p = 0.02$ ), subcondition:3\_adv ( $\beta = 0.81, p = 0.0001$ ) and subcondition:3\_topicalization ( $\beta = 1.29, p < 0.0001$ ). Furthermore, two interactions were significant: Language and subcondition:1\_indef ( $\beta = 0.74, p < 0.0001$ ) and Language and subcondition:2\_indef ( $\beta = 0.48, p = 0.007$ ). No other effects were significant. The syntax and the full output of the model is presented in Appendix 8.

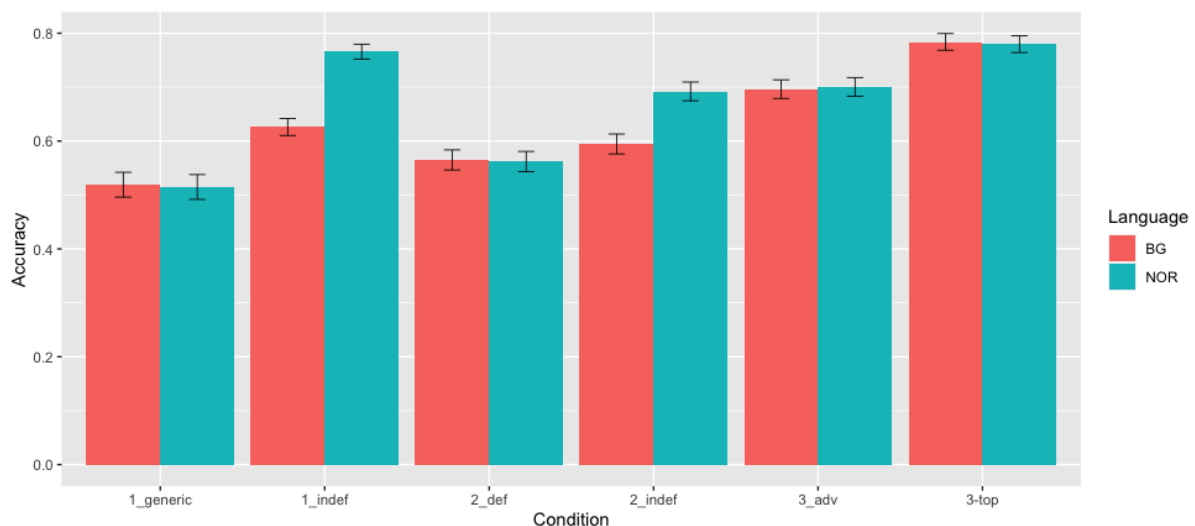


Figure 4. Accuracy by sub-condition and Group matched for proficiency

The accuracy of the two groups on the six sub-conditions is presented in Figure 4. A visual inspection of the graph indicates that the groups perform very much alike on all conditions except two, both of them involving the use of the indefinite article. Post-hoc pairwise comparisons of groups within sub-conditions confirmed significant differences between the

groups in two sub-conditions: 1\_indef ( $p < 0.0001$ ) and 2\_indef ( $p = 0.0006$ ). The L1NOR participants outperformed the L1BG participants only on the two sub-conditions that tested the use of the indefinite article, while there were no differences between the groups on other conditions. The results of the post-hoc pairwise comparisons are presented in the Appendix and will be further discussed in the Discussion section.

## **4.2 Results from the full dataset and Discussion**

The aim of this study was to determine whether L1 speakers of Norwegian and Bulgarian are influenced by the grammatical system of their native language in the process of acquisition of articles in L2 English. Based on structural and typological similarities or difference between the languages, I formulated my expectations for each of the six sub-conditions presented earlier in the thesis. In this section, I will present the raw results from the full dataset pair by pair, compare them to the results from the statistical analysis, presented earlier, and will discuss how these results correspond to the predictions I made.

The reasons why I want to look into the raw results from the whole dataset, not matched for proficiency level, and discuss the items pair by pair, are that (1) although the items were designed as belonging to specific conditions, we can still see that there may be differences between items belonging to the same condition, and a more fine-grained look into the data will give grounds for explanations as to why this variability might exist; (2) this allows both the researcher and the reader to look at individual items to see if the performance is uniform, or whether there are differences between the items; (3) if differences are observed, we can try to account for what caused this different behaviour.

That said, the pair-by-pair discussion in the following sections will take into consideration both the results from the statistical analysis (matched for proficiency level), and the results from the whole dataset (not matched for proficiency level).

### **4.2.1 Condition 1**

Two sub-conditions are merged under Condition 1. The statistical comparison between L1NOR and L1BG showed that L1NOR significantly outperformed L1BG in the correct use of the indefinite article. Both groups showed comparable accuracy levels in the generic use of nouns, which in English implies the omission of article. For this sub-condition my alternative expectation was that L1NOR, facilitated by Norwegian, might outperform L1BG. However,



L1BG scored equally well (Recall the results from the post-hoc pairwise comparison in Figure 3).

The raw scores of the whole dataset give a more fine-grained picture of the results in terms of percentage values. However, note that the participants here are not matched for proficiency. Table 9 represents the average percentage values of correct answers from all participants L1BG N=234 and L1NOR N=134 distributed across grades. These examples are from Condition 1 but I made the same tables for the two conditions and the fillers.

Table 9. Example of how the correct answers for Condition 1 are organized in an xl spreadsheet

	A	B	C	D	E	F	G	H
1	<b>Condition 1</b>				Correct answers shown in percentage			
2	Sentence	Grammaticality			<b>L1BG6 - 112 students</b>	<b>L1BG7 - 122 students</b>	<b>L1NOR6 - 68 students</b>	<b>L1NOR7 - 66 students</b>
3				Total				
4	List 1	I would like to have a cup of coffee.	ok		OK - 34 (58%)	OK - 55 (77%)	OK - 27 (79%)	OK - 29 (94%)
5	List 2	I would like to have cup of coffee.	no		NO - 25 (47%)	NO - 16 (31%)	NO - 17 (50%)	NO - 11 (31%)
6					59 out of 112 (53%)	71 out of 122 (58%)	44 out of 68 (65%)	40 out of 66 (61%)
7								
8								
9	List 1	London is nice town.	no	Total	NO - 22 (37%)	NO - 31 (44%)	NO - 28 (82%)	NO - 21 (68%)
10	List 2	London is a nice town.	ok		OK - 40 (75%)	OK - 41 (80%)	OK - 30 (88%)	OK - 31 (89%)
11					62 out of 112 (55%)	72 out of 122 (59%)	58 out of 68 (85%)	52 out of 66 (79%)
12								
13								
14	List 1	We have dog that barks a lot.	no	Total	NO - 27 (48%)	NO - 27 (38%)	NO - 24 (71%)	NO - 23 (74%)
15	List 2	We have a dog that barks a lot.	ok		OK - 38 (72%)	OK - 36 (71%)	OK - 21 (62%)	OK - 28 (80%)
16					65 out of 112 (58%)	63 out of 122 (52%)	45 out of 68 (66%)	51 out of 66 (77%)
17								
18								
19	List 1	I need a doctor who can help me.	ok	Total	OK - 46 (78%)	OK - 53 (75%)	OK - 33 (97%)	OK - 27 (87%)

Here is an example of how I calculated the average percentage values for L1BG grade 6 (henceforth L1BG6). The first sentence in Table 9 is *I would like to have a cup of coffee*. It is from List 1 and is grammatically correct. 59 L1BG6 students worked on List 1. 34 of them answered OK, which is the correct answer. 34 is 58% of 59. The second sentence *I would like to have cup of coffee* is ungrammatical and is from List 2. 53 L1BG6 students worked on that list. The correct answer for this sentence is NO and it was given by 25 students. 25 is 47% of 53. This procedure was applied for all sentences.

The first sub-condition consists of eight pairs of sentences. I averaged the percentage results for the eight pairs and found that the correct answers for this sub-condition are 51.6%.

Table 10 shows the average percentage values of correct answers for both language groups across the two grades for Condition 1, and the difference between L1BG and L1NOR group.

Table 10. Average percentage values of correct answers for L1BG and L1NOR across the two grades

	L1BG6	L1BG7	L1NOR6	L1NOR7	% increase from L1BG and L1NOR
Obligatory use of indefinite article in English and Norwegian	51.6%	60.3%	72.9%	74.5%	
Average for the group	56%		74%		32% increase
Generic use of nouns	48.8%	51%	51%	50.8%	
Average for the group	50%		51%		2% increase

The table shows an increase by 32% in favour of L1NOR in the accuracy of the indefinite article sub-condition and a minimal difference between L1BG and L1NOR for the generic use of nouns. This corresponds to the results from the statistical analysis. I calculated the percentage increase using this formula: % increase = Increase ÷ Original Number × 100, where the increase is the difference between 56 and 74 (=18). Then I divided 18 by the original number (56) and multiplied the answer by 100. In other words,  $(18 \div 56) \times 100$ .

I will next take a closer look at the raw results for each individual pair because this may give me a more fine-grained picture of the students' L1 transfer behaviour. All pairs included one grammatical and one ungrammatical sentence. For an easier overview and comparison, I will always start with the grammatical sentence in the pair, followed by the ungrammatical. The number of correct answers provided by the students are highlighted in orange.

#### **4.2.1.1 Sub-condition 1 – Obligatory use of the indefinite article in English and Norwegian**

Before I delve into a detailed review of each pair in this sub-condition, I will outline the frames within which the discussion will take place. They reflect the options that each of the two languages provides in terms of use or omission of the indefinite article. Based on these options, I will draw predictions for the expected behaviour of the L1ers.

#### **L1 Bulgarian learners of L2 English**

Bulgarian language does not have an overt indefinite article. As a result, L1BG speakers need to acquire indefinite articles as a new category. We could speculate a bit on how L1BG speakers will react to the two possible scenarios, namely sentences with and without indefinite articles. A specific example will probably shed more light on this.

If we take a sentence like *I have a cat that eats a lot*, the 'first signal' reaction of L1BG learners will probably be to reject it because this category (overt indefinite article) does not exist in

Bulgarian. Due to the lack of overt indefinite articles, Bulgarian learners have nothing to transfer from. So, one possible prediction for this scenario is that L1BG will accept the indefinite article only after they have acquired it as a new category. Alternatively, they can accept this sentence due to a yes-bias, or agreement bias. Previous studies find evidence that L2 learners have a tendency to answer yes to yes-no question in various contexts (Podsakoff, MacKenzie, Lee, Jeong-Yeon & Podsakoff, 2003).

Second language learners are typically not exposed to negative evidence. In SLA classroom environment learners receive evidence for what is correct. They are usually not explicitly told which structures are not correct. Findings from previous research emphasize the importance of negative evidence in the acquisition of a second language (Al-Maghrabi & Sabir, 2019). Abolhasanpour & Jabbari (2014, p. 46) claim that negative evidence, especially when put in contrast to positive evidence, is ‘highly effective in short-term and long-term period and facilitates the phase of the acquisition of the foreign language’, and ‘the effect of negative evidence was significantly higher than L1 transfer’. We can expect that L1BG students have received explicit instruction on the accuracy of a sentence like *We have a cat that eats a lot*, but highly likely no one told them that *We have cat that eats a lot* is not acceptable in English. Based on the lack of negative evidence, their initial hypothesis will presumably be that L2 behaves similarly to their native language. One possible outcome of this scenario is that L1BG speakers would perceive a sentence without an indefinite article as plausible and accept it as correct.

That said, we can expect that L1BG learners will be hesitant about the grammatically correct sentences with an overt indefinite article. Due to lack of negative evidence, those who have not yet acquired the new category, will highly likely map both the incorrect structure (without an indefinite article) and the correct one (with an indefinite article) on the only structure they have in their L1. As a result, it is not entirely clear what L1BG students will hypothesize for the presence of the indefinite article. On the other hand, we can expect them to be more confident in accepting a sentence without an article since they have a corresponding structure in their L1 and they can easily relate to it.

### **L1 Norwegian learners of L2 English**

As discussed in section 2.3.2 and 2.3.3, Norwegian language uses both types of structures: the one containing an overt indefinite article and one with bare nouns. There are some limitations as to when bare nouns are used but the structure is existent and in frequent use in the language.

Therefore, we can expect that L1NOR speakers will have a natural intuition for both the presence and the absence of the indefinite article because they are mapped on two different structures. From this follows that L1NOR speakers will accept a sentence like *We have a cat that eats a lot*, and reject its counterpart *We have cat that eats a lot*.

Based on this, I will formulate the following expectations:

Sentence	grammaticality	L1BG	L1NOR
We have a cat that eats a lot	OK	? (not clear what learners will hypothesize)	accept
We have cat that eats a lot	NO	accept	reject

The discussion that follows will be through the perspective of the frame outlined above.

### Pair 1

a) I would like to have a cup of coffee.

b) \*I would like to have cup of coffee.

ENG: I would like to have **a** cup of coffee.

NOR: Jeg vil gjerne ha **en** kopp kaffe.

BG: Bih iskal(a) **Ø** chasha kafe.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
I would like to have a cup of coffee.	OK	34 (58%)	55 (77%)	27 (79%)	29 (94%)
	NO	25 (42%)	16 (23%)	7 (21%)	2 (6%)

L1BG are not very consistent in their judgment of the grammatical sentence. A total of 59 L1BG6 students were tested on List 1. 58% of them gave correct answers<sup>16</sup>. Less than half (42%) rejected the presence of the indefinite article. We clearly see the pattern of both scenarios here – half of the students have probably understood that L2 English has a category that is not present in their L1. The other (almost) half behaved as expected, should they transfer from Bulgarian.

Out of 71 L1BG7 only 23% perceive this sentence as wrong. For 77% of L1BG7 students the presence of the indefinite article is acceptable. The difference between correct answers given

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<sup>16</sup> Correct answers are highlighted in orange. This applies to all tables further in the discussion.

from both groups – L1BG6 and L1BG7 – is big (58% as opposed to 77%). Table 11 shows the distribution of the answers across proficiency levels of L1BG students.

Table 11. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I would like to have a cup of coffee’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	8 (40%)	11 (52%)	2 (40%)	6 (100%)	4 (100%)	3 (100%)
NO	12 (60%)	10 (48%)	3 (60%)	0 (0%)	0 (0%)	0 (0%)
L1BG7						
OK	6 (50%)	15 (83%)	8 (73%)	10 (91%)	10 (83%)	6 (86%)
NO	6 (50%)	3 (17%)	3 (27%)	1 (9%)	2 (17%)	1 (14%)

34 out of 59 L1BG6 students accepted the sentence with an indefinite article – 21 (62%) of them are at lower proficiency levels (highlighted in blue), and 13 (38%) are more advanced students (highlighted in orange). The pattern of the answer distribution also shows that L1BG6 at the lower levels have almost equal proportion of wrong vs. correct answers – presumably, some of the students have acquired the new category, whereas others are not quite sure yet. The other 13 (38%) of that group show 100% acceptance. The number of positive answers of L1BG7 group is quite high – 77% judged this sentence as correct. Except for the Beginner group, all other students, regardless of proficiency level, scored well above 70% (highlighted in green). In sum, proficiency level is a factor for L1BG6 but not so much for L1BG7.

As expected, Norwegian students give a greater number of correct answers for this sentence – 79% of L1NOR6 think that the sentence is grammatical, and so do almost all (94%) L1NOR7 students.

To sum up, L1NOR have a higher rate of acceptance for the presence of the indefinite article, but L1BG perform much better than expected than would be predicted if they just transferred the structure lacking an overt article from their L1. Even L1BG6, the group with the most Beginners N=20 (34% of the students who worked on List 1), have 58% of acceptance of the grammatical sentence.

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*I would like to have cup of coffee.	OK	31 (58%)	35 (69%)	17 (50%)	24 (69%)
	NO	22 (42%)	16 (31%)	17 (50%)	11 (31%)

On average, 37% of L1BG students (from both grade 6 and 7) gave the correct answer NO, when presented with the ungrammatical version of this sentence, and 64% judged this sentence

as correct, which corresponded to my expectations. Overall, 60% of L1NOR accepted this sentence, although my prediction was that most Norwegians will mostly reject it. Although this result is surprising, one of the reasons might be the specificity of the verb *have (ha)* in Norwegian (recall the discussion in section 2.3.3) which collocates with bare nouns when it denotes *possession*. For example, Norwegians would say *Jeg har bil* when they mean that they possess a car. *Jeg har en bil* puts the focus on *en (one)* car, as opposed to *two* or more. However, the sentence *\*I would like to have cup of coffee* is not about possession, although it may be hypothesized that the occurrence of the verb *have (ha)* triggered the omission of the indefinite article for some of the Norwegian students, relating the meaning of the verb *ha* to *possession* and not to *drinking (coffee)*.

#### Pair 4

a) \*London is nice town.

b) London is a nice town.

ENG: London is **a** nice town.

NOR: London er **en** fin by.

BG: London e **Ø** krasiv grad.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
London is a nice town.	OK	40 (75%)	41 (80%)	30 (88%)	31 (89%)
	NO	13 (25%)	10 (20%)	4 (12%)	4 (11%)

Almost 90% of the Norwegian students in both grades accept the grammaticality of this sentence, which is what I expected. On average, 78% of L1BG accept this sentence as grammatically correct. On average, only 23% of the Bulgarian speakers map their L1 pattern. Moreover, the correct answers are not clustered at the higher proficiency levels but almost evenly distributed across all levels (highlighted in orange), as seen from Table 12. I can only speculate whether this high acceptance rate is yes-bias based, or is picked due to the lack of negative evidence.

Table 12. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘London is a nice town’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	10 (59%)	18 (95%)	1 (25%)	3 (100%)	6 (86%)	2 (67%)
NO	7 (41%)	1 (5%)	3 (75%)	0 (0%)	1 (14%)	1 (33%)

L1BG7						
OK	9 (90%)	16 (84%)	2 (100%)	2 (33%)	6 (100%)	6 (75%)
NO	1 (10%)	3 (16%)	0 (0%)	4 (67%)	0 (0%)	2 (25%)

Here is how the ungrammatical sentence was perceived by the students in all groups.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*London is nice town.	OK	37 (63%)	40 (56%)	6 (18%)	10 (32%)
	NO	22 (37%)	31 (44%)	28 (82%)	21 (68%)

On average, 60% of L1BG students accept the article-less structure, but for almost half of the L1BG7 this sentence is unacceptable. My assumption is that they have realized the necessity of the indefinite article in order for the sentence to be grammatically correct in English. The distributions of the answers across proficiency levels, shown in Table 13, proves this.

Table 13. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘London is nice town’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	12 (60%)	17 (81%)	4 (80%)	4 (67%)	0 (0%)	0 (0%)
NO	8 (40%)	4 (19%)	1 (20%)	2 (33%)	4 (100%)	3 (100%)
L1BG7						
OK	10 (83%)	10 (56%)	8 (73%)	7 (64%)	4 (33%)	1 (14%)
NO	2 (17%)	8 (44%)	3 (27%)	4 (36%)	8 (67%)	6 (86%)

Although the greater number of students think that this (ungrammatical) sentence is correct, there are students from both L1BG6 and L1BG7 across all levels who do not accept it. The clue is not so much in their proficiency (as seen, students at all levels have this perception) but in their degree of acquisition. However, the expectation that most L1BG will accept the ungrammatical sentence due to influence from Bulgarian, proves to be true.

Norwegian students meet my expectation too – 75% of L1NOR reject the grammaticality of this (incorrect) sentence, as they should, due to facilitation from Norwegian.

#### Pair 5

a) \*We have dog that barks a lot.

b) We have a dog that barks a lot.

ENG: We have **a** dog that barks a lot.

NOR: Vi har **en** hund som bjeffer mye.

BG: Imame **Ø** kuche, koeto lae mnogo.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
We have a dog that barks a lot.	OK	38 (72%)	36 (71%)	21 (62%)	28 (80%)
	NO	15 (28%)	15 (29%)	13 (38%)	7 (20%)

The results for this sentence show around 70% acceptance of the novel structure from both L1BG6 and L1BG7, which is a relatively high acceptance rate. Only a little under 30% reject the sentence. Yet, the judgement of a sentence with a novel structure might be governed by mapping it onto the one they already have. Therefore, I cannot claim for sure that the acceptance rate is equal to the acquisition rate.

On average, 71% of L1NOR accept this sentence, and although L1NOR group scores quite high in general, I notice that L1NOR6 have 62% of acceptance, which is lower than the results from the previous two grammatically correct sentences. Compare:

Pair 1a) I would like to have a cup of coffee – 79% of acceptance

Pair 4b) London is a nice town – 88% of acceptance

Pair 5b) We have a dog that barks a lot – 62% of acceptance

The acceptance rate decreases from 1a) to 5b) by almost 22% (from 79% to 62%), and the decrease from 4b) to 5b) is almost 30% (from 88% to 62%). The reason why a lot of L1NOR6 perceived this sentence as wrong might be again the specificity of the verb *have (ha)* in Norwegian. I touched upon the special behaviour of this verb in the theoretical background, referring to Alkema (1993). Let us compare the following pairs of sentences:

ENG: (44) We have **a** dog vs. (45) We have **a** dog that barks a lot

NOR: (46) Vi har hund vs. (47) Vi har **en** hund som bjeffer mye

Firstly, the verb *have (ha)* denotes possession, and belongs to a whole group of *possession* verbs which collocate with a bare noun in Norwegian (section 2.3.3). Secondly, with objects that are typically a single item possession (a car, a house, a dog, etc.) bare nouns are the more natural choice because by default both the speaker and the listener think of *one* item, not two, three or more. Thirdly, the use of bare noun puts the emphasis on the noun itself (*a dog*, but not a cat) and contrasts it with other nouns. Based on these arguments, *Vi har hund* (but not *Vi har en hund*) will be the accurate equivalent for *We have a dog* because: (1) *har* implies that we own the dog, (2) we have *one* dog, not many, and (3) we have *a dog*, but not a cat. In sum, the bare noun in Norwegian points by default to these three contextual nuances. This, however, is the



case in a simple sentence consisting of a subject, a verb and an object. If we add more to this syntactic structure, things automatically change. Let us now expand the sentence with a relative clause that specifies the object, as in (45) *We have a dog that barks a lot*. The relative clause triggers a change, and in this case, Norwegian requires an obligatory indefinite article, thus the equivalent will be *Vi har en hund som bjeffer mye*.

As seen from these examples, English requires an indefinite article in both cases – (44) and (45), whereas in Norwegian it is omitted in the sentence without a relative clause (46), and on the condition that the verb denotes *possession*. This might explain why a lot of L1NOR6 perceived the indefinite article as redundant in this sentence as well.

This is not the case for L1NOR7 though, which motivated me to look at the scores of L1NOR6 for each proficiency level for this particular sentence. Table 14 shows the answers of L1NOR6 distributed across the six levels.

Table 14. Answers of L1NOR6 (N=34) for sentence ‘We have a dog that barks a lot’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
OK	0 (0%)	5 (71%)	4 (50%)	7 (78%)	3 (75%)	3 (100%)
NO	3 (100%)	2 (29%)	4 (50%)	2 (22%)	1 (25%)	0 (0%)

A total of 12 students judged this sentence as wrong and 9 (75%) of them are grouped in the lower proficiency levels (highlighted in orange). Based on these results, I can conclude that 38% of L1NOR6 did not accept the indefinite article in this sentence mostly due to the special behaviour of *have (ha)*, but to lower proficiency level as well.

Logically, we should expect that L1NOR6 will have a high rate of acceptance for the counterpart sentence without an article. However, this is not the case, as seen from the table below.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*We have dog that barks a lot.	OK	32 (46%)	44 (62%)	10 (29%)	8 (26%)
	NO	27 (54%)	27 (38%)	24 (71%)	23 (74%)

More than 70% of L1NOR in both grades rejected the grammaticality of this sentence. I expected that a greater number of L1NOR6 students would accept this sentence based on the fact that a lot rejected the grammatical one. I looked again into how the answers are distributed across proficiency levels for both L1NOR6 and L1NOR7 – presented in Table 15.

Table 15. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘We have dog that barks a lot’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	2 (40%)	1 (17%)	2 (100%)	2 (25%)	2 (17%)	1 (100%)
NO	3 (60%)	5 (83%)	0 (0%)	6 (75%)	10 (83%)	0 (0%)
L1NOR7						
OK	3 (100%)	0 (0%)	1 (33%)	2 (29%)	2 (22%)	0 (0%)
NO	0 (0%)	3 (100%)	2 (67%)	5 (71%)	7 (78%)	6 (100%)

The results show that half of L1NOR6 (5 out of 10 students) and half of L1NOR7 (4 out of 8) who judged this sentence as correct belong to the lower proficiency levels (highlighted in blue). The other half of both groups who gave OK for this sentence represent the more advanced levels (highlighted in green). 24 students from L1NOR6 think that this sentence is wrong – 33% of them are Beginner and Elementary level, and 67% belong to the higher proficiency levels (highlighted in orange). 23 students from L1NOR7 have a NO answer for this sentence – 22% of them are Elementary and Pre-Intermediate students. The other 78% are more advanced. This fragmented picture shows that in addition to L1 influence, proficiency level is a factor too, but not so influential because, more or less, students from all proficiency levels gave correct answers, i.e. rejected the sentence.

The Bulgarian students have an almost equal proportion of correct and wrong answers – on average, 54% correct vs. 46% wrong. The expectation for the ungrammatical sentence is that L1BG students will accept it if they relate it directly to a similar structure in their L1, and this is what the results show. The pattern here follows the pattern observed for the ungrammatical sentences discussed earlier. A recap from the analysis of the last three sentences shows that L1 Bulgarian students altogether seem to give a greater number of correct answers for the grammatical sentences (average 72% correct against 28% wrong so far) than for the ungrammatical sentences (41% correct vs. 59% wrong). The reasons can be that 1) they merge together two patterns into one, or/and 2) their answers are yes-biased. That said, I think the results from the ungrammatical sentences of L1BG students are the more authentic evidence for transfer from L1. Those who accepted the ungrammatical sentences, are in fact the ones that show L1 influence the most.

#### Pair 10

- a) I need a doctor who can help me.
- b) \*I need doctor who can help me.

ENG: I need **a** doctor who can help me.  
 NOR: Jeg trenger **en** lege som kan hjelpe meg.  
 BG: Tryabva mi **Ø** lekar, koyto da mi pomogne.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
I need a doctor who can help me.	OK	46 (78%)	53 (75%)	33 (97%)	27 (87%)
	NO	13 (22%)	18 (25%)	1 (3%)	4 (13%)

All four groups seem to follow the pattern of the grammatical sentences established so far. Bulgarian learners score quite high (77% on average), and this performance is in fact regardless of the proficiency level, as seen in Table 16.

Table 16. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I need a doctor who can help me’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	14 (70%)	16 (76%)	5 (100%)	4 (67%)	4 (100%)	3 (100%)
NO	6 (30%)	5 (24%)	0 (0%)	2 (33%)	0 (0%)	0 (0%)
L1BG7						
OK	4 (33%)	15 (83%)	11 (100%)	7 (64%)	10 (83%)	6 (86%)
NO	8 (67%)	3 (17%)	0 (0%)	4 (36%)	2 (17%)	1 (14%)

We can only speculate if this high score is a result of yes-bias, or a consequence of assuming that L2 works like L1. As FTFA suggests, when L2 learners discover a new feature – as is the overt indefinite article for native Bulgarians – they have to find the right place for it in their interlanguage. This process requires resetting, which might happen fast or not so fast. Articles are one of the most difficult categories to be acquired, especially for [-Art] L1ers. I am, therefore, a bit skeptical that the high acceptability rate for the grammatical sentence is a result of acquiring the novel structure.

Norwegians behave very predictably, with 92% of positive answers, which corresponds to what I expected. It is interesting to note here that L1NOR6 scored really high, compared to the previous grammatical sentence *We have a dog that barks a lot*, which was accepted by only 62% of the students in that group. The verbs *ha* (*have*) and *trengje* (*need*) behave in a similar way because they both belong to the group of *possession* verbs (section 2.3.3). In a simple sentence, consisting of subject-verb-object, *trengje* is followed by a bare noun. However, if the sentence is extended with a relative clause, the use of indefinite article is required in Norwegian. Compare (48) and (49):

(48) NOR: Jeg er syk, og jeg trenger lege (men ikke lærer).

ENG: I am ill and I need **a** doctor (but not a teacher).

(49) NOR: Jeg trenger **en** lege som kan hjelpe meg.

ENG: I need **a** doctor who can help me.

However, almost all L1NOR6 students, except just one, used the pattern that is correct for both Norwegian and English, as opposed to the previous example, where 38% of L1NOR6 accepted the sentence without an article – a pattern existing in Norwegian, but not applicable to that specific example. Compare:

*We have a dog that barks a lot* – 62% of acceptance with the indefinite article (L1NOR6)

*I need a doctor who can help me* – 97% of acceptance with the indefinite article (L1NOR6)

One could expect that these sentences will be perceived similarly, but this is not the case. A possible reason might be the life experience students at this age have in using these particular verbs in everyday context. It is very likely that most of them have a pet, presumably a dog. The sentence *Jeg har hund* (*I have a dog*) is more frequently used in their everyday life than *Jeg trenger lege* (*I need a doctor*). My assumption is that *Jeg har hund* (*I have a dog*) is acquired as a chunk due to frequent input, whereas *Jeg trenger en lege som...* (*I need a doctor who...*) follows the unmarked L1 pattern which automatically requires an indefinite article. This, on its turn implies that the counterpart sentence *\*I need doctor who can help me* should be rejected by most Norwegians, as shown in the table below.

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*I need doctor who can help me.	OK	23 (43%)	23 (45%)	11 (32%)	8 (23%)
	NO	30 (57%)	28 (55%)	23 (68%)	27 (77%)

The proportions between correct and wrong answers of all Bulgarian students are somehow balanced. Almost half of them seem to transfer from their L1 and more than half reject the sentence, which can be a sign of their awareness that another structure exists. I expected more negative answers from Norwegian students since they should have intuition for both the presence and the absence of the article. Nevertheless, we saw earlier that some verbs in Norwegian put limitations as to whether the noun after them will come with or without an article. The limitations are syntactically and contextually dependent and it might result in some hesitation.

## Pair 14

- a) I saw a car that was driving fast.  
b) \*I saw car that was driving fast.

This sentence is a bit special since I have no grammatically incorrect counterpart for it in the online version. Thus, Bulgarians were tested only on the grammatical sentence. There is no other reason for this but a typo I have made when designing the online tests. However, the set is complete in the paper version, and Norwegians were tested on both sentences.

ENG: I saw **a** car that was driving fast.

NOR: Jeg så **en** bil som kjørte fort.

BG: Vidyah **Ø** kola, koyato karashe burzo.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
I saw a car that was driving fast.	OK	30 (51%)	52 (73%)	29 (85%)	28 (90%)
	NO	29 (49%)	19 (27%)	5 (15%)	3 (10%)

Norwegian students behave predictably and most of them judge the sentence as correct. L1BG6 students balance almost equally between correct and wrong answers, and this is not unexpected. L1BG7 have a greater number of correct answers. I will look closer at the distribution of the results across proficiency levels (Table 17) for the Bulgarian students to see if this is the reason for the difference.

Table 17. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I saw a car that was driving fast’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	9 (45%)	9 (43%)	3 (60%)	5 (83%)	1 (25%)	3 (100%)
NO	11 (55%)	12 (57%)	2 (40%)	1 (17%)	3 (75%)	0 (0%)
L1BG7						
OK	7 (58%)	13 (72%)	7 (64%)	9 (82%)	9 (75%)	7 (100%)
NO	5 (42%)	5 (28%)	4 (36%)	2 (18%)	3 (25%)	0 (0%)

The table shows almost equal distribution between correct and wrong answers between grade 6 and 7 across most levels (orange vs. blue). From this, I cannot conclude that the proficiency level is the clue to the better performance of L1BG7.

The ungrammatical counterpart of this sentence is present only in the paper version of the test. Therefore, for List 2 I will compare how L1BG performed on the grammatical sentence to the

results of L1NOR on the ungrammatical one. In this case, I expect that both language groups will score high on negative answers.

List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I saw a car that was driving fast. (grammatical)	OK	39 (74%)	40 (78%)		
	NO	14 (26%)	11 (22%)		
*I saw car that was driving fast. (ungrammatical)	OK			8 (24%)	5 (14%)
	NO			26 (76%)	30 (86%)

Both Bulgarian groups show more confidence in judging the grammatical sentence and there is not much hesitation as to which is the correct answer. Since Bulgarian students did not work on the ungrammatical sentence, I cannot be sure whether this is a yes-bias, or the students have developed more understanding that this is a correct structure in English. L1NOR speakers behave as expected and most of them reject the grammaticality of the wrong sentence. Most of those who consider it correct belong to the lower proficiency levels (highlighted in orange), as the distribution of the raw results show in Table 18 below.

Table 18. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘I saw car that was driving fast’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	2 (67%)	3 (43%)	1 (12%)	1 (11%)	0 (0%)	1 (33%)
NO	1 (33%)	4 (57%)	7 (88%)	8 (89%)	4 (100%)	2 (67%)
L1NOR7						
OK	No Beginner students	2 (100%)	1 (20%)	0 (0%)	1 (9%)	1 (17%)
NO		0 (0%)	4 (80%)	11 (100%)	10 (91%)	5 (83%)

### Pair 15

a) \*He is in difficult situation.

b) He is in a difficult situation.

ENG: He is in **a** difficult situation.

NOR: Han er i **en** vanskelig situasjon.

BG: Toi e v **Ø** trudna situatsia.

Grammaticality – OK	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
List 2					
He is in a difficult situation.	OK	40 (75%)	41 (80%)	30 (88%)	32 (91%)
	NO	13 (25%)	10 (20%)	4 (12%)	3 (9%)

The pattern we see here is almost the same as the pattern seen in the previous sentence. Norwegian students are very comfortable with the indefinite article, as predicted. Interestingly, both Bulgarian groups show high acceptance rate as well, and the scale of hesitation for both L1BG6 and L1BG7 tilts in favour of the correct L2 structure, but not the L1 pattern. I am curious to see if the negative answers of both groups correlate anyhow with the proficiency level of the students. Table 19 shows the distribution of the students' answers across the six levels.

Table 19. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence 'He is in a difficult situation' distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	8 (47%)	15 (79%)	4 (100%)	3 (100%)	7 (100%)	3 (100%)
NO	9 (53%)	4 (21%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
L1BG7						
OK	3 (30%)	17 (89%)	2 (100%)	6 (100%)	5 (83%)	8 (100%)
NO	7 (70%)	2 (11%)	0 (0%)	0 (0%)	1 (17%)	0 (0%)

All L1BG students above Elementary level, except one, regardless of their grade, have given a correct answer and accept the presence of the indefinite article. This is a very categorical result, and one could assume that proficiency level plays a role for this particular sentence. However, a good number of Elementary students, and almost half of Beginner level, have answered correctly as well. For this particular example we can conclude that the more advanced students have developed more awareness of the novel structure.

The answers of L1NOR6 and L1NOR7 as distributed across levels are given in Table 20.

Table 20. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence 'He is in a difficult situation' distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	2 (67%)	6 (86%)	7 (88%)	8 (89%)	4 (100%)	3 (100%)
NO	1 (33%)	1 (14%)	1 (12%)	1 (11%)	0 (0%)	0 (0%)
L1NOR7						
OK	No Beginner students	1 (50%)	4 (80%)	11 (100%)	10 (91%)	6 (100%)
NO	No Beginner students	1 (50%)	1 (20%)	0 (0%)	1 (9%)	0 (0%)

This overview tells us that there are single negative answers throughout some of the levels (highlighted in blue), but otherwise almost all Norwegian students gave the expected correct answer (highlighted in orange). From this we can conclude that proficiency level is probably a

factor for the Bulgarian students, and it adds to their correct or wrong grammaticality judgement. However, it does not seem so crucial for Norwegians.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*He is in difficult situation.	OK	43 (73%)	47 (66%)	9 (26%)	9 (29%)
	NO	16 (27%)	24 (34%)	25 (74%)	22 (71%)

This sentence has no indefinite article and looks like a very acceptable structure for Bulgarians, as seen from the results. Recall that for structures resembling an L1, I predicted ‘accept’ which is the equivalent to OK here. On average, 70% of the Bulgarian students gave OK for this sentence. The other 30% are probably the ones that have acquired the L2 structure and do not accept the ungrammatical sentence. Table 21 gives an overview of their proficiency level.

Table 21. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘He is in difficult situation’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	16 (80%)	15 (71%)	4 (80%)	5 (83%)	2 (50%)	1 (33%)
NO	4 (20%)	6 (29%)	1 (20%)	1 (17%)	2 (50%)	2 (67%)
L1BG7						
OK	9 (75%)	13 (72%)	10 (91%)	5 (45%)	8 (67%)	2 (29%)
NO	3 (25%)	5 (28%)	1 (9%)	6 (55%)	4 (33%)	5 (71%)

Percentagewise, it is the students at the Advanced level who have the highest rate of rejection for this sentence, although this percentage accounts for only 2 students in L1BG6 and 5 students in L1BG7. There are students even at the lowest levels who have rejected this sentence, which makes me think that it is not so much a matter of proficiency level, but of acquiring the structure of L2 and realizing that it is different from the one in L1.

Norwegian students are consistent in their answers and more than 70% did not accept the absence of an indefinite article.

### Pair 18

- a) \*There is spider on the wall.
- b) There is a spider on the wall.

ENG: There is **a** spider on the wall.

NOR: Det er **en** edderkopp på veggen.

BG: Има **Ø** payak na stenata.



Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
There is a spider on the wall.	OK	39 (74%)	41 (80%)	31 (91%)	34 (97%)
	NO	14 (26%)	10 (20%)	3 (9%)	1 (3%)

The answers of all four groups are almost a copy of the previous grammatical sentence. Table 22 below shows the performance across proficiency levels for L1BG.

Table 22. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘There is a spider on the wall’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	10 (59%)	13 (68%)	4 (100%)	3 (100%)	6 (86%)	3 (100%)
NO	7 (41%)	6 (32%)	0 (0%)	0 (0%)	1 (14%)	0 (0%)
L1BG7						
OK	6 (60%)	14 (74%)	2 (100%)	5 (83%)	6 (100%)	8 (100%)
NO	4 (40%)	5 (26%)	0 (0%)	1 (17%)	0 (0%)	0 (0%)

Almost all Bulgarian students above Elementary level (highlighted in orange), except for one in each grade, accepted the article in the sentence. The lowest levels of both L1BG6 and L1BG7 group still show some hesitation between correct and wrong answers but all in all, I can say that proficiency seems facilitative for Bulgarian learners. Norwegian students from both L1NOR6 and L1NOR7 performed next to perfectly correct – with only 4 out of 69 students rejecting the presence of the article.

The results from the counterpart sentence will show if BG students are consistent.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*There is spider on the wall.	OK	27 (46%)	36 (51%)	14 (41%)	10 (32%)
	NO	32 (54%)	35 (49%)	20 (59%)	21 (68%)

Bulgarian students judged this sentence almost similarly to most of the ungrammatical ones so far. Around half of the students in L1BG6 and L1BG7 mapped their L1 onto this structure, as expected should they transfer from their L1. The other half are presumably aware that this structure is different from what L2 English requires. Table 23 will tell me more about the influence of the students’ proficiency level.

Table 23. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘There is spider on the wall’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	8 (40%)	9 (43%)	4 (80%)	3 (50%)	2 (50%)	1 (33%)
NO	12 (60%)	12 (57%)	1 (20%)	3 (50%)	2 (50%)	2 (67%)
L1BG7						
OK	4 (33%)	9 (50%)	5 (45%)	7 (64%)	7 (58%)	4 (57%)
NO	8 (67%)	9 (50%)	6 (55%)	4 (36%)	5 (42%)	3 (43%)

What this distribution tells us is that the hesitation between OK and NO is almost equal throughout all proficiency levels, therefore I cannot conclude that this is an important factor for this particular sentence. Even the lower levels from both grades (highlighted in orange) show a relatively high awareness that this is not a correct structure in English – 24 (69%) out of 32 students L1BG6, and 17 (49%) out of 35 in L1BG7 who rejected this sentence are at Beginner and Elementary levels.

Both L1NOR6 and L1NOR7 groups performed under the expectations. Norwegian language has both structures – with and without an indefinite article, therefore, I expected Norwegian students to show more intuition for when the article is required and when it could be omitted. Yet, 41% of L1NOR6 and 32% of L1NOR7 accepted the ungrammatical sentence. Table 24 shows how they performed according to proficiency level.

Table 24. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘There is spider on the wall’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	3 (60%)	4 (67%)	0 (0%)	4 (50%)	2 (17%)	1 (100%)
NO	2 (40%)	2 (33%)	2 (100%)	4 (50%)	10 (83%)	0 (0%)
L1NOR7						
OK	3 (100%)	2 (67%)	1 (33%)	2 (29%)	0 (0%)	2 (33%)
NO	0 (0%)	1 (33%)	2 (67%)	5 (71%)	9 (100%)	4 (67%)

The results are a bit inconsistent because even some L1NOR6 students at lower proficiency levels rejected the sentence whereas some advanced L1NOR7 accepted it as correct. Out of 20 students from L1NOR6 who did not accept the sentence, 14 (70%) are at more advanced levels (Intermediate and above, highlighted in orange), the rest are scattered across the lower levels. Out of 21 students from L1NOR7 who rejected this sentence, 18 (86%) are at advanced levels (highlighted in orange), the rest are at lower levels. Proficiency proves to be somewhat facilitative for this particular sentence.

Pair 22

a) We watched an interesting movie last night.

b) \*We watched interesting movie last night.

ENG: We watched **an** interesting movie last night.

NORW: Vi så på **en** interessant film i går kveld.

BG: Snoshti gledahme **Ø** interesen film.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
We watched an interesting movie last night.	OK	47 (78%)	57 (80%)	31 (91%)	28 (90%)
	NO	13 (22%)	14 (20%)	3 (9%)	3 (10%)

The answers for this sentence are almost an exact copy of how students judged the previous two grammatical sentences. L1NOR students outperform L1BG students but both groups show a high acceptance rate for the sentence with the article. Norwegian speakers behave as expected. Bulgarian speakers so far show a well-established pattern of performing better on the grammatical than on the ungrammatical sentences. Table 25 shows that proficiency does not seem to be a strong predictor, and students from all proficiency levels accept the presence of the indefinite article. I can hypothesize that they have either understood that English requires an article, or tend to be yes-biased.

Table 25. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘We watched an interesting movie last night’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	15 (75%)	14 (67%)	5 (100%)	5 (83%)	0 (0%)	3 (100%)
NO	5 (25%)	7 (33%)	0 (0%)	1 (17%)	4 (100%)	0 (0%)
L1BG7						
OK	8 (67%)	15 (83%)	9 (82%)	6 (55%)	12 (100%)	7 (100%)
NO	4 (33%)	3 (17%)	2 (18%)	5 (45%)	0 (0%)	0 (0%)

The judgement of the ungrammatical sentences gives me a more accurate idea of whether L1BG and L1NOR have acquired the indefinite article in L2 English and to what extent.

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*We watched interesting movie last night.	OK	38 (72%)	37 (73%)	14 (41%)	9 (26%)
	NO	15 (28%)	14 (27%)	20 (59%)	26 (74%)

More than 70% of L1BG students followed their L1 pattern. The distribution of their answers across proficiency levels (Table 26) shows that most of those who accepted the ungrammatical sentence are clustered at the lowest levels, although there are some advanced students who also transferred their L1 structure. The number of those who rejected it is more informative about the path of acquisition. Such traces are seen at both ends of the proficiency level spectrum (highlighted in blue), so I cannot say that proficiency is responsible for the judgement of this particular sentence.

Table 26. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘We watched interesting movie last night’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	11 (64%)	17 (89%)	4 (100%)	3 (100%)	2 (29%)	1 (33%)
NO	6 (36%)	2 (11%)	0 (0%)	0 (0%)	5 (71%)	2 (67%)
L1BG7						
OK	6 (60%)	17 (89%)	2 (100%)	5 (83%)	5 (83%)	2 (25%)
NO	4 (40%)	2 (11%)	0 (0%)	1 (17%)	1 (17%)	6 (75%)

59% of L1NOR6 rejected this sentence, the rest 41% felt comfortable with the absence of the article. However, if Norwegians transfer from their L1, I would expect them to be more confident in rejecting this sentence. The students’ performance across proficiency levels, illustrated in Table 27, shows that 12 (60%) out of 20 L1NOR6 students who did not accept the absence of the article, are at the higher proficiency levels, and 10 (71%) out of 14 who accepted it, are at the lower levels (highlighted in blue). The judgement of L1NOR7 is more categorically tilted towards rejection of the sentence by the more advanced levels – 23 (88%) out of 26 students who said NO are at the higher proficiency levels. Proficiency level is somewhat facilitative for the judgement of this sentence.

Table 27. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘We watched interesting movie last night’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	1 (33%)	5 (71%)	4 (50%)	2 (22%)	1 (25%)	1 (33%)
NO	2 (67%)	2 (29%)	4 (50%)	7 (78%)	3 (75%)	2 (67%)
L1NOR7						
OK	No Beginner students	1 (50%)	3 (60%)	2 (18%)	2 (18%)	1 (17%)
NO		1 (50%)	2 (40%)	9 (82%)	9 (82%)	5 (83%)

In sum, on the sub-condition 1 (obligatory use of the indefinite article):

- a) On average, 73% of L1BG students accepted the grammatical sentences. For a couple of sentences, and just L1BG6, showed a comparable rate of correct and wrong answers. Proficiency level appears to be a factor sometimes (in fact, in only three of the sentences), but not always. From this, I cannot conclude whether the high acceptance rate is yes-biased, understanding that L2 requires a novel structure, or is a process of mapping of two structures onto one, due to the lack of negative evidence.
- b) On average, 41% of L1BG students rejected the ungrammatical sentences. This result is in my view more informative about the stage of acquisition of the indefinite article. The remaining 59%, who accepted the article-less sentence, still follow their L1 pattern and transfer.
- c) On average, 87% of L1NOR students accepted the grammatical sentences which we argued to be due to facilitation from L1 Norwegian. Exceptions are sentences with verbs like *have (ha)* and *need (trenge)* which in Norwegian can take a bare noun (however, not in the examples with relative clauses in this sub-condition). Proficiency level seems to positively correlate with accuracy but not across the board.
- d) On average, 68% of L1NOR students rejected the ungrammatical sentences. The ungrammatical sentences with the verbs *have (ha)* and *need (trenge)* have a higher rate of acceptance, which may be due to the special behaviour of these verbs. The last two ungrammatical sentences have a higher rate of acceptance as well, and proficiency level proved to be somehow responsible for that.

The results from the statistical analysis (Figure 3. Accuracy by Condition and Group matched for proficiency level) show that the difference between the two language groups is the largest in Condition 1. The post-hoc pairwise comparison (Figure 4. Accuracy by sub-condition and Group matched for proficiency level) shows that the difference is substantial only for this sub-condition, which targets obligatory use of indefinite article in English and Norwegian. This sub-condition has in fact generated the largest difference between the two language groups out of all six sub-conditions. The detailed analysis of the whole dataset, not matched for proficiency level, gave me a more fine-grained picture of specific learners' behaviour and patterns. The raw data confirms the statistical models and gives enough evidence that Norwegian language is very facilitative when it comes to the use of the indefinite article. At the same time, L1BG learners demonstrate a high acceptance rate of the grammatical structures, but they also have a much

lower rejection rate for the ungrammatical sentences, as compared to Norwegian speakers – 41% for L1BG vs. 68% for L1NOR.

These results confirm the findings of Master (1987) regarding the difference in the acquisition rate between speakers of [-Art] and [+Art] languages – Bulgarian [-Art] speakers are behind Norwegian [+Art] speakers because they need to create and position a novel category. L1BG is not facilitative for this novel structure. A high acceptance rate of ungrammatical structures (59%) indicates that L1BG students are still influenced by their L1.

The prediction for this sub-condition that L1NOR would outperform L1BG proved to be true.

#### 4.2.1.2 Sub-condition 2 – Generic use of nouns

There are four pairs of sentences in this sub-condition that are centered around generic use of nouns. The examples used in the GJT are limited to generic bare plural nouns in English, as in *Babies are sweet*. Bulgarian uses definite plurals for this purpose (50):

- (50)            Bebetata sa sladki.  
                  BabyDEF.PL. are sweet.  
                  \*The babies are sweet.  
                  ‘Babies are sweet.’

Therefore, it will be plausible to expect that L1BG speakers will over accept the definite plural. Previous research (Ionin & Montrul, 2010) also find evidence for such behaviour of L1 Spanish learners of English. In addition, students have not collected negative evidence that generic sentences like *\*The babies are sweet* are wrong in English. The bare plural noun for generic contexts is a novel category for Bulgarian students, and requires unlearning the presence of the definite article. The grammaticality judgement will depend on the input students have, and the extent to which they have acquired that bare plurals work as generic nouns in English, not only as regular plural nouns, as is the case in Bulgarian.

Norwegian can express genericity through construction with singular, plural, indefinite, or definite DPs (section 2.3.4.1), and the choice of the form depends on the context. I expect Norwegian students to have intuition for the correspondence between form and context because their L1 maps different forms onto different content. As illustrated in the theoretical background, when the reference is to what is normal in general for groups/species, but not necessarily for each and every individual member, the bare plural is used, as in *Babyer er søte* (*Babies are sweet*). The same applies to habitual sentences, which describe repetitive actions or habits, as in *Hunder bjeffer* (*Dogs bark*).

Based on this, for the next set of sentences, I will formulate the following expectations:

Sentence	grammaticality	Bulgarian	Norwegian
Babies are sweet.	OK	? (not clear what learners will hypothesize)	accept
The babies are sweet.	NO	accept	reject

Table 28 presents the average percentage values of correct answers for L1BG and L1NOR across the two grades based on the whole dataset for this sub-condition. It shows almost no difference between the two language groups.

Table 28. Average percentage values of correct answers for L1BG and L1NOR across the two grades based on the whole dataset for Sub-condition ‘Generic use of nouns’

	L1BG6	L1BG7	L1NOR6	L1NOR7	% increase from L1BG to L1NOR
Generic use of nouns	48.8%	51%	51%	50.8%	
Average for the group	50%		51%		2% increase

#### Pair 24

a) \*The doctors usually study six years.

b) Doctors usually study six years.

ENG: Ø Doctors usually study six years.

NORW: Ø Leger studerer vanligvis seks år.

BG: Lekarite uchat obiknoveno shest godini.

DoctorsDEF.PL. study usually six years.

The doctors study usually six years.

‘Doctors usually study six years.’

The bare plural noun in Bulgarian is used when *many* is implied, as opposed to *one*. In no way can it be confused with genericity by a native speaker of the language, especially when it is in initial subject position. For example, the bare plural *lekari* (*doctors*) in Bulgarian can be used in sentences like (51):

(51) Ima mnogo lekari v bolnitsata.

Have many doctorINDEF.PL. in the hospital.

‘There are many doctors in the hospital.’

or

- (52) Nyakoi lekari uchat shest godini.  
 Some doctorINDEF.PL. study six years.  
 ‘Some doctors study six years.’

Bulgarian language always needs the definite article to express genericity. Based on this, my expectation is that L1BG students will reject the bare noun.

A statement like *Doctors usually study six years* implies that this is in general normal for doctors, based on the speaker’s impression or experience. Norwegian maps an equivalent form to a corresponding meaning. Thus, I expect L1NOR speakers to have a higher rate of acceptance for the bare noun. Below are the results:

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
Doctors usually study six years.	OK	29 (55%)	35 (69%)	22 (65%)	27 (77%)
	NO	24 (45%)	16 (31%)	12 (35%)	8 (23%)

Interestingly, L1BG speakers have a higher acceptance rate than expected for their group. The only generic structure Bulgarian has, requires the use of the definite article. A sentence like *Lekari obiknoveno uchat shest godini (DoctorINDEF.PL. usually study six years)* is unacceptable in Bulgarian. It sounds ungrammatical and entirely wrong, and therefore it is not in use. Bulgarian students do not have such input from their native language. The acceptance of the bare plural is therefore not a result of L1 transfer. Since this is a novel structure for them, they are dependent on the input they get, which is usually positive evidence, in order to acquire it. I will look into whether this performance has to do with their proficiency level. Table 29 shows that a good number of students from all proficiency levels accept the L2 structure (highlighted in blue), although the advanced levels score highest (highlighted in orange). From this I cannot conclude that proficiency level is the only reason for this score.

Table 29. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘Doctors usually study six years’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	7 (41%)	12 (63%)	1 (25%)	1 (33%)	5 (71%)	3 (100%)
NO	10 (59%)	7 (37%)	3 (75%)	2 (67%)	2 (29%)	0 (0%)
L1BG7						
OK	5 (50%)	12 (63%)	1 (50%)	4 (67%)	6 (100%)	7 (87%)
NO	5 (50%)	7 (37%)	1 (50%)	2 (33%)	0 (0%)	1 (13%)



I expected L1NOR to have a greater number of correct answers, but they performed just a little better than L1BG. Table 30 below shows the answer distribution of Norwegian students across proficiency levels. It seems to be somewhat facilitative but there are also students from lower levels who accept the bare plural.

Table 30. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘Doctors usually study six years’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	2 (67%)	3 (43%)	4 (50%)	8 (89%)	4 (100%)	1 (33%)
NO	1 (33%)	4 (57%)	4 (50%)	1 (11%)	0 (0%)	2 (67%)
L1NOR7						
OK	No Beginner students	0 (0%)	4 (80%)	9 (82%)	9 (82%)	5 (83%)
NO	No Beginner students	2 (100%)	1 (20%)	2 (18%)	2 (18%)	1 (17%)

I have the advantage of working in a teaching environment with native Norwegians, and I did a little experiment. I first went to a couple of them and said *Leger studerer vanligvis 6 år*. Their reaction was very normal, they all agreed. I then went to other Norwegian colleagues and said *Legene studerer vanligvis 6 år*. They looked at me questioningly, expecting me to say something more. Since nothing followed, they asked me what I meant by this, what doctors I was talking about in particular. After I told them about my experiment, they said that the difference in their native ears is *known* versus *unknown*, in addition to genericity. The bare plural is the better choice when there is no previous context. The use of the definite plural for generic purposes requires some kind of introduction in order to sound right, according to them. For example, if there is an article in the paper titled *Leger studerer vanligvis 6 år*, the text further in the article can use *legene (the doctors)* with generic reference, pointing to doctors in general. In this sense, generic use is intertwined into the concept of *something familiar*. This is not the case in Bulgarian because even if not put into context, Bulgarians would hear the generic implication of the definite plural.

I did a very cursory search of how the nouns *leger (doctors)* and *legene (the doctors)* in their generic use appear in different resources and here is what Braut (2019) writes in the Great Medical Encyclopedia *Store medisinske leksikon*:

- (53) Leger arbeider på alle nivåer i helsetjenesten.  
 DoctorINDEF.PL. work at all levels in the healthcare system.  
 ‘Doctors work at all levels in the healthcare system’

An article published in an online medical paper by Bordvik (2019) is titled:

- (54) Leger er mindre fornøyd med jobben  
 DoctorINDEF.PL. are less satisfied with the job  
 ‘Doctors are less satisfied with the job’

Further in the article we read:

- (55) De nyeste dataene viser at legene er mindre fornøyd enn tidligere.  
 The latest data show that doctorDEF.PL. are less satisfied than before.  
 The latest data show that the doctors are less satisfied than before.  
 ‘The latest data show that doctors are less satisfied than before’

The definite plural *legene* implies doctors in general but it has already been introduced in the title. Below are the answers of the four groups for the ungrammatical sentence.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*The doctors usually study six years.	OK	39 (66%)	48 (68%)	25 (74%)	22 (71%)
	NO	20 (34%)	23 (32%)	9 (26%)	9 (29%)

On average, 67% of L1BG rely on their L1 pattern and accept the ungrammatical sentence. Those who have rejected it are probably the ones who have understood that this structure is not allowed in English for generic contexts. However, almost an equal percentage of L1BG in total have accepted both the grammatical (62%) and the ungrammatical (67%) sentence. Considering the fact that unselecting, or ‘deleting’ a category in order to conform to the new pattern is a harder and longer process, I tend to believe that this might be an effect of a yes-biased thinking.

L1NOR have an average of 72% of acceptance. As mentioned earlier, Norwegian can employ both the bare and the definite plural for generic purposes. If we think back to the lack of negative evidence, Norwegian speakers might assume that English works the same way too. Norwegian students have surely encountered plenty of occurrences like *Doctors study for 6 years*, *Students graduate at the age of 18*, *Children start school when they are six*, and so on, but highly likely no one told them that these sentences will be wrong if the definite article is added in English. This can account for the high rate of acceptance of the ungrammatical sentence.

#### Pair 29

- a) \*The bananas come originally from India.  
 b) Bananas come originally from India.

ENG: Ø Bananas come originally from India.  
 NOR: Ø Bananer kommer opprinnelig fra India.  
 BG: Bananite proizhozhdat ot India.  
 BananaDEF.PL. originate from India.  
 ‘Bananas come originally from India.’

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
Bananas come originally from India.	OK	32 (60%)	37 (73%)	24 (71%)	23 (66%)
	NO	21 (40%)	14 (27%)	10 (29%)	12 (34%)

Most Bulgarian students accept the absence of the definite article and this behaviour is consistent with the judgement of the previous grammatical sentence. Norwegian students, too, show almost the same grammaticality judgement pattern as in the previous grammatical sentence. The same applies to the ungrammatical sentence (below) – L1BG have on average 62% of acceptance of the definite article, but this is expected for them. L1NOR speakers have almost the same acceptance rate – 67%. I expected a higher difference in acceptance rate between the two language groups but it is very minimal.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*The bananas come originally from India.	OK	35 (59%)	46 (65%)	23 (68%)	20 (65%)
	NO	24 (41%)	25 (35%)	11 (32%)	11 (35%)

Table 31 shows that L1BG students from almost all levels rely on their L1 pattern. The presence of the definite article looks very plausible and acceptable because it is the same as in Bulgarian. It is not surprising that most students marked it as correct.

Table 31. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘The bananas come originally from India’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	9 (45%)	12 (57%)	4 (80%)	4 (67%)	2 (50%)	2 (67%)
NO	11 (55%)	9 (43%)	1 (20%)	2 (33%)	2 (50%)	1 (33%)
L1BG7						
OK	8 (67%)	11 (61%)	8 (73%)	7 (64%)	8 (67%)	4 (57%)
NO	4 (33%)	7 (39%)	3 (27%)	4 (36%)	4 (33%)	3 (43%)

There is not a certain proficiency group that stands out from the Norwegian students either. A good number of participants from all levels in both grades judged the definite plural as an acceptable structure in this sentence, as seen from Table 32.

Table 32. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘The bananas come originally from India’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	4 (80%)	5 (83%)	2 (100%)	8 (100%)	4 (33%)	0 (0%)
NO	1 (20%)	1 (17%)	0 (0%)	0 (0%)	8 (67%)	1 (100%)
L1NOR7						
OK	2 (67%)	2 (67%)	1 (33%)	4 (57%)	7 (78%)	4 (67%)
NO	1 (33%)	1 (33%)	2 (67%)	3 (43%)	2 (22%)	2 (33%)

I researched a bit the input from Norwegian sources. In the Great Norwegian Encyclopedia *Store Norske leksikon*, the word appears as a bare singular. Sunding & Ervik (2021) write (my bold) ‘**Banan** er frukten av [...] **Banan** er verdens mest produserte [...] **Banan** brukes av og til også som [...]’. The noun *banan* appears in the bare singular all the time.

In an article in Wikipedia, the bare singular appears first (*banan*) but is then followed by the bare plural (*bananer*) and lastly, the definite singular (*bananen*) ‘**Banan** er en avlang frukt [...] **Bananer** blir i dag dyrket i [...] **Bananer** inneholder fiber, [...] **Bananen** ble domestisert i Sør-Øst Asia [...].’

The Information Office for fruit and vegetables (Opplysningskontoret for frukt og grønt, 2021) in Norway has published the following information on their website. The form of the noun here also alternates between the bare singular (*banan*) and the bare plural (*bananer*) ‘**Banan** kommer opprinnelig fra [...] **Bananer** høstes umodne [...] **Banan** spises mest naturell [...] **Bananer** inneholder mye fiber [...]’

In an article in *Dagbladet*, called *Slik lever bananene lengre*, Dotterud (2017) writes as a subtitle ‘Sjek triksen som hindrer at **bananen** blir brun’. *Bananen* is used in the definite singular.

Further in the article we have occurrences of the bare singular (*banan*) and the definite plural (*bananene*) ‘**Banan** er frukten vi spiser alle mest av. [...] Her skal du få et superenkelt knep, som gjør at **bananene** får mye lenger holdbarhet.’

The predominant forms are the bare singular and bare plural but the definite singular and definite plural occur as well. Taking into account this as well as the fact that the proficiency level does not seem to be a very important factor for this particular sentence, as seen from Table 32 above, my assumption is that the high rate of acceptance of the ungrammatical sentence is governed by the lack of negative evidence in their English input. It sounds plausible for L1NOR to expect that *the bananas* is a correct structure, based on *bananen* (*the banana*), *bananene* (*the bananas*) in their native language.

### Pair 30

- a) Lions are the biggest wild cats on the Earth.  
b) \*The lions are the biggest wild cats on the Earth.

ENG: Ø Lions are the biggest wild cats on the Earth.

NORW: Ø Løver er de største villkattene på jorden.

BG: Luvovete sa nai-golemite divi kotki na Zemyata.

LionDEF.PL. are the biggest wild cats on the Earth.

\*The lions are the biggest wild cats on the Earth.

‘Lions are the biggest wild cats on the Earth.’

The same expectations hold for this pair of sentences. I present the results for both the grammatical and the ungrammatical sentence close together in order to compare and contrast.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Lions are the biggest wild cats on the Earth.	OK	41 (69%)	56 (79%)	29 (85%)	25 (81%)
	NO	18 (31%)	15 (21%)	5 (15%)	6 (19%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*The lions are the biggest wild cats on the Earth.	OK	39 (74%)	44 (86%)	27 (79%)	31 (89%)
	NO	14 (26%)	7 (14%)	7 (21%)	4 (11%)

On average, 74% of L1BG accept the bare plural. This category is new for them. They have to unselect the definite article, and acquire the bare noun in its generic meaning. This high acceptance rate cannot be an effect of L1 transfer. I can hypothesize that some of the Bulgarian students have learned that English works that way, others tend to make a yes-biased choice. On average, 80% L1BG students accept the ungrammatical form. This is expected due to influence from L1. In addition to mapping their L1 pattern, they have not collected evidence that English does not use definite plural in generic context.

Evidence from Bulgarian sources illustrate that the generic use in Bulgarian requires the definite article – either singular or plural. An article in Wikipedia titled *Luv* (2021b), writes:

- (56) ‘Luvut [...] e edur hishtnik [...]’  
LionDEF.SG. [...] is large predator [...]  
‘The lion is a large predator’

Further down, we read:

- (57) ‘luvovete zhiveyat 10-14 godini, [...]’  
lionDEF.PL. live 10-14 years  
the lions live 10-14 years  
‘lions live 10-14 years’

Another article, titled *Luv* (2021b), in the Bulgarian *Encyclopedia about big cats* gives the following information:

- (58) ‘Luvut e mnogo muskulest [...]’  
LionDEF.SG. is very muscular [...]  
‘The lion is very muscular’
- (59) ‘Luvovete piyat redovno voda, [...]’  
LionDEF.PL. drink regularly water [...]  
The lions drink regularly water  
‘Lions drink water regularly’

An article written by Kays, R. (2020) for *Encyclopedia Britannica* gives the following information about lions, in which we see an alternation between the definite singular and bare plural (my bold):

‘**Lion**, (*Panthera leo*), large, powerfully built cat [...]. The proverbial “king of beasts”, **the lion** has been one of the best-known wild animals [...]. **Lions** are most active at night [...]. **The lion** is a well-muscled cat [...]. **Lions** are unique among cats in that they live in a group, or pride [...].’

Recall also the discussion on genericity in the theoretical background (section 2.3.4.) and Table 1 which illustrates the generic use of the definite bare noun in English when it refers to a prototype of a species, and the speaker is expecting something to be true for each and any representative of the species. The definite singular in Bulgarian refers also to a class of objects. If the definite singular is an allowed form in both Bulgarian and English, L1BG students might interpret this as a prompt that definite plural is also allowed in English. This might add to their confidence in transferring the L1 structure.

On average, 20% of the L1BG students rejected the presence of the definite article, and my assumption is that they have understood that English does not work like Bulgarian.

83% of the L1NOR students have accepted the grammatical sentence but almost as many (80%) have accepted the ungrammatical.

In an article written by Rueness (2020) for the Great Norwegian Encyclopedia *Store norske leksikon* we read:

- (60) Løven er nattaktiv.  
LionDEF.SG. is active at night.  
'The lion is active at night.'
- (61) Løver lever i flokker.  
LionINDEF.PL. live in herds  
'Lions live in herds.'
- (62) Løver er mer sosiale enn noen andre kattedyr.  
LionINDEF.PL are more social than any other cats  
'Lions are more social than any other cats.'

Another article, written by Brandslet (2020) for the online paper forskning.no, is titled:

- (63) Løvene risikerer å forsvinne fra jorda  
LionDEF.PL. risk to disappear from the Earth  
The lions are at risk of disappearing from the Earth  
'Lions are at risk of disappearing from the Earth'

Sources suggest that although the most frequent occurrence (if we read the articles to the end) is the bare plural, Norwegian can employ the definite singular and the definite plural as well. If L1NOR students have never been explicitly told that the definite plural does not have generic meaning in English, they might assume that it is a correct form anyway, just like it is in Norwegian.

#### Pair 34

- a) Penguins are birds that can't fly.  
b) \*The penguins are birds that can't fly.

ENG: Ø Penguins are birds that can't fly.

NORW: Ø Pingviner er fugler som ikke kan fly.

BG: Pingvinite sa ptitsi, koito ne mogat da letyat.  
PenguinDEF.PL. are birds that can't fly.

The penguins are birds that can't fly.

'Penguins are birds that can't fly.'

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Penguins are birds that can't fly.	OK	44 (75%)	53 (75%)	27 (79%)	26 (84%)
	NO	15 (25%)	18 (25%)	7 (21%)	5 (16%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*The penguins are birds that can't fly.	OK	39 (74%)	39 (76%)	24 (71%)	27 (77%)
	NO	14 (26%)	12 (24%)	10 (29%)	8 (23%)

Percentagewise, the overall picture is the same as the previous three sentences – on average, 75% of L1BG accept the grammatical sentence, and exactly as many (75%) accept the ungrammatical. On average, 82% of L1NOR judge the grammatical sentence as correct, and 74% accept the ungrammatical one as well.

The discussion for the previous three sentences can apply to this one as well, considering the same pattern of grammaticality judgement.

In an article about the *Types of penguins near the Bulgarian Arctic base (2021)*, The Bulgarian Antarctic Institute has published the following information about penguins:

- (64) Pingvinite obichat da sedyat i se mestyat v golemi grupi.  
PinguinDEF.PL. like to stay and move in big groups.  
The penguins like to stay and move in big groups.  
'Penguins like to stay and move in big groups.'
- (65) Pingvinite se razmnozhavat chrez yaitsa.  
PinguinDEF.PL. reproduce through eggs.  
The penguins reproduce through eggs.  
'Penguins reproduce through eggs.'
- (66) Pingvinut [...] v prodalzhenie na osem sedmitsi chaka izlyupvaneto.  
PinguinDEF.SG. [...] for eight weeks wait to hatch  
'The penguin is waiting for the eggs to hatch for eight weeks.'

In comparison, here are a few sentences from English sources. In an article titled *Penguin* (2021) in Encyclopedia Britannica Kids, we read 'Penguins are the only birds that can swim [...].



Penguins also live along the cool coasts of Africa [...] A penguin typically has a black back and a white belly [...] Penguins are excellent swimmers [...]

Based on such input from their L1 and lack of negative evidence that *the penguins* is not correct in English, L1BG logically assume that if the definite plural is correct in Bulgarian, it might be correct in English too.

In an article about penguins, written by Eckbo (2021) for the Great Norwegian Encyclopedia *Store Norske Leksikon*, we read:

- (67) Pingviner er en særpreget gruppe av fugler [...] PinguinINDEF.PL. are a distinctive group of birds  
'Penguins are a distinctive group of birds'
- (68) Pingvinene kan oppnå en undervannshastighet på 30-40 kilometer i timen  
PinguinDEF.PL. can reach an underwater speed of 30-40 kilometers per hour  
The penguins can reach an underwater speed of 30-40 kilometers per hour  
'Penguins can reach an underwater speed of 30-40 kilometers per hour'
- (69) Pingviner er den eneste fugleorden som har [...] PinguinINDEF.PL. is the only bird species that has [...]  
'Penguins are the only bird species that has [...]

There are many occurrences like that, and most of them appear in the bare plural. However, Norwegian students have an example of the definite plural in generic use as well. If intuition guides them, they should opt for the bare plural as the more appropriate choice when the sentence is not put in in a bigger (con)text. Nevertheless, just like L1BG students, L1NOR might assume that if the definite plural is correct in Norwegian, it should be acceptable in English too. This explains the high rate of acceptance for both grammatical and ungrammatical sentences.

In sum, on the sub-condition 2 (generic use of nouns):

- a) On average, 69% of L1BG accepted the grammatical sentences. This is a new structure for them and they have to acquire it. Before that, they need to reset their pattern by unselecting the definite article from their L1. The result cannot be an effect of L1 transfer because students have nothing to transfer from. A yes-biased choice or lack of negative evidence is a plausible assumption for L1BG behaviour. Proficiency level does not prove to be an important factor.

- b) On average, 71% of L1BG accepted the ungrammatical structure. They over accept the definite plural, facilitated by L1. In addition, BG speakers have not collected enough evidence that English does not use definite plural in generic context. Moreover, evidence that the definite singular is allowed in English, just like in Bulgarian, supports the assumption that the same might hold for the definite plural. On average, 29% of L1BG students rejected the ungrammatical sentences, and these are probably the ones who have understood that L2 English works differently than their L1.
- c) On average, 76% of L1NOR accepted the grammatical sentences. This is facilitated to a great extent by their L1 which also uses bare plural for generic contexts.
- d) On average, 74% of L1NOR accepted the ungrammatical sentences. Norwegian students have not been told that the definite plural is a wrong structure for generic contexts in English. Furthermore, Norwegian can use the definite plural for such contexts. That said, L1NOR can transfer this, assuming that it is a correct structure in L2 English as well.

The results from the statistical analysis (Figure 3) show that the difference between the two language groups is biggest in Condition 1. The post-hoc pairwise comparison (Figure 4) shows that there is no difference between the two language groups for the second sub-condition – generic use of nouns, but only for the first sub-condition which targets the obligatory use of the indefinite article. One of the most interesting result is that the two language groups seem to accept both the grammatical and the ungrammatical sentence almost to the same degree. Both L1NOR and L1BG seem to be equally facilitative when it comes to genericity.

The analysis of the whole dataset, not matched for proficiency level, gave me a more fine-grained picture of specific learners' behaviour. The raw data shows a minimal difference of 2% in the number of correct answers between Norwegian and Bulgarian speakers (Table 10) but overall, it confirms the statistical models and gives enough evidence that L1BG and L1NOR behave almost the same.

The prediction for this sub-condition that L1NOR will either outperform, or behave similarly to L1BG, holds true.

#### **4.2.2 Condition 2**

The first sub-condition under Condition 2 reflects the difference between Norwegian and English, more particularly that Norwegian allows omission of the indefinite article in contexts where it is obligatory in English. Bulgarian behaves like Norwegian. My prediction for this sub-condition was that both language groups, L1BG and L1NOR, will perform almost the same.

The second sub-condition is focused on the use of definite articles in fixed expressions, as in *She plays the violin*. Norwegian and Bulgarian do not use definite articles in such expressions. Consequently, I predicted almost similar performance for L1BG and L1NOR groups.

The results from the statistical analysis show that L1NOR outperform L1BG in the first sub-condition of Condition 2 which targets obligatory use of the indefinite article in English as opposed to its omission in Norwegian. This does not correspond to my expectations. The results for the second sub-condition show equal performance of both L1BG and L1NOR. This matches my expectations.

The raw scores of the whole dataset, not matched for proficiency level, give a more fine-grained picture of the results in terms of percentage values. Table 33 shows the average percentage values of correct answers from all participants L1BG N=234 and L1NOR N=134 distributed across the four groups.

Table 33. Average percentage values of correct answers for Condition 2 for L1BG and L1NOR across the two grades

	L1BG6	L1BG7	L1NOR6	L1NOR7	% increase from L1BG to L1NOR
Omission of the indefinite article in Norwegian	53.8%	55.7%	67.6%	71.5%	
Average for the group	55%		70%		27% increase
Definite article in fixed expressions in English	52.8%	55%	57.5%	54.3%	
Average for the group	54%		56%		3.7% increase

The table shows an increase by 27% in favour of L1NOR in the accuracy of the sub-condition which targets the omission of the indefinite article, and a minimal difference between L1BG and L1NOR for the use of the definite article in fixed expressions. I calculated the percentage increase by using the same formula I used for Table 10 earlier: % increase = Increase ÷ Original Number × 100.

#### 4.2.2.1 Sub-condition 1 – Omission of the indefinite article in Norwegian

There are six pairs of sentences in this sub-condition. I have already discussed how English and Norwegian differ in terms of obligatory use of the indefinite article (section 2.3.2). This sub-condition is focused on situations when Norwegian can drop the indefinite article but it will

still be obligatory in English. I will next set the frames which will govern the predictions I make, and within which the discussion will take place. I will use two pairs of sentences in order to compare and contrast the behaviour of L1 Norwegian speakers.

The first pair has already been analyzed. I will repeat it here for the sake of easier reference.

#### Pair 5

- a) \*We have dog that barks a lot.
- b) We have a dog that barks a lot.

Based on the discussion of this pair, I predicted that Norwegian students would accept the grammatical sentence *We have a dog that barks a lot* because they have a corresponding structure in their native language – *Vi har en hund som bjeffer mye*. An important detail to be noticed here was the special behaviour of a group of *possession* verbs, such as *ha* (have), *treng* (need), *bestille* (to book, as in book an appointment). These verbs behave normally, and the countable noun after them takes an indefinite article when the main clause is followed by a relative clause, as in the example above. Therefore, the expectation was that L1NOR would accept a) *We have a dog that barks a lot*, but reject b) *We have dog that barks a lot*.

The next pair of sentences applies to the same group of verbs, only that this time they will be used in main clauses which are not followed by a subordinate one.

- (70)      a) We have a dog.  
            b) \*We have dog.

In the theoretical background I discussed in detail the difference resulting from the presence or the absence of the indefinite article in Norwegian. It was concluded that Norwegian does not accept *We have a dog* (\**Vi har en hund*) when it stands alone in a main clause because the presence of the indefinite articles changes the focus of the sentence (section 2.3.3). The acceptable structure for native Norwegians will thus be the one with a bare noun – *\*We have dog* (*Vi har hund*), which, when used on its own, implies the connotation of *one*, and native speakers do not expect the indefinite article *en* in such case. The same will be true for all main clauses, even if they are extended with another main clause, as in *We have a dog because we like dogs*. What comes after *because* is not a relative clause but another main clause. The equivalent in Norwegian will be a bare noun structure, as in *Vi har hund fordi vi liker hunder*.

The six pairs of sentences are subject to this pattern and the expected behaviour from L1NOR will be rejection of sentences like *We have a dog*, and acceptance of sentences like *\*We have dog*.

For L1BG students I will make the same predictions as in the first sub-condition of Condition 1 because they are in the same linguistic situation here as well. On the one hand, Bulgarian does not have an overt indefinite article and the ‘first signal’ hypothesis for L1BG students will be to follow their L1 pattern and accept the ungrammatical structure in English. On the other hand, there is no guarantee that they will reject the structure with the over indefinite article because their L1 grammar has not collected enough evidence that the overt indefinite article is wrong. Therefore, it is not entirely clear how L1BG will judge the grammatical sentence. Based on this, I make the following predictions for this sub-condition.

Sentence	grammaticality	L1BG	L1NOR
We have a dog.	OK	? (not clear what learners will hypothesize)	reject
*We have dog.	NO	accept	accept

### Pair 3

a) \*I walk to work because I don’t have car.

b) I walk to work because I don’t have a car.

ENG: I walk to work because I don’t have a car.

NOR: Jeg går til jobb fordi jeg ikke har Ø bil.

BG: Hodya peshna na rabota, zashtoto nyamam Ø kola.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I walk to work because I don’t have a car.	OK	38 (72%)	36 (71%)	29 (85%)	31 (89%)
	NO	15 (28%)	15 (29%)	5 (15%)	4 (11%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*I walk to work because I don’t have car.	OK	34 (58%)	50 (70%)	23 (68%)	12 (39%)
	NO	25 (42%)	21 (30%)	11 (32%)	19 (61%)

The first thing I notice is that L1BG students on average have almost the same acceptance rate for the grammatical (71%) and the ungrammatical sentence (64%). The latter is rejected by an average of 36% of L1BG, and this can be taken as an evidence that these students have realized

that they need the indefinite article in English. A good number of L1BG, however, still rely on their L1.

L1BG7 have a higher acceptance rate for the absence of the indefinite article than L1BG6 (70% as opposed to 58%). The distribution of the answers across proficiency levels (Table 34) shows that the grammaticality judgement is not dependent on it. A lot of students have transferred from their L1 (highlighted in orange) regardless of their language level.

Table 34. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I walk to work because I don’t have car’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	10 (50%)	13 (62%)	4 (80%)	2 (33%)	3 (75%)	1 (33%)
NO	10 (50%)	8 (38%)	1 (20%)	4 (67%)	1 (25%)	2 (67%)
L1BG7						
OK	5 (42%)	15 (83%)	8 (73%)	8 (73%)	10 (83%)	3 (43%)
NO	7 (58%)	3 (17%)	3 (27%)	3 (27%)	2 (17%)	4 (57%)

L1NOR confirm my expectations – 68% of L1NOR6 and 39% of L1NOR7 accepted the bare noun, influenced by their L1. More than half L1NOR7 (61%) rejected the article-less structure, understanding that English works differently than Norwegian in this case. Proficiency level cannot be held responsible because, as Table 35 shows, students from all levels transfer from L1 Norwegian – L1NOR6 to a greater degree than L1NOR7.

Table 35. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘I walk to work because I don’t have car’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	4 (80%)	3 (50%)	1 (50%)	4 (50%)	11 (92%)	0 (0%)
NO	1 (20%)	3 (50%)	1 (50%)	4 (50%)	1 (8%)	1 (100%)
L1NOR7						
OK	0 (0%)	1 (33%)	2 (67%)	2 (29%)	3 (33%)	4 (67%)
NO	3 (100%)	2 (67%)	1 (33%)	5 (71%)	6 (67%)	2 (33%)

It is interesting for me to compare how L1NOR reacted to obligatory indefinite article (discussed in Condition 1) as opposed to obligatory bare noun. The sentence *\*I walk to work because I don’t have car (Jeg går til job fordi jeg ikke har bil)* requires an obligatory bare noun in Norwegian. 54% of the students on average accepted it. The remaining 46% do not follow their L1 pattern and expect to see the indefinite article (as should be in English). The sentence *\*I saw car that was driving fast (Jeg så en bil som kjørte fort)* requires an obligatory indefinite article in Norwegian and I predicted ‘reject’ for it. On average, 81% of the L1NOR students

rejected it, meaning that they expected the indefinite article. Now, take a look at the highlighted sentences in Norwegian in the table below and imagine that a native Norwegian speaker judged those sentences, but not the English ones.

Sentences in English (Norwegian equivalent for comparison)	Answers	L1NOR6 N=34	L1NOR7 N=31	Expectation
*I walk to work because I don't have car.	OK	23 (68%)	12 (39%)	accept
Jeg går til jobb fordi jeg ikke har bil.	NO	11 (32%)	19 (61%)	
*I saw car that was driving fast.	OK	8 (24%)	5 (14%)	
*Jeg så bil som kjørte fort.	NO	26 (76%)	30 (86%)	reject

Most L1NOR6 accept the sentence that would be correct in their L1 (*Jeg går til jobb fordi jeg ikke har bil*) and most Norwegians reject a sentence that would be wrong in their L1 (*\*Jeg så bil som kjørte fort*). From this I conclude that Norwegians have developed a strong intuition as to when they need the indefinite article, and they are more categorical in noticing when it is absent. The bare noun, on the other hand, is a marked category in Norwegian. Although native speakers have intuition for it as well, it seems to be more challenging when they have to 'delete' the default grammatical structure (the indefinite article) even in their own language, because they are used to adding it, not to removing it. However, these are speculations based on just one example and I need more evidence to verify this.

#### Pair 17

- a) \*I don't have dog because I am allergic.  
 b) I don't have a dog because I am allergic.

ENG: I don't have **a** dog because I am allergic.

NOR: Jeg har ikke **Ø** hund fordi jeg er allergisk.

BG: Nyamam **Ø** kuche, zashtoto sum alergichen.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I don't have a dog because I am allergic.	OK	34 (64%)	39 (76%)	34 (100%)	34 (97%)
	NO	19 (36%)	12 (24%)	0 (0%)	1 (3%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*I don't have dog because I am allergic.	OK	36 (61%)	51 (72%)	12 (35%)	15 (48%)
	NO	23 (39%)	20 (28%)	22 (65%)	16 (52%)

The results do not match the predictions. All L1NOR students, except just one, accepted the indefinite article, although they were expected to reject this sentence. On the other hand, an average of 42% of L1NOR speakers approved the ungrammatical sentence which corresponds to a correct structure in Norwegian, and these are the ones that rely on their L1. The remaining almost 60% expect the indefinite article.

L1BG students equally accept both the grammatical (70%) and ungrammatical (67%) structure. This pattern was already established in Condition 1 and I interpret it mostly as a yes-bias behaviour but not so much as a result of acquisition. The students that reject the ungrammatical structure (34%) are those who have probably understood the necessity of the overt indefinite article, and the remaining 66% still transfer from the Bulgarian article-less structure.

I will compare again how L1NOR reacted to obligatory indefinite as opposed to obligatory bare noun. The sentence *\*I don't have dog because I am allergic (Jeg har ikke hund fordi jeg er allergisk)* requires an obligatory bare noun in Norwegian and I predicted that L1NOR will accept it. On average, 42% of all L1NOR students accepted it. The remaining 58% do not follow their L1 model and expect to see the indefinite article (as should be in English). The sentence *\*We have dog that barks a lot (Vi har en hund som bjeffer mye)* requires an obligatory indefinite article in Norwegian and I predicted 'reject' for it. On average, 73% of the L1NOR students rejected it. Now, take a look at the highlighted sentences in Norwegian in the table below and imagine that a native Norwegian speaker judged those, but not the English ones.

Sentences in English (Norwegian equivalent for comparison)	Answers	L1NOR6 N=34	L1NOR7 N=31	Expectation
*I don't have dog because I am allergic. Jeg har ikke hund fordi jeg er allergisk.	OK	12 (35%)	15 (48%)	accept
	NO	22 (65%)	16 (52%)	
*We have dog that barks a lot. *Vi har hund som bjeffer mye.	OK	10 (29%)	8 (26%)	
	NO	24 (71%)	23 (74%)	reject

The pattern from the previous analogical comparison replicates. Norwegian seems to be very facilitative for the presence of the indefinite article and L1NOR students have a very strong intuition for it, to the extent that they expect it even when Norwegian does not require it due to the marked presence of the bare noun.



### Pair 9

a) John has a fever today.

b) \*John has fever today.

ENG: John has a fever today.

NOR: John har Ø feber i dag.

BG: John ima Ø temperatura dnes.

'*Ha feber*' (have a fever) is an example of a phrase in Norwegian where the noun is closely linked to the verb, and they naturally belong together. In such case, the verb is followed by a bare noun. This was discussed in section 2.3.3.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
John has a fever today.	OK	43 (73%)	52 (73%)	28 (82%)	25 (81%)
	NO	16 (27%)	19 (27%)	6 (18%)	6 (19%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*John has fever today.	OK	29 (55%)	31 (61%)	24 (71%)	21 (60%)
	NO	24 (45%)	20 (39%)	10 (29%)	14 (40%)

On average, 60% of all L1BG students accepted the bare noun, facilitated by Bulgarian. 27% rejected the grammatical sentence influenced by L1. 73% accepted the indefinite article but it is not clear whether this is as a result of understanding that English has articles, or they simply map two structures onto this one, due to lack of negative evidence. L1NOR did not respond according to the predictions – 82% accepted the indefinite article. On average, 66% of L1NOR students accepted the bare noun, as expected if they transferred from Norwegian. In fact, this sentence is the one in which L1NOR transferred their L1 most, compared to the other five pairs in this sub-condition. This might be due to the fixed collocation *ha feber* which is acquired as a chunk. At the same time, the high acceptance rate for the presence of the article, prompts to how well established the indefinite article is in L1 Norwegian. These results are interesting in that L1NOR accept both the grammatical and the ungrammatical sentence almost to the same degree – a pattern that has not appeared typical for them so far.

### Pair 6

a) My husband is a doctor.

b) \*My husband is doctor.

ENG: My husband is a doctor.

NOR: Mannen min er Ø lege.

BG: Suprugut mi e Ø lekar.

This is an example of another typical use of bare nouns in Norwegian, namely with nouns denoting professions or roles that are subject predicative. Examples can be *Jeg er lege* (*I am a doctor*), *Hun er president* (*She is a president*), *Han spiller klovner* (*He plays the clown*). However, I have heard native Norwegians using indefinite articles with such nouns and decided to investigate this. I sent a short inquiry to Språkrådet (the Language Council of Norway) asking about exceptions to the rule. They replied (personal communication, 31<sup>st</sup> Aug 2020) that due to influence from English, the use of the indefinite article spreads into some of the above contexts, although it is strictly not grammatical in Norwegian. This is true especially for younger speakers of Norwegian among who sentences like *Han er en lege* are quite common. My target group is exactly youths. Below are their answers:

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
My husband is a doctor.	OK	41 (69%)	53 (75%)	34 (100%)	30 (97%)
	NO	18 (31%)	18 (25%)	0 (0%)	1 (3%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*My husband is doctor.	OK	28 (53%)	23 (45%)	11 (32%)	9 (26%)
	NO	25 (47%)	28 (55%)	23 (68%)	26 (74%)

All L1NOR students except one accepted *Han er en lege*, as Språkrådet suggested. Only 29% of all L1NOR students accepted the bare noun, although their native grammar strictly requires it in this sentence. The remaining 71% of L1NOR students do not approve the ungrammatical sentence, although they have the same structure in Norwegian. This is another piece of evidence for the dominant presence of the indefinite article in their native grammar, and the perception of bare nouns as a marked category.

Almost half (49%) of all L1BG speakers transferred from L1 and accepted the bare noun. The other half have understood that L2 works differently.

A note to make here is that in English language ‘the indefinite article is strongly associated with [...] noun phrases in a copular relationship [...] it has a descriptive role (similar to that of predicative adjectives), rather than a referring role.’ (Quirk, Greenbaum, Leech & Svartvik,

1985, p. 272). The authors further back up this with some examples, such as ‘*Paganini was a great violinist*’, ‘*My daughter is training as a radiologist*’ (p. 272). However, there is a situation in which the indefinite article is omitted, and this is when the noun names a unique role, as in the following examples taken from Quirk et.al. (1985, p. 276):

(71) Maureen is *(the) captain of the team*.

(72) John. F. Kennedy was *(the) President of the United States* in 1961.

That said, English provides such input but it is rare and marked, rather a very specific exception, which highly likely remains unnoticed by second language learners, especially in the initial stages of acquisition. This exception in English has become a grammatical rule in Norwegian, but still within the frames of markedness.

In sum, the ungrammatical sentence puts both language groups in the same linguistic situation because this structure is available and in active use in Norwegian as well as in Bulgarian. For Bulgarian speakers, this is the default situation – the indefinite article is always absent. For Norwegian speakers, this is a marked structure – the indefinite article is sometimes absent. Hence, the difference in the acceptance rate for the ungrammatical sentence – it seems easier for L1BG to accept it than for L1NOR.

#### Pair 20

a) I am ill and I need a doctor.

b) \*I am ill and I need doctor.

ENG: I am ill and I need **a** doctor.

NOR: Jeg er syk, og jeg trenger **Ø** lege.

BG: Bolen sum i mi tyabva **Ø** lekar.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
I am ill and I need a doctor.	OK	32 (54%)	52 (73%)	24 (71%)	23 (74%)
	NO	27 (46%)	19 (27%)	10 (29%)	8 (26%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*I am ill and I need doctor.	OK	29 (55%)	21 (41%)	10 (29%)	12 (34%)
	NO	24 (45%)	30 (59%)	24 (71%)	23 (66%)

The verb *treng* in Norwegian requires a bare noun. However, only 32% of L1NOR on average accepted the ungrammatical sentence, and around 28% rejected the presence of the article, as it

should be if they transferred from Norwegian. This prompts that 69% on average have understood that English is different from Norwegian in this case. Bare nouns are not in such an active and wide use in English as they are in Norwegian, and the preference for the article in the grammatical sentence as well as the rejection of the ungrammatical one, can be considered as the degree of L2 article acquisition they have achieved, which is 70% on average. Based on this, I conclude that L1NOR are not so dependent on transfer from their L1.

I will take a comparative approach for this sentence as well, and check whether the response to the paradigm *obligatory indefinite* versus *obligatory bare noun* replicates the model from the previous two pairs.

Sentences in English (Norwegian equivalent for comparison)	Answers	L1NOR6 N=34	L1NOR7 N=31	Expectation
*I am ill and I need doctor. Jeg er syk, og jeg trenger lege.	OK	10 (29%)	12 (34%)	accept
	NO	24 (71%)	23 (66%)	
*I need doctor who can help me. *Jeg trenger lege som kan hjelpe meg.	OK	11 (32%)	8 (23%)	
	NO	23 (68%)	27 (77%)	reject

The sentence *\*I am ill and I need doctor* (*Jeg er syk, og jeg trenger lege*) requires an obligatory bare noun in Norwegian because the verb *trengje* is used in a main clause. On average, 32% of the Norwegian students accepted it. The remaining 68% do not transfer the L1 structure. They show a good degree of article acquisition in a structure where their L1 does not allow articles. The sentence *\*I need doctor who can help me* (*Jeg trenger en lege som kan hjelpe meg*) requires an obligatory indefinite article in Norwegian because of the relative clause that follows. On average, 73% of the L1NOR students rejected it, as predicted. If we take a look at the highlighted sentences in Norwegian in the table above, and imagine that the grammatical judgement for them was given by L1NOR, we notice a replicated pattern from the previous analogical comparisons. Norwegian proves to be very facilitative for the presence of the indefinite article and native speakers have a very strong intuition for it – to the extent that they expect it even when Norwegian does not require it because of the markedness of the bare noun. These three replicated comparisons tell us that L1NOR students have acquired the use of the indefinite article even for L2 structures that do not correspond to their L1 pattern. In other words, the L1 transfer is there but most learners have already acquired the target structure.

L1BG students seem to establish an interesting pattern. When the indefinite article is present and they see it, they tend to have a higher acceptance rate – 50% or more. In this particular example, there is a big difference in the acceptance rate of the grammatical sentence between

L1BG6 and L1BG7. As seen from Table 36 below, a great number of the correct answers are given by more advanced students (highlighted in orange) – 35 L1BG7 out of 71 in total, which accounts for 50% of the grade 7 group, as opposed to 13 L1BG6 out of 59, which accounts for 22% of the grade 6 group.

Table 36. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I am ill and I need a doctor’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	8 (40%)	11 (52%)	4 (80%)	4 (67%)	2 (50%)	3 (100%)
NO	12 (60%)	10 (48%)	1 (20%)	2 (33%)	2 (50%)	0 (0%)
L1BG7						
OK	7 (58%)	10 (56%)	8 (73%)	8 (73%)	12 (100%)	7 (100%)
NO	5 (42%)	8 (44%)	3 (27%)	3 (27%)	0 (0%)	0 (0%)

When the article is absent, the results are almost the same – around half of the students accept the ungrammatical sentence because they relate it to their L1 structure. Those who reject the ungrammatical sentence, however, can be considered the ones who do not transfer from their L1 – on average 52% of L1BG students for this particular sentence.

### Pair 13

- a) You can book an appointment with your doctor online.
- b) \*You can book appointment with your doctor online.

ENG: You can book **an** appointment with your doctor online.

NOR: Du kan bestille **Ø** time hos legen din på nett.

BG: Mozhesh da si zapazish **Ø** chas pri lekarya po internet.

*Bestille* is a verb that requires a bare noun in Norwegian. A quick google search gives occurrences like ‘*bestille time, bestille kake, bestille blomster, bestille pass, bestille teoriprøve, bestille mat, bestille koronatest*’ and so on. In English, the most frequent occurrences that appear are ‘*book an appointment, book a flight, book a room, book an uber, book a table, book a covid test*’. Both L1NOR and L1BG students need to specifically learn the presence of the indefinite article in such context. Here are the results:

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
You can book an appointment with your doctor online.	OK	26 (44%)	42 (59%)	22 (65%)	27 (87%)
	NO	33 (56%)	29 (41%)	12 (35%)	4 (13%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*You can book appointment with your doctor online.	OK	26 (49%)	36 (71%)	19 (56%)	21 (58%)
	NO	27 (51%)	15 (29%)	15 (44%)	15 (42%)

L1NOR did not transfer their L1 structure – 76% on average approved the grammatical sentence. 13% of L1NOR7 and 35% of L1NOR6 rely on their L1 and rejected the grammatical structure. These students are distributed across almost all proficiency levels, as illustrated in Table 37. Therefore, I can attribute this result mostly to L1 influence.

Table 37. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘You can book an appointment with your doctor online’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	2 (40%)	3 (50%)	1 (50%)	5 (63%)	10 (83%)	1 (100%)
NO	3 (60%)	3 (50%)	1 (50%)	3 (37%)	2 (17%)	0 (0%)
L1NOR7						
OK	3 (100%)	3 (100%)	2 (67%)	5 (71%)	9 (100%)	5 (83%)
NO	0 (0%)	0 (0%)	1 (33%)	2 (29%)	0 (0%)	1 (17%)

When the bare noun is present, it is easier accepted by Norwegian students – it clicks easily into their system because it has a reserved place there anyway. It seems more challenging to ‘delete’ the article from the grammatical sentence in English in order for the structure to fit into the L1 pattern, and this is why the grammatical sentence may have such a high acceptance rate.

Around half of the L1BG students accept the presence of the article but this is already an established behaviour – the preference is higher if they physically see it. However, the other half (49% on average) transfer from Bulgarian and consider the article redundant. The acceptance rate for the ungrammatical sentence is quite good, as expected if students transfer from L1. There is a big difference between L1BG6 and L1BG7 (49% vs. 71%). My interpretation is that L1BG7 are more influenced by L1. As the results in Table 38 show, the proficiency level does not have such a big say.

Table 38. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘You can book appointment with your doctor online’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	7 (41%)	10 (53%)	3 (75%)	2 (67%)	3 (43%)	1 (33%)
NO	10 (59%)	9 (47%)	1 (25%)	1 (33%)	4 (57%)	2 (67%)
L1BG7						
OK	7 (70%)	16 (84%)	2 (100%)	3 (50%)	5 (83%)	3 (37%)
NO	3 (30%)	3 (16%)	0 (0%)	3 (50%)	1 (17%)	5 (63%)

In sum, on the sub-condition 1 (omission of the indefinite article in Norwegian):

- a) On average, 67% of L1BG accepted the grammatical sentences. In my view, this is mostly due to a reflex of a yes-bias, or lack of negative evidence, not so much to learning. The remaining 33% of responses, when the learners did not accept the indefinite article, can be attributed to L1 transfer. The presence of the indefinite article is novel for Bulgarians and they need time in order to position it correctly in their interlanguage.
- b) On average, 58% of L1BG accepted the bare noun, as predicted if they transfer from L1. The bare noun is not a marked category for L1BG because it corresponds to the native structure. It seems easier to accept it when it is there. Therefore, the rate of acceptance is higher than the rate of rejection of the grammatical sentence.
- c) On average, 86% of L1NOR accepted the grammatical sentences when the article is present, although I expected them to reject it, if they transfer from L1. The remaining 14% do not agree with the presence of the indefinite article. Structures with indefinite articles are frequent and can be considered the default category in Norwegian, and this may explain the high acceptance rate. The category exists in the language and it makes it easier for learners to acquire it in their L2.
- d) On average, 54% of L1NOR did not accept the bare noun, although they have an equivalent structure in their L1. The remaining 46% follow their L1 pattern. The bare noun is a marked category in Norwegian, and although in active use in the language, the choice goes for the default presence of the indefinite article, which corresponds to a correct structure in English. Fixed collocations like *ha feber* seem more prone to L1 transfer.

The results from the statistical analysis (Figure 3) show that the difference between the two language groups is largest in Condition 1. Condition 2 shows a substantial difference between L1BG and L1NOR speakers as well, although not as large as in Condition 1. The post-hoc pairwise comparison (Figure 4) shows that the difference is larger only for this sub-condition, but not for the other one, which targets the use of the definite article in fixed expressions. I went in detail through each pair in this sub-condition which targets the obligatory use of the indefinite article in English as opposed to its omission in Norwegian. The analysis of the whole dataset, not matched for proficiency level, gave me a more fine-grained picture of specific learners' behaviour and patterns. The raw data confirms the statistical models and shows an increase by 27% in the number of correct answers between Bulgarian and Norwegian native speakers. In addition, it gives evidence that Norwegian language is very facilitative when it comes to correct use of the indefinite article in English.

The prediction that L1 Norwegian learners and L1 Bulgarian learners will perform approximately the same does not hold true. However, Norwegian students show a higher acceptance rate for the bare noun in this sub-condition (46%) if compared to how they responded to the obligatory use of the indefinite article in Condition 1 where 32% accepted the ungrammatical sentence without an indefinite article. The higher acceptance rate for the bare noun in Condition 2 is by no means influenced by L1 and this brings the results of L1NOR and L1BG closer together but still far enough because Norwegian is more facilitative for the indefinite article. The language has it by default, and it seems easier for L1NOR students to position it in the L2 structure. This reduces the need for L1 transfer. Bulgarian speakers have to first create it, then place it correctly. Naturally, they will go a step behind.

#### 4.2.2.2 Sub-condition 2 – Definite article in fixed expressions

There are six pairs of sentences in this sub-condition. They target fixed expressions which require the definite article in English but not in Bulgarian and Norwegian.

Some examples were presented in the theoretical background where I referred to Alkema (1993) and his discussion on bare nouns in Norwegian (section 2.3.3). One of the typical uses of Norwegian bare nouns is related to leisure activities, as in *gå på kino* (*go to the cinema*), musical instruments, as in *spille gitar* (*play the guitar*), and unique roles that appear as subject predicative, as in *spiller klovn* (*play the clown*). Bulgarian behaves like Norwegian in such situations and appears with a bare noun by default. English requires a definite article and this imposes a challenge on L1BG and L1NOR learners because they have to learn the explicit presence of the definite article in these expressions. In other words, they have to add an overt category. As seen earlier, adding something novel seems easier than removing a category, but, on the other hand, we cannot be sure that adding is necessarily a result of acquisition. It can also be a reflex of a yes-bias, or due to lack of negative evidence. I expect approximately equal performance from both language groups. The table below summarizes my expectations with an example.

Sentence	grammaticality	Bulgarian	Norwegian
She plays the piano in her free time.	OK	? (not clear how learners will judge it)	? (not clear how learners will judge it)
*She plays piano in her free time.	NO	accept	accept



Pair 11

- a) \*I feel like going to theater today.  
 b) I feel like going to the theater today.

ENG: I feel like going to **the** theater.

NOR: Jeg har lyst til å gå på **Ø** teater i dag.

BG: Hodi mi se na **Ø** teatur dnes.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I feel like going to the theater today.	OK	33 (62%)	34 (67%)	21 (62%)	26 (74%)
	NO	20 (38%)	17 (33%)	13 (38%)	9 (26%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*I feel like going to theater today.	OK	31 (53%)	26 (37%)	10 (29%)	13 (42%)
	NO	28 (47%)	45 (63%)	24 (71%)	18 (58%)

Both language groups accept the grammatical sentence almost to the same degree – L1BG (65%) and L1NOR (68%). L1NOR stands out with a bit higher acceptance rate for the correct sentence. Table 39 shows that the proficiency level is not such an important factor. Most 7 graders who accepted the definite article are at more advanced levels (highlighted in orange) but there are 6 graders at lower levels who also show a good acceptance rate for this sentence (highlighted in blue).

Table 39. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘I feel like going to the theater today’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	3 (100%)	3 (43%)	2 (25%)	7 (78%)	3 (75%)	3 (100%)
NO	0 (0%)	4 (57%)	6 (75%)	2 (22%)	1 (25%)	0 (0%)
L1NOR7						
OK	No Beginner level	0 (0%)	2 (40%)	9 (82%)	9 (82%)	6 (100%)
NO		2 (100%)	3 (60%)	2 (18%)	2 (18%)	0 (0%)

On average, 45% of L1BG transfer their L1 pattern and accept the ungrammatical sentence with a bare noun. L1BG7 show a lot lower degree of transfer, because only 37% of them accept it, as compared to 53% for L1BG6. One explanation for this can be that 7 graders have understood that English requires a novel category. Table 40 below shows how Bulgarian students at different proficiency levels answered – most 7 graders who accept the bare noun, which is similar to the L1 structure, are at lower levels (highlighted in orange), and most of the students

who reject it, are at Pre-Intermediate level and above (highlighted in blue). The lower levels are, therefore, more prone to transferring from their L1.

Table 40. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘I feel like going to theater’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	9 (45%)	13 (62%)	2 (40%)	3 (50%)	3 (75%)	1 (33%)
NO	11 (55%)	8 (38%)	3 (60%)	3 (50%)	1 (25%)	2 (67%)
L1BG7						
OK	8 (67%)	9 (50%)	3 (27%)	1 (9%)	3 (25%)	2 (29%)
NO	4 (33%)	9 (50%)	8 (73%)	10 (91%)	9 (75%)	5 (71%)

On average, 36% of L1NOR students transfer the structure from their L1. This is a little less than the L1 transfer rate Bulgarian students show. Both language groups are put in the same linguistic situation where they have to ‘delete’ a category in order to fit it in their L1 pattern. For Bulgarians, it seems easier to accept the bare noun because this is the default L1 structure not only in *leisure activities* context but in general. For Norwegians, although it perfectly corresponds to their L1 structure, bare nouns are still a marked category.

#### Pair 26

a) We usually go to the cinema once a month.

b) \*We usually go to cinema once a month.

ENG: We usually go to **the** cinema once a month.

NOR: Vi går vanligvis på **Ø** kino en gang i måneden.

BG: Obiknoveno hodim na **Ø** kino vednuzh mesechno.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
We usually go to the cinema once a month.	OK	40 (68%)	49 (69%)	23 (68%)	21 (68%)
	NO	19 (32%)	22 (31%)	11 (32%)	10 (32%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*We usually go to cinema once a month.	OK	29 (55%)	35 (67%)	19 (56%)	25 (71%)
	NO	24 (45%)	16 (31%)	15 (44%)	10 (29%)

The grammatical sentence is equally accepted by both L1BG (69%) and L1NOR (68%), and this almost replicates the average scores of the previous grammatical sentence. The bare noun in the ungrammatical sentence was well approved by 61% of L1BG students on average, and 64% of L1NOR on average. Both groups show the same L1 transfer rate, and the 7 graders in

both L1BG and L1NOR groups transfer more than the 6 graders. Transfer is more usual in the initial stages of acquisition, so I assume that the students who transfer are probably at lower proficiency levels. Table 41 below shows the answer distribution of L1BG group – 7 graders at all proficiency levels have transferred from their L1 (highlighted in orange). Most of the 6 graders (20 out of 29) who transferred are at the lower levels (highlighted in blue) but not limited to those.

Table 41. Answers of L1BG6 (N=53) and L1BG7 (N=51) for sentence ‘We usually go to cinema once a month’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	9 (53%)	11 (58%)	2 (50%)	2 (67%)	4 (57%)	1 (33%)
NO	8 (47%)	8 (42%)	2 (50%)	1 (33%)	3 (43%)	2 (67%)
L1BG7						
OK	6 (60%)	15 (79%)	1 (50%)	4 (67%)	4 (67%)	5 (63%)
NO	4 (40%)	4 (21%)	1 (50%)	2 (33%)	2 (33%)	3 (37%)

Table 42 below shows that 25 L1NOR7 students accepted the bare noun, as expected if they transfer from Norwegian – 18 of them are at Intermediate and Upper-Intermediate level (highlighted in orange). However, a good number of 6 graders who transfer the structure from their L1, are at the lower levels (highlighted in blue). From this I can conclude that proficiency level does not have such a big influence on the transfer rate of students from either of the two language groups.

Table 42. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘We usually go to cinema once a month’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	1 (33%)	5 (71%)	5 (62%)	4 (44%)	2 (50%)	2 (67%)
NO	2 (67%)	2 (29%)	3 (38%)	5 (56%)	2 (50%)	1 (33%)
L1NOR7						
OK	No Beginner level	1 (50%)	3 (60%)	8 (73%)	10 (91%)	3 (50%)
NO		1 (50%)	2 (40%)	3 (27%)	1 (9%)	3 (50%)

Lastly, I notice that the average acceptance rate of the bare noun in *\*We usually go to cinema once a month* is higher than that in *\*I feel like going to theater today* by both language groups.

Compare:

Grammaticality – NO List 2	Answers	L1BG	L1NOR
<i>*We usually go to cinema once a month.</i>	OK	61%	64%
<i>*I feel like going to theater today.</i>	OK	45%	36%

I did a quick search of the frequency of *på teater* (*to the theater*) and *på kino* (*to the cinema*) in Norwegian. For that purpose, I used The Oslo Corpus of Tagged Norwegian Texts (2007). The corpus searched through 133 sources and showed 65 occurrences of *på teater*, and 213 of *på kino*. I researched the frequency of *na teatur* (*to the theater*) and *na kino* (*to the cinema*) in the Bulgarian National Corpus – the number of occurrences I got are 933 as compared to 1703. The frequency of *to the cinema* is higher both in Norwegian and in Bulgarian. Highly likely, at the age of 11-13 students have more experience with going to the cinema, and the word is in more active use in their vocabulary. I can only speculate that students ‘recognized’ it as more familiar and that is why more of them have a higher L1 transfer rate in the *cinema*-sentence than in the *theater* one.

### Pair 23

- a) \*She plays piano in her free time.  
 b) She plays the piano in her free time.

ENG: She plays **the** piano in her free time.

NOR: Hun spiller **Ø** piano på fritiden sin.

BG: Tya sviri na **Ø** piano v svobodnoto si vreme.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
She plays the piano in her free time.	OK	36 (68%)	39 (76%)	31 (91%)	23 (66%)
	NO	17 (32%)	12 (24%)	3 (9%)	12 (34%)

Both language groups have a high acceptance rate for the grammatical sentence – on average, 72% for L1BG, and 79% for L1NOR. Norwegian 7 graders stand out with 91%, which is a lot more than the other three groups. Table 43 below shows that L1NOR students in both grades and at all levels have a high acceptance rate for the grammatical sentence (highlighted in orange). Proficiency is thus not such an influential factor.

Table 43. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘She plays the piano in her free time’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	3 (100%)	6 (86%)	7 (88%)	8 (89%)	4 (100%)	3 (100%)
NO	0 (0%)	1 (14%)	1 (12%)	1 (11%)	0 (0%)	0 (0%)
L1NOR7						
OK	No Beginner level	2 (100%)	3 (60%)	6 (55%)	6 (55%)	5 (83%)
NO		0 (0%)	2 (40%)	5 (45%)	5 (45%)	1 (17%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*She plays piano in her free time.	OK	36 (61%)	45 (63%)	26 (76%)	28 (90%)
	NO	23 (39%)	26 (37%)	8 (24%)	3 (10%)

On average, 62% of L1BG and 83% of L1NOR accepted the bare noun. L1NOR7 stands out with 90%. Considering the fact that they have approved a structure which matches their L1, but is not correct in L2 English, I expect that the students who accepted it are not at the high proficiency levels. As seen in Table 44 the acceptance rate is very categorical among L1NOR7 students and the result cannot be attributed to one specific level but rather to influence from L1.

Table 44. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘She plays piano in her free time’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	5 (100%)	5 (83%)	1 (50%)	5 (63%)	9 (75%)	1 (100%)
NO	0 (0%)	1 (17%)	1 (50%)	3 (37%)	3 (25%)	0 (0%)
L1NOR7						
OK	2 (67%)	3 (100%)	3 (100%)	5 (71%)	9 (100%)	6 (100%)
NO	1 (33%)	0 (0%)	0 (0%)	2 (29%)	0 (0%)	0 (0%)

All in all, the result for the ungrammatical sentence is interesting in that Norwegian seems more hindering than Bulgarian. L1NOR have a higher L1 transfer rate, although the bare noun structure is marked in Norwegian. These phrases, however, are probably acquired as chunks in the first language and this makes them easier to transfer.

### Pair 35

- a) \*She has been learning to play guitar.
- b) She has been learning to play the guitar.

ENG: She has been learning to play **the** guitar.

NOR: Hun lærer seg å spille **Ø** gitar.

BG: Tya se uchi da sviri na **Ø** kitara.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
She has been learning to play the guitar.	OK	33 (62%)	37 (73%)	23 (68%)	24 (69%)
	NO	20 (38%)	14 (27%)	11 (32%)	11 (31%)

Both language groups have the same acceptance for the grammatical sentence – 68% on average for the L1BG, and 69% for the L1NOR. I did not have a categorical prediction for the

grammatical sentence because I did not know how students will react to the presence of the definite article, as opposed to no article in equivalent phrases in their native language.

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*She has been learning to play guitar.	OK	31 (53%)	39 (55%)	22 (65%)	21 (68%)
	NO	28 (47%)	32 (45%)	12 (35%)	10 (32%)

The bare noun was well accepted by 54% of L1BG on average, and 67% of L1NOR. Although the difference in L1 transfer rate between the two language groups is not big, Norwegian students transfer more in this sentence as well – a pattern that we saw in the previous pair of sentences.

### Pair 23

a) I sometimes listen to the radio when I drive.

b) \*I sometimes listen to radio when I drive.

ENG: I sometimes listen to **the** radio when I drive.

NOR: Noen ganger hører jeg på Ø radio når jeg kjører.

BG: Ponyakoga slusham Ø radio, kogato shofiram.

Both L1BG and L1NOR reacted almost equally positive to the grammatical sentence – on average, 61% acceptance by the Bulgarian students, and 69% by the Norwegian.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I sometimes listen to the radio when I drive.	OK	33 (62%)	30 (59%)	24 (71%)	23 (66%)
	NO	20 (38%)	21 (41%)	10 (29%)	12 (34%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*I sometimes listen to radio when I drive.	OK	36 (61%)	37 (52%)	18 (53%)	13 (42%)
	NO	23 (39%)	34 (48%)	16 (47%)	18 (58%)

The bare noun in the ungrammatical sentence was approved by an average of 57% of L1BG students and 48% of L1NOR. The answer pattern of this sentence resembles the pattern of *\*I feel like going to theater* where Bulgarian speakers had a higher L1 transfer rate than Norwegian speakers – 45% as opposed to 36%. In fact, these two sentences – *\*I feel like going to theater* and *\*I sometimes listen to radio when I drive*, are similar in that a) they have the lowest acceptance rate out of the six ungrammatical sentences in this sub-condition by both language groups, and b) L1BG transfer more than L1NOR.

Frequency of use is one possible explanation about the lower acceptance rate. As is the case with *theater*, youths at this age do not often use the word *radio* because they use other popular

sources for listening to music. The higher L1 transfer of L1BG students is what I expected since bare nouns are a default category in Bulgarian, thus easier to recognize, relate and accept. For Norwegian learners, this is a native, yet marked, category, and in these two sentences, the combination between (in)frequency of use and markedness influenced their acceptance rate.

### Pair 33

- a) Everyone laughs when he plays the clown.  
 b) \*Everyone laughs when he plays clown.

ENG: Everyone laughs when he plays **the** clown.

NOR: Alle ler når han spiller **Ø** klovner.

BG: Vsichki se smeyat, kogato toi se pravi na **Ø** palyacho.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Everyone laughs when he plays the clown.	OK	33 (56%)	41 (58%)	28 (82%)	25 (81%)
	NO	26 (44%)	30 (42%)	6 (18%)	6 (19%)

This grammatical sentence has the lowest acceptance rate (57%) by L1BG out of the six pairs in this sub-condition. Conversely, it has the highest acceptance rate (82%) by L1NOR. Table 45 and Table 46 compare the proficiency level of both language groups.

Table 45. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence ‘Everyone laughs when he plays the clown’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
<b>L1BG6</b>						
OK	6 (30%)	13 (62%)	4 (80%)	3 (50%)	4 (100%)	3 (100%)
NO	14 (70%)	8 (38%)	1 (20%)	3 (50%)	0 (0%)	0 (0%)
<b>L1BG7</b>						
OK	7 (58%)	10 (56%)	7 (64%)	7 (64%)	6 (50%)	4 (57%)
NO	5 (42%)	8 (44%)	4 (36%)	4 (36%)	6 (50%)	3 (43%)

Table 46. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘Everyone laughs when he plays the clown’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
<b>L1NOR6</b>						
OK	4 (80%)	3 (50%)	2 (100%)	8 (100%)	10 (83%)	1 (100%)
NO	1 (20%)	3 (50%)	0 (0%)	0 (0%)	2 (17%)	0 (0%)
<b>L1NOR7</b>						
OK	2 (67%)	2 (67%)	3 (100%)	4 (57%)	9 (100%)	5 (83%)
NO	1 (33%)	1 (33%)	0 (0%)	3 (43%)	0 (0%)	1 (17%)

The answers of the Bulgarian students from almost all levels are shared between ‘accept’ and ‘reject’ (highlighted in orange). The high acceptance rate of L1NOR is almost equally distributed across all levels. Therefore, proficiency is not a very influential factor for the acceptance rate difference between the two language groups. Frequency of use might be the clue here as well. Almost every Norwegian class assigns someone the role of the class clown (*klassens klovn*). It is in the school culture. The term is very familiar to youths, especially in the age of my target group. This is not the case in Bulgarian schools where no such role exists in the classroom. Besides, the word *clown* in Bulgarian is reserved for circus, and rarely leaves the boundaries of this context. Even if used in the context of *a funny person*, it is not typical for school situations. For Bulgarian students, in other words, this word is not as frequent as for Norwegians.

The acceptance rate for the bare noun by both language groups, however, is almost the same – 60% for L1BG and 66% for L1NOR. This corresponds to the expectations that both groups will have almost the same L1 transfer rate.

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Everyone laughs when he plays clown.	OK	31 (58%)	31 (61%)	24 (71%)	21 (60%)
	NO	22 (42%)	20 (39%)	10 (29%)	14 (40%)

In sum, on the sub-condition 2 (definite article in fixed expressions):

- a) On average, 65% of the L1BG students accepted the grammatical sentence with the definite article. This might be as a result of positive evidence, a yes-bias, or understanding that English uses the definite article in these phrases.
- b) On average, 56% of the L1BG students transferred from their L1 and accepted the bare noun. L1BG learners have a higher L1 transfer rate than L1NOR only for two of the ungrammatical sentences although the bare noun is a default category in Bulgarian.
- c) On average, 72% of L1NOR accepted the grammatical sentence. The frequency of use of *spiller clovn* among Norwegian students might be the reason why the sentence with this phrase has the highest acceptance rate.
- d) On average, 60% of L1NOR transferred from their L1 and accepted the bare noun. This is slightly more than the transfer rate of Bulgarian students. On the one hand, bare nouns are a marked category for Norwegians and they are usually less transferred. On the other hand, these phrases are probably acquired as chunks in their L1 and this has facilitated the transfer process.



The results from the statistical analysis (Figure 3) show that there is difference between the two language groups in Condition 2, although not as large as in Condition 1. The post-hoc pairwise comparison (Figure 4) shows that the difference in Condition 2 comes from the sub-condition which targets the omission of the indefinite article in Norwegian (bare noun) as opposed to obligatory use of indefinite article in English. The statistical analysis shows equal performance of both language groups for this sub-condition. The analysis of the whole dataset, not matched for proficiency level, gave me a more fine-grained picture of specific behaviour and patterns. The raw data gives a very little difference in the number of correct answers (Table 33) – less than 4% increase from L1BG to L1NOR.

Both languages appear to be facilitative in this sub-condition. The prediction that L1BG and L1NOR will behave approximately the same, holds true.

### 4.2.3 Fillers

The Filler items included 12 pairs of sentences which are part of the GJT in order to 1) balance the overall content of the test (make the structures more varied) and give some advantage to Bulgarian students as well, and 2) check for L1 transfer beyond the use of the (in)definite article. These sentences reflect the differences in word order between English on the one hand, and Bulgarian and Norwegian on the other hand (presented in section 3.3).

The sentences are divided into two sub-conditions. The first one targets adverb placement in the sentence (discussed in section 3.3). In English, adverbs precede the verb (with a few exceptions, which are not included in the GJT), whereas in Norwegian adverbs come after the verb. I expect that Norwegian students will reject the sentence with a preverbal position of the adverb because this structure is ungrammatical in their native language. Bulgarian word order is very flexible, and the adverb can take both preverbal and postverbal position. Native Bulgarian speakers, however, have a slight preference for the preverbal position of *never* (*nikoga*), but my overall expectation is that they will accept both word orders. Based on this, I make the following predictions for this sub-condition, illustrated with an example:

Sentence	grammaticality	Bulgarian	Norwegian
Tom often wears a hat.	OK	accept	reject
*Tom wears often a hat.	NO	accept	accept

The second sub-condition targets word order in non-subject-initial declaratives. In the statistical analysis, I refer to this as topicalization. In Norwegian, the verb precedes the subject in non-

subject-initial declaratives. Norwegians, therefore, have a direct correspondence for a structure like *\*Yesterday went he on a trip*, which is not grammatical in English. Conversely, the grammatical English word order *Yesterday he went on a trip*, is ungrammatical in Norwegian, and my expectation is that L1NOR will accept the first one but reject the second. Bulgarian language has a flexible word order, and although the preference of native speakers goes for the canonical SVO, or ASVO, I expect that Bulgarian speakers will accept both structures mentioned above. Based on this, I predict the following:

Sentence	grammaticality	Bulgarian	Norwegian
Yesterday he went on a trip.	OK	accept	reject
*Yesterday went he on a trip.	NO	accept	accept

My overall expectation for all Filler sentences is that L1 Bulgarian learners will outperform L1 Norwegian learners, if they transfer from their native language.

The raw results, not matched for proficiency level (Table 47 below), show that Norwegian students have a little greater number of correct answers in both sub-conditions.

Table 47. Average percentage values of correct answers for Fillers for L1BG and L1NOR across the two grades

	L1BG6	L1BG7	L1NOR6	L1NOR7	% increase from L1BG to L1NOR
Adverb placement	63%	64%	67%	76%	
Average for the group	64%		72%		13% increase
Topicalization	67%	70%	76%	83%	
Average for the group	69%		80%		16% increase

There is an increase by 13% in favour of L1NOR in the accuracy of the sub-condition which targets the adverb placement, and 16% difference between L1BG and L1NOR in the sub-condition which targets topicalization. I calculated the percentage increase by using the same formula I used for Table 10 and Table 33 earlier: % increase = Increase ÷ Original Number × 100.

Since the topic of my thesis is about L1 transfer of articles, I will have a cursory overview of these last sub-conditions, only to monitor if learners tend to transfer other categories and structures as well.

#### 4.2.3.1 Sub-condition 1 – Adverb position in the sentence

##### Pair 2

- a) Tom never wears a hat.  
 b) \*Tom wears never a hat.

ENG: Tom *never* wears a hat.

NOR: Tom bruker *aldri* hatt.

BG: Tom *nikoga* ne nosi shapka.

Tom *never* wears a hat.

But also:

Tom ne nosi *nikoga* shapka.

Tom not wear *never* a hat.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Tom never wears a hat.	OK	43 (73%)	42 (59%)	22 (65%)	23 (74%)
	NO	16 (27%)	29 (41%)	12 (35%)	8 (26%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Tom wears never a hat.	OK	19 (36%)	20 (39%)	10 (29%)	2 (6%)
	NO	34 (64%)	31 (61%)	24 (71%)	33 (94%)

On average, 70% of L1NOR accept the grammatical sentence, and only 18% accept the ungrammatical. This is the opposite of my predictions. Norwegians do not seem to transfer the adverb placement from their L1. Bulgarian students have a higher acceptance rate for the ungrammatical sentence than Norwegians. This can be attributed to L1 transfer or proficiency differences, although we see that the preference goes for the preverbal position of *never* in the grammatical, as I expected.

There is a big difference between L1NOR6 and L1NOR7 in the acceptance rate of the ungrammatical sentence. A quick look at the answer distribution across proficiency levels (Table 48) shows that Norwegian 6 graders at almost all levels (except for Advanced) tend to transfer the postverbal position of the adverb (highlighted in orange), although the more advanced levels, as Intermediate and Upper-Intermediate, have just one or two cases of L1 transfer. 7 graders at more advanced levels do not have even one case of L1 transfer (highlighted in blue). Proficiency level has some influence, although not to such a great extent.

Table 48. Answers of L1NOR6 (N=34) and L1NOR7 (N=35) for sentence ‘Tom wears never a hat’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	1 (33%)	4 (57%)	2 (25%)	1 (11%)	2 (50%)	0 (0%)
NO	2 (67%)	3 (43%)	6 (75%)	8 (89%)	2 (50%)	3 (100%)
L1NOR7						
OK	No beginner level	1 (50%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)
NO		1 (50%)	4 (80%)	11 (100%)	11 (100%)	6 (100%)

### Pair 8

- a) \*We see rarely our neighbours.  
 b) We rarely see our neighbours.

ENG: We *rarely* see our neighbours.

NOR: Vi ser *sjeldent* naboene våre.

BG: Nie *ryadko* vizhdame nashite susedi.

We *rarely* see our neighbours.

But also:

Vizhdame *ryadko* nashite susedi.

See 1st.PER.PL. *rarely* our neighbours.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
We rarely see our neighbours.	OK	34 (64%)	34 (67%)	21 (62%)	30 (86%)
	NO	19 (36%)	17 (33%)	13 (38%)	5 (14%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*We see rarely our neighbours.	OK	20 (34%)	39 (55%)	7 (21%)	6 (19%)
	NO	39 (66%)	32 (45%)	27 (79%)	25 (81%)

On average, 74% of L1NOR accept the grammatical sentence, which has an unusual word order for them. Only 20% of L1NOR transfer from their L1 and accept the postverbal position of the adverb. L1BG show a higher acceptance rate for the ungrammatical sentence – (45%) than L1NOR, although I expected that both language groups will accept the ungrammatical sentence. The performance difference between L1BG6 and L1BG7 is quite large. Table 49 below shows that percentagewise 6 graders at more advanced levels (highlighted in blue) transfer less than 7 graders at the same levels.

Table 49. Answers of L1BG6 (N=59) and L1BG7 (N=71) for sentence 'We see rarely our neighbours' distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1BG6						
OK	5 (25%)	8 (38%)	4 (80%)	2 (33%)	0 (0%)	1 (33%)
NO	15 (75%)	13 (62%)	1 (20%)	4 (67%)	4 (100%)	2 (67%)
L1BG7						
OK	6 (50%)	11 (61%)	7 (64%)	7 (64%)	6 (50%)	2 (29%)
NO	6 (50%)	7 (39%)	4 (36%)	4 (36%)	6 (50%)	5 (71%)

Therefore, the difference is not so much an effect of proficiency level but it is more as a result of the way students perceive the structure. Some native Bulgarian speakers might have a preference for the postverbal position of the adverb. Bulgarian is a pro-drop language, and if students transfer this sentence starting without the subject, they will highly likely come with something like:

(73) Vizhdame ryadko nashite susedi.

\*See 1st.PER.PL. rarely our neighbours.

We rarely see our neighbours.

If they choose to start with an overt subject, they will highly likely built a bit different word order, as in:

(74) Nie *ryadko* vizhdame nashite susedi.

We *rarely* see our neighbours.

However, the other opportunity is also there, as in:

(75) Nie vizhdame ryadko nashite susedi.

\*We see *rarely* our neighbours.

We *rarely* see our neighbours.

For Bulgarian native speakers both structures are possible and it is more a matter of preference whether they choose to start the sentence with an overt subject, or drop the subject.

### Pair 16

a) \*I eat hardly ever ice cream.

b) I hardly ever eat ice cream.

ENG: I *hardly ever* eat ice cream.

NOR: Jeg spiser *nesten aldri* iskrem.

BG: Az *pochti nikoga* ne yam sladoled.

\*I hardly ever not eat ice cream.

But also:

Ne yam *pochti nikoga* sladoled.

Not eat 1st.PER.SG. *hardly ever* ice cream.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
I hardly ever eat ice cream.	OK	32 (60%)	26 (51%)	11 (32%)	20 (57%)
	NO	21 (40%)	25 (49%)	23 (68%)	15 (43%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*I eat hardly ever ice cream.	OK	23 (39%)	16 (23%)	4 (12%)	6 (19%)
	NO	36 (61%)	55 (77%)	30 (88%)	25 (81%)

L1BG students have a higher acceptance rate for the grammatical sentence – on average, 56% as compared to 45% for L1NOR group. This result is expected because the structure is ungrammatical in Norwegian. However, very few L1NOR students (16% on average) accepted the ungrammatical sentence which corresponds to a grammatical structure in Norwegian, which reduces the L1 transfer rate to a very low degree. My expectations for how Norwegians will behave do not hold true for this sentence either.

L1BG have a higher rate of acceptance for the preverbal adverb *pochti nikoga* (*hardly ever*), which is expected if we consider the preferences of native speakers discussed earlier.

#### Pair 25

- a) I am a vegetarian and I never eat meat.
- b) \*I am a vegetarian and I eat never meat.

ENG: I am a vegetarian and I *never* eat meat.

NOR: Jeg er vegetarianer, og jeg spiser *aldri* kjøtt.

BG: Az sum vegetarianetz i *pochti nikoga* ne yam meso.

I am a vegetarian and *almost never* not eat 1st.PER.SG. meat.

But also:

Vegetarianetz sum i ne yam meso *pochti nikoga*.

Vegetarian am and not eat 1st.PER.SG. meat *almost never*.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
I am a vegetarian and I never eat meat.	OK	37 (63%)	50 (70%)	29 (85%)	25 (81%)
	NO	22 (37%)	21 (30%)	5 (15%)	6 (19%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*I am a vegetarian and I eat never meat.	OK	20 (38%)	17 (33%)	12 (35%)	4 (11%)
	NO	33 (62%)	34 (67%)	22 (65%)	31 (89%)

L1NOR do not follow my predictions in this sentence either – they have a high acceptance rate (83%) for the novel structure, as well as low acceptance rate for the one corresponding to their L1 (23%), which is ungrammatical in English.

L1BG have a higher transfer rate (36%) than L1NOR for the ungrammatical sentence, although my expectations were for similar results for both language groups.

### Pair 27

a) \*He plays often video games.

b) He often plays video games.

ENG: He *often* plays video games.

NOR: Han spiller *ofte* dataspill.

BG: Toi *chesto* igrae videoigri.

He often plays video games.

But also:

Toi igrae *chesto* video igri.

\*He plays often video games.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
He often plays video games.	OK	40 (75%)	40 (78%)	25 (74%)	27 (77%)
	NO	13 (25%)	11 (22%)	9 (26%)	8 (23%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*He plays often video games.	OK	36 (61%)	31 (44%)	19 (56%)	17 (55%)
	NO	23 (39%)	40 (56%)	15 (44%)	14 (45%)

Both language groups have almost equally high acceptance rate for the grammatical sentence – 76% for L1BG and 75% for L1NOR. This result is expected for L1BG but not for L1NOR who have to explicitly learn the preverbal position of the adverb.

This sentence is interesting in that both language groups have a higher acceptance rate for the ungrammatical sentence – 53% for L1BG and 56% for L1NOR – than for the previous ungrammatical examples so far. The only common pattern in the earlier examples is that the adverbs are in the spectrum of negation – *never*, *rarely*, *hardly ever*, whereas *often* is at the

other end of the spectrum and is positively charged. This could be a tendency for preference of the positive (yes) in front of the negative (no). The same tendency is seen in the last example which also contains a positively charged adverb.

Pair 36

a) My sister always studies after dinner.

b) \*My sister studies always after dinner.

ENG: My sister *always* studies after dinner.

NOR: Min søster studerer *alltid* etter middag.

BG: Sestra mi *vinagi* uchi sled vecherya.  
Sister my *always* study3rd.PER.SG. after dinner.

But also:

Sestra mi uchi *vinagi* sled vecherya.

Sister my study3rd.PER.SG. *always* after dinner.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
My sister always studies after dinner.	OK	45 (76%)	57 (80%)	31 (91%)	26 (84%)
	NO	14 (24%)	14 (20%)	3 (9%)	5 (16%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*My sister studies always after dinner.	OK	24 (45%)	28 (55%)	18 (53%)	13 (37%)
	NO	29 (55%)	23 (45%)	16 (47%)	22 (63%)

These results almost copy the ones from the previous sentence. The acceptance rate of the grammatical sentence is even higher – on average, 78% for L1BG and 88% for L1NOR. The ungrammatical sentence has almost the same degree of approval as the previous – on average, 50% of L1BG and 45% of L1NOR accepted it. L1NOR showed a little lower L1 transfer rate, yet higher than in the sentences with negative adverbs.

In sum, on the sub-condition 1 (adverb position in the sentence):

- a) On average, 68% of L1BG speakers accepted the grammatical sentences. The acceptance rate is a bit higher for the sentences containing positive adverbs (often, always) than for those with negatively charged ones (never, rarely, hardly ever).
- b) On average, 42% of L1BG speakers accepted the ungrammatical sentence. They show a higher L1 transfer degree than L1NOR students, which does not match my expectations. Bulgarian speakers showed a preference for preverbal position of *never, almost never*.



- c) On average, 72% of L1NOR accepted the grammatical sentence, which contains a novel category for them. My expectation that they will reject it, does not hold true.
- d) On average, 29% of L1NOR accepted the ungrammatical sentence, which corresponds to a correct structure in their native language. I expected a higher acceptance rate for these sentences due to facilitation from Norwegian.

The results from the statistical analysis (Figure 3) show that the difference between the two language groups is largest in Condition 1, decreases but still remains large in Condition 2, and it disappears in Condition 3. The post-hoc pairwise comparison (Figure 4) shows that both language groups perform similarly for both sub-conditions of the Fillers. I went in detail through each pair in this sub-condition which targets adverb placement in the sentence. The analysis of the whole dataset, not matched for proficiency level (Table 47), produced a difference of 13% (in favour of L1NOR) in the number of correct answers between the groups. The statistical analysis shows that when the groups are matched by proficiency the difference disappears. However, the fine-grained picture gave me some insights about the learners' behaviour. Word order seems easier to be acquired than articles for both Norwegian and Bulgarian learners. Bulgarian students show L1 transfer, as well as preference for a particular word order. Norwegian learners show a very low degree of L1 transfer, which may correspond to the fact that they have already learned the relevant structure.

Overall, the prediction that L1 Bulgarian will outperform L1 Norwegian students does not hold true. The pattern clearly shows that L1NOR have acquired the novel category.

#### 4.2.3.2 Sub-condition 2 – Topicalization

The next six pairs are targeting word order in topicalized sentences. For this sub-condition I have the same predictions as for the previous one – L1 Bulgarian learners will outperform L1 Norwegian learners if they transfer from their native language.

##### Pair 7

- a) Once a month she goes to the cinema.
- b) \*Once a month goes she to the cinema.

ENG: Once a month *she goes* to the cinema.

NOR: En gang I måneden *går hun* på kino.

BG: Vednuzh mesechno *tya hodi* na kino.  
Once a month she goes to the cinema.

But also:

Vednuzh mesechno *hodi tya* ana kino.

Once a month goes she to the cinema.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Once a month she goes to the cinema.	OK	43 (73%)	50 (70%)	25 (74%)	21 (68%)
	NO	16 (27%)	21 (30%)	9 (26%)	10 (32%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Once a month goes she to the cinema.	OK	18 (34%)	21 (41%)	2 (6%)	2 (6%)
	NO	35 (66%)	30 (59%)	32 (94%)	33 (94%)

Both groups have almost the same acceptance rate for the grammatical sentence – 72% for L1BG and 71% for L1NOR students. This is expected for Bulgarian learners, but not for Norwegian.

The ungrammatical sentence is better accepted by L1BG (38%) but has a very weak approval from L1NOR – just 6%. This tells us that Norwegian learners have acquired the English word order and do not transfer their native language structure.

### Pair 12

a) Last week we bought a new car.

b) \*Last week bought we a new car.

ENG: Last week we bought a new car.

NOR: Forrige uke kjøpte vi en ny bil.

BG: Minalata sedmica nie si kupihme nova kola.

Last week we us buy1st.PER.PL.PAST a new car.

But also:

Minalata sedmica si kupihme nova kola.

Last week us buy1st.PER.PL.PAST a new car.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Last week we bought a new car.	OK	39 (66%)	55 (77%)	28 (82%)	30 (97%)
	NO	20 (34%)	16 (23%)	6 (18%)	1 (3%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Last week bought we a new car.	OK	15 (28%)	16 (31%)	10 (29%)	5 (14%)
	NO	38 (72%)	35 (69%)	24 (71%)	30 (86%)

L1NOR show a very good acceptance rate (90%) for the English word order. L1BG, who are expected to accept this structure more than Norwegian students, have actually a lot lower score than them – 72% on average. So far, the English word order does not seem to be a challenge for Norwegian learners, as it was predicted. This is also seen in their behaviour towards the ungrammatical sentence, which is an exact match of a grammatical word order in Norwegian – only 22% of L1NOR students feel comfortable with it. L1BG have a higher L1 transfer rate of almost 30%.

#### Pair 19

- a) Yesterday I saw an elephant in the Zoo.  
b) \*Yesterday saw I an elephant in the Zoo.

ENG: Yesterday *I saw* an elephant in the Zoo.

NOR: I går *så jeg* en elefant i dyreparken.

BG: Vchera az vidyah slon v zooparka.

Yesterday I saw an elephant in the Zoo.

But also:

Vchera vidyah slon v zooparka.

Yesterday see1st.PER.SG.PAST an elephant in the Zoo.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Yesterday I saw an elephant in the Zoo.	OK	44 (75%)	55 (77%)	32 (94%)	28 (90%)
	NO	15 (25%)	16 (23%)	2 (6%)	3 (10%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Yesterday saw I an elephant in the Zoo.	OK	19 (36%)	17 (33%)	11 (32%)	8 (23%)
	NO	34 (64%)	34 (67%)	23 (68%)	27 (77%)

The results for these two sentences almost replicate the previous one. L1NOR show a high acceptance rate (92%) for the grammatical English sentence, followed by L1BG who have 76% of positive answers. This is the opposite of my expectations, considering the novel word order for Norwegian learners. The ungrammatical sentence was accepted by an average of 35% of L1BG group and 28% of L1NOR group. My prediction that Norwegian speakers will accept

the wrong English word order because it resembles the Norwegian structure, does not hold true. Bulgarian speakers tend to transfer more from their L1, whereas Norwegians seem to have acquired the word order to a very high degree.

Pair 21

a) \*On Monday had I a very difficult test at school.

b) On Monday I had a very difficult test at school.

ENG: On Monday I had a very difficult test at school.

NOR: På mandag hadde jeg en veldig vanskelig prøve på skolen.

BG: V ponedelnik az imah mnogo truden test v uchilishte.

On Monday I had a very difficult test at school.

But also:

V ponedelnik imah mnogo truden test v uchilishte.

On Monday have I st.PER.SG.PAST a very difficult test at school.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
On Monday I had a very difficult test at school.	OK	39 (74%)	36 (71%)	31 (91%)	30 (86%)
	NO	14 (26%)	15 (29%)	3 (9%)	5 (14%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*On Monday had I a very difficult test at school.	OK	22 (37%)	19 (27%)	18 (53%)	5 (16%)
	NO	37 (63%)	52 (73%)	16 (47%)	26 (84%)

These results are almost a copy of the previous pattern. L1NOR confirm that they have mastered the novel structure – 89% of the Norwegian students accepted the grammatical sentence. L1BG behave as expected – 73% acceptance rate for the correct sentence which resembles the word order in Bulgarian.

The only deviation from the previously established pattern is L1NOR6 who have 53% acceptance rate for the ungrammatical sentence – higher than all the other ungrammatical sentences so far in this sub-condition, and a lot higher than the result of L1NOR7 (16%). This deviation matches my expectations, if students transfer from their L1. The answer distribution of L1NOR across proficiency levels (Table 50) shows that 6 graders at the lowest levels transfer more (highlighted in orange) than the more advanced students.

Table 50. Answers of L1NOR6 (N=34) and L1NOR7 (N=31) for sentence ‘On Monday had I a very difficult test at school’ distributed across proficiency levels

Answers	Beginner	Elementary	Pre-Intermediate	Intermediate	Upper-Intermediate	Advanced
L1NOR6						
OK	5 (100%)	6 (100%)	0 (0%)	4 (50%)	3 (25%)	0 (0%)
NO	0 (0%)	0 (0%)	2 (100%)	4 (50%)	9 (75%)	1 (100%)
L1NOR7						
OK	1 (33%)	1 (33%)	1 (33%)	1 (14%)	1 (11%)	0 (0%)
NO	2 (67%)	2 (67%)	2 (67%)	6 (86%)	8 (89%)	6 (100%)

### Pair 31

- a) Last Sunday we went to the cinema.  
 b) \*Last Sunday went we to the cinema.

ENG: Last Sunday we went to the cinema.

NOR: Forrige søndag gikk vi på kino.

BG: Minalata nedelya nie hodihme na kino.

Last Sunday we went to the cinema.

But also:

Minalata nedelya hodihme na kino.

Last Sunday go 1st.PER.PL.PAST to the cinema.

Grammaticality – OK List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
Last Sunday we went to the cinema.	OK	43 (73%)	55 (77%)	26 (76%)	27 (87%)
	NO	16 (27%)	16 (23%)	8 (24%)	4 (13%)

Grammaticality – NO List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
*Last Sunday went we to the cinema.	OK	18 (34%)	17 (33%)	8 (24%)	7 (20%)
	NO	35 (66%)	34 (67%)	26 (76%)	28 (80%)

The judgement of the grammatical sentence resembles the result for the previous grammatical sentences – L1NOR accept it with a greater number of positive answers (82%) than L1BG (75%).

The acceptance of the ungrammatical sentence is again within the established trend so far – L1BG feel more comfortable with this structure – with 34% of acceptance, than L1NOR with 22% approval. My predictions for L1NOR students do not hold true for this pair either.

### Pair 32

a) \*Next Wednesday at 10 o'clock have I an exam in history.

b) Next Wednesday at 10 o'clock I have an exam in history.

ENG: Next Wednesday at 10 o'clock *I have* an exam in history.

NOR: Neste onsdag klokka 10 *har jeg* eksamen i historie.

BG: Drugata sryada v 10 chasa *az imam* izpit po istoriya.

Next Wednesday at 10 o'clock I have an exam in history.

But also:

Drugata sryada v 10 chasa *imam* izpit po istoriya.

Next Wednesday at 10 o'clock have I st.PER.SG. an exam in history.

Grammaticality – OK List 2	Answers	L1BG6 N=53	L1BG7 N=51	L1NOR6 N=34	L1NOR7 N=35
Next Wednesday at 10 o'clock I have an exam in history.	OK	26 (49%)	25 (49%)	26 (76%)	26 (74%)
	NO	27 (51%)	26 (51%)	8 (24%)	9 (26%)

Grammaticality – NO List 1	Answers	L1BG6 N=59	L1BG7 N=71	L1NOR6 N=34	L1NOR7 N=31
*Next Wednesday at 10 o'clock have I an exam in history.	OK	22 (37%)	20 (28%)	13 (38%)	9 (29%)
	NO	37 (63%)	51 (72%)	21 (62%)	22 (71%)

This pair of sentences is no exception and confirms the observations from the other five pairs so far. Probably the only difference is a somewhat lower acceptance rate of L1BG for the grammatical sentence, as compared to the previous grammatical ones, but this can be attributed to preference of word order.

In sum, on the sub-condition 2 (topicalization):

- On average, 69% of L1BG accepted the grammatical sentence, as expected.
- On average, 33% of L1BG students accepted the ungrammatical sentence. I expected more L1 transfer rate if students rely on their L1. However, this could be a matter of preference, as well as the overt presence of the subject in the English sentence. Native Bulgarians would drop the subject in such word order and it may be the case that its presence influenced the student's choice.
- On average, 83% of L1NOR accepted the grammatical sentence. Only the remaining 17% transferred the word order from their L1.

d) On average, 24% of L1NOR accepted the ungrammatical sentence which corresponds to their L1 structure.

The results from the statistical analysis (Figure 3) show that the difference between the two language groups is largest in Condition 1 and disappears in Condition 3. The post-hoc pairwise comparison (Figure 4) shows that both language groups perform similarly on this sub-condition. I went in detail through each pair which targets verb placement in non-subject declarative sentences. The analysis of the whole dataset, not matched for proficiency level (Table 47), produced a difference of 16% in the number of correct answers between the groups. Similar to the analysis of structures with adverbs, the statistical modelling shows that when the groups are matched by proficiency the difference between the groups disappears. However, a look at individual sentence pairs revealed a more fine-grained picture of how 6<sup>th</sup>- and 7<sup>th</sup>-graders with L1 Bulgarian and L1 Norwegian judged the different word orders in English.

Overall, Norwegian speakers show an excellent level of mastery of the English word order, and they do not seem to transfer the marked structures from their native language. L1BG show a higher degree of L1 transfer. However, they seem to have preference for the canonical word order. The overt presence of the personal pronoun (subject) after the verb is not so well accepted. Bulgarian is a pro-drop language and the verb implies who or what the subject is, therefore there is no need for its overt presence in postverbal position, although it is not grammatically wrong.

The prediction that L1 Bulgarian would outperform L1 Norwegian students did not hold true. As for Norwegian learners, the pattern clearly shows that L1NOR have acquired the novel category – this, in my view, may be in line with the findings of Westergaard (2003) that marked features usually do not get transferred, as native speakers do not expect to find these untypical structures in a foreign language.

## **5 Conclusions**

The goal of this thesis was to examine whether native speakers of Norwegian and Bulgarian transfer from their L1 in the process of acquisition of articles in English. To the best of my knowledge, this topic has not been researched before for the combination of these two languages and is, therefore, making a novel empirical contribution to the field. The current research examines the effect of L1 transfer in this intricate domain of the acquisition of the English article system.

Norwegian is typologically similar to English, whereas Bulgarian is typologically very different. Previous research has shown that overall similarity between languages leads to positive transfer, and conversely, difference results in negative transfer (Master, 1997; Alonso, 2016). Other findings, however, conclude that transfer occurs less between languages that are perceived as different by learners (Dušková, 1984; Lee, 1972, Kellerman, 1977). Previous studies that target transfer in the acquisition of English articles, show that L1 speakers of [+Art] languages acquire the L2 English article system faster than L1 speakers of [-Art] languages (Master, 1987), but this is not necessarily always the case (Sun, 2016). Evidence from other studies (Ionin et. al., 2008; Kwame, 2018; Ionin & Montrul, 2010) show that [+Art] L1s depend more on L1 transfer, whereas [-Art] L1s rely on relevant L2 input and UG.

The results of this study support the findings of Master (1997) and Alonso (2016). It finds evidence that L1 Norwegian speakers [+Art] are facilitated by their native language and outperform L1 Bulgarian speakers [-Art] in cases which target the acquisition of the indefinite article. This detailed analysis of L1 groups shows that this may be due to influence from L1. At the same time, both language groups perform similarly or equally well on other conditions, such as generic use of nouns and use of definite articles in fixed expressions.

English and Norwegian have an overt indefinite article, whereas Bulgarian does not. English encodes genericity by means of bare plural nouns (apart from two other article forms, which are not central to this thesis). Norwegian can employ all forms of definite, indefinite, singular and plural, whereas Bulgarian uses the definite article in generic contexts. Based on these mismatches, four sub-conditions were constructed in this study in order to answer the research question: *Is there evidence of L1 transfer in the SLA of English articles by native speakers of Norwegian and Bulgarian?* Two additional sub-conditions were formulated in the Fillers section. They were included as a supplementary tool for detecting L1 transfer in word order structures.

The chosen method of investigation was Grammaticality Judgement Test (GJT). A proficiency level test was included to ensure a more accurate comparison than age and amount of input. Previous studies show that low proficiency levels are more influenced by their L1 (Master, 1987), and L1 transfer decreases with the increase of proficiency (Wong & Quek, 2007); however, even advanced learners are not immune to transfer (Snape et. al., 2013). The current study finds evidence of L1 transfer on all levels of proficiency, from lower and higher proficiency level students.



The GJT had 36 pairs of sentences grouped in two main Conditions and one Filler section – 12 pairs in each of the three groups of items. Condition 1 combined two areas of mismatch: 1) obligatory use of indefinite article in English and Norwegian as opposed to no overt article in Bulgarian; 2) generic contexts expressed by bare plurals in English and Norwegian, as opposed to definite plural in Bulgarian. Condition 2 investigated learners' behaviour in structures with: 1) omission of the indefinite article in Norwegian (no overt article in Bulgarian by default), as opposed to obligatory indefinite article in English; 2) use of definite article in fixed expressions in English, as opposed to bare nouns in both Norwegian and Bulgarian. The Filler section monitored for transfer in word order – adverb placement and verb second in non-initial-subject declaratives – two areas of difference between English and Norwegian. Each pair of sentences consisted of one grammatical and one ungrammatical sentence which students had to judge with OK, if they perceived it as correct, or NO, if they perceived it as wrong.

In total, 368 students, aged 11-13, participated in the experiment – 234 native Bulgarian speakers (grade 6 N=112, grade 7 N=122) and 134 native Norwegians (grade 6 N=68, grade 7 N=66). As indicated by the proficiency test which grouped the students into levels 1 to 6, the mean proficiency level of Norwegian students was one level higher than that of the Bulgarian students. Therefore, for the statistical analysis the groups were closely matched for proficiency (to isolate the effect of L1), and in the detailed discussion of individual items proficiency was taken into consideration when it was necessary to point out the performance differences which may be attributed to the difference in proficiency.

Our analysis showed that L1 Norwegian [+Art] students outperformed L1 Bulgarian [-Art] students in the two sub-conditions that targeted the use of the indefinite article. The difference between the two groups was largest in the sub-condition which requires an obligatory use of the indefinite article. Norwegian language proves to be very facilitative and the transfer of a category that already existed in their language resulted in a categorically higher score when compared to L1 Bulgarian learners who first needed to create that novel category. This supports Kellerman (1983), Jarvis & Pavlenko (2008), a. o. studies, who posit that L1 transfer is easier if learners think that they have found a corresponding equivalent in L2. The results of this study support also the findings of Master (1987) and adds evidence for [+Art] Norwegian and [-Art] Bulgarian – languages that have not been investigated so far in terms of L1 transfer in SLA of English articles. The difference between the two language groups decreases in the sub-condition which requires omission of the indefinite article in Norwegian. In this sub-condition Norwegian and Bulgarian languages behave comparable, and the speakers of these languages were

expected to show similar results. However, Norwegian proves to be facilitative again, although not as much as in the first sub-condition of Condition 1. Being L1 speakers of [+Art] language, they show a higher proficiency in placing the category correctly in L2 even in situations when it is not required in their native language.

Both language groups show equal performance in the generic use of nouns and in the use of the definite article in fixed expressions. L1 Norwegian and L1 Bulgarian students showed almost equal acceptance rate for both grammatical and ungrammatical sentences. Both languages proved to be facilitative and L1 transfer did not give advantage to any of them.

The difference between the language groups disappears in the Filler section which investigated transfer in word order structures. L1 Norwegian students were expected to show lower performance due to influence from Norwegian but L1 transfer did not prove to be influential here.

The evidence from the current study confirms the conclusions of Master (1990) that the English article system is one of the hardest aspects of English grammar and one of the latest to be acquired. This research study proves that native speakers of two typologically different languages as Norwegian and Bulgarian have comparable performance for four out of six categories. The only category in which [-Art] L1 Bulgarian speakers stay behind, is the overt indefinite article in English for the acquisition of which L1BG speakers will need more time.

Finally, the results from this study can serve as a departure point for further investigation on L1 transfer in English article acquisition by L1 speakers of Norwegian and Bulgarian. It will be interesting to know how they will perform in more spontaneous situations (e.g., production tasks), when they have less opportunity to consciously reflect on the L2 rules they have learned, as Selinker (1972) suggests.

Furthermore, Norwegians are exposed to a large amount of English input on a daily basis and due to that English has a status of a second, rather than a foreign language in Norway (recall Graddol & Meinhof, 1999). Bulgarians are in a very different setting. Therefore, it will be interesting to see whether [-Art] Bulgarian will be still hindering and how these two language groups will perform if put in the same linguistic environment, i.e. L1 Bulgarian and L1 Norwegian speakers learning English as a second language in an English speaking country.

The results from such research studies will provide a more fine-grained picture of the authentic interlanguages and L1 transfer behaviour of native speakers of Norwegian and Bulgarian.

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# Appendix 1

Distribution of school input across grades in Bulgaria and Norway

Grade	Bulgaria			Norway		
	Age	Number of weeks	Number of periods per academic year	Age	Number of weeks	Number of periods per academic year
1 <sup>st</sup> grade	7	-----	-----	6	38	Grades 1- 4 184 periods (45 min)
2 <sup>nd</sup> grade	8	32 2 periods/week	64	7	38	
3 <sup>rd</sup> grade	9	32 3 periods/week	96	8	38	
4 <sup>th</sup> grade	10	32 3 periods/week	96	9	38	
5 <sup>th</sup> grade	11	34 3,5 periods/week	119	10	38	Grades 5-7 304 periods (45 min) in total
6 <sup>th</sup> grade	12	34 3,5 periods/week	<b>119</b>	11	38	
7 <sup>th</sup> grade	13	36 3 periods/week	<b>108</b>	12	38	Grade 5 76 periods  Grades 6 114 periods  Grades 7 114 periods

Number of periods is given in units of 60 minutes. I have used the following method to convert them to 45 minutes' periods.

## BARNETRINNET - 184 periods (45 min)

Grades 1- 4: 138 hours X 60 min

$(138 \times 60) : 45 = 184$  periods X 45 min

## Grdes 5-7: 228 hours – 304 periods (45 min)

$(228 \times 60) : 45 = 304$  periods X 45 min

## Appendix 2

Description of the methodology used for adapting the placement test and the assessment scale

### *Straightforward* Quick Placement test

The *Straightforward* test has 50 questions, each worth one point. The first 40 are grammar questions and the final 10 are vocabulary questions. I have reduced the test to 20 items – 16 grammar and 4 vocabulary. Each sentence in the original test is marked for proficiency level. I have kept this information here for explanatory purpose, but it does not appear on the test delivered to the students.

### **Grammar**

1. Mike is \_\_\_\_\_.

**Beginner Unit 4**

- a) my sister's friend
- b) friend my sister
- c) friend from my sister
- d) my sister friend's

2. My brother is \_\_\_\_\_ artist.

**Beginner Unit 2 / Elementary Basics 2**

the

- a) an
- b) a
- c) —

3. Sorry, I can't talk. I \_\_\_\_\_ right now.

**Beginner Unit 11**

- a) driving
- b) 'm driving
- c) drives
- d) drive

4. She \_\_\_\_\_ at school last week.

**Beginner Unit 8 / Elementary Unit 5**

- a) didn't be
- b) weren't
- c) wasn't
- d) isn't

5. The living room is \_\_\_\_\_ than the bedroom.

**Elementary Unit 10 / Pre-int Unit 6**

- a) more big
- b) more bigger
- c) biggest
- d) bigger

6. The car is very old. We're going \_\_\_\_\_ a new car soon.

**Beginner Unit 12 / Elementary Unit 11**

- a) to buy
- b) buying
- c) to will buy
- d) buy

7. Sue \_\_\_\_\_ shopping every day.

**Elementary Unit 8 / Pre-int Unit 4**

- a) is going
- b) go
- c) going
- d) goes

8. They \_\_\_\_\_ in the park when it started to rain heavily.

**Intermediate Unit 4**

- a) walked
- b) were walking
- c) were walk
- d) are walking

9. \_\_\_\_\_ seen fireworks before?

**Pre-intermediate Unit 7 / Intermediate Unit 2**

- a) Did you ever
- b) Are you ever
- c) Have you ever
- d) Do you ever

10. We've been friends \_\_\_\_\_ many years.

**Pre-intermediate Unit 10 / Intermediate Unit 2**

- a) since
- b) from
- c) during
- d) for

11. Jeff was ill last week and he \_\_\_\_\_ go out.

**Pre-intermediate Unit 11**

- b) needn't
- c) can't
- d) mustn't

e) couldn't

12. He doesn't smoke now, but he \_\_\_\_\_ a lot when he was young.

**Pre-intermediate Unit 2**

- b) has smoked
- c) smokes
- d) used to smoke
- e) was smoked

13. He said that his friends \_\_\_\_\_ to speak to him after they lost the football match.

**Intermediate Unit 12 / Upper-intermediate Unit 10**

- b) not want
- c) weren't
- d) didn't want
- e) aren't wanting

14. Take a warm coat, \_\_\_\_\_ you might get very cold outside.

**Upper Intermediate Unit 4**

- a) otherwise
- b) in case
- c) so that
- d) in order to

15. She \_\_\_\_\_ for her cat for two days when she finally found it in the garage.

**Upper Intermediate Unit 5**

- a) looked
- b) had been looked
- c) had been looking
- d) were looking

16. If I hadn't replied to your email, I \_\_\_\_\_ here with you now.

**Upper Intermediate Unit 6**

- a) can't be
- b) wouldn't be
- c) won't be
- d) haven't been

### **Vocabulary**

17. You may not like the cold weather here, but you'll have to \_\_\_\_\_, I'm afraid.

- b) tell it off
- c) sort itself out
- d) put up with it
- e) put it off

18. She \_\_\_\_\_ a lot of her free time reading.

- b) does
- c) spends
- d) has
- e) makes

19. I think it's very easy to \_\_\_\_\_ debt these days.
- b) go into
  - c) become
  - d) go down to
  - e) get into
20. I feel very \_\_\_\_\_. I'm going to go to bed!
- b) nap
  - c) asleep
  - d) sleepy
  - e) sleeper

### Methodology – how I reduced the test from 50 to 20 items

The original test contained 50 items – 40 grammar and 10 vocabulary.

I reduced them to 20 in total – 16 grammar and 4 vocabulary.

The reduction was done proportionally:

- I calculated that 40 (grammar) out of 50 is 80%, and 10 (vocabulary) out of 50 is 20%
- 80% of 20 items (the reduced number I use for my placement test) is 16, and 20% out of 20 items is 4.

Then I calculated the number of items for each level (how many Beginner, how many Elementary, etc. The original test contains this information for each item). I took only the grammar items first (40 in total in the original test):

#### **Beginner – 5**

5 items out of 40 is 12,5%

12,5% out of 16 (16 grammar items in the reduced test) is 2 – therefore I need to choose only 2 items from this level for my adapted test

#### **Beginner/Elementary – 6**

6 items out of 40 is 15%

15% out of 16 is 2,4 – therefore I need to choose only 2,4 items from this level for my adapted test. I rounded the number to 3.

#### **Elementary – 1**

1 item out of 40 is 2,5%

2,5% out of 16 is 0,4 – therefore I need to choose only **0,4** items from this level for my adapted test. I rounded to 0, so I removed the item from this level. But I have 3 Beginner/Elementary level items.

**Elementary/Pre-Intermediate – 4**

4 items out of 40 is 10%

10% out of 16 is 1,6 – therefore I need to choose only 1,6 items from this level for my adapted test. I rounded to 2.

**Pre-Intermediate – 6**

6 items out of 40 is 15%

15% out of 16 is 2,4 – therefore I need to choose only 2,4 items from this level for my adapted test. I rounded it to 2.

**Pre-Intermediate/Intermediate – 5**

5 items out of 40 is 12,5%

12,5% out of 16 is 2 – therefore I need to choose only 2 items from this level for my adapted test.

**Intermediate – 3**

3 items out of 40 is 7.5%

7.5% out of 16 is 1,2 – therefore I need to choose only 1,2 items from this level for my adapted test. I rounded to 1

**Intermediate/Upper-Intermediate – 2**

2 items out of 40 is 5%

5% out of 16 is 0,8 – therefore I need to choose only 0,8 items from this level for my adapted test. I rounded to 1

**Upper-Intermediate – 8**

8 items out of 40 is 20%

20% out of 16 is 3,2 – therefore I need to choose only 3,2 items from this level for my adapted test. I rounded to 3

**Advanced – 10** (these are the vocabulary items, not included in the grammar calculations)

10 items out of 50 is 20%

20% out of 20 is 4 – therefore I need to choose only 4 items from this level for my adapted test.



### How I adapted the score assessment

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary
25 – 32	11 - 13	Pre-intermediate
33 – 39	14 - 16	Intermediate
40 – 45	17 - 18	Upper Intermediate
46 – 50	19 - 20	Advanced

From 0 to 15 (the assessment scale used in the original test) there are 15 points (out of 50). 15 is 30% of 50. 30% of 20 is 6 points. Therefore, I need a scale from 0 to 6 for the Beginner level of the adapted test

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner

It goes on like that.

From 16 to 24 there are 9 points (out of 50).

9 is 18% of 50

18% of 20 is 3,6 (4) points. Therefore, I need a scale from 7 to 10 for the Elementary level of the adapted test.

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary

From 25 to 32 there are 8 points (out of 50).

8 is 16% of 50.

16% of 20 is 3,2 (3) points. Therefore, I need a scale from 11 to 13 for the Pre-Intermediate level of the adapted test.

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary
25 – 32	11 - 13	Pre-intermediate

From 33 to 39 there are 7 points (out of 50).

7 is 14% of 50.

14% of 20 is 2,8 (3) points. Therefore, I need a scale from 14 to 16 for the Intermediate level of the adapted test.

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary
25 – 32	11 - 13	Pre-intermediate
33 – 39	14 - 16	Intermediate

From 40 to 45 there are 6 points (out of 50).

6 is 12% of 50.

12% of 20 is 2,4 (2) points. Therefore, I need a scale from 17 to 18 for the Upper Intermediate level of the adapted test.

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary
25 – 32	11 - 13	Pre-intermediate
33 – 39	14 - 16	Intermediate
40 – 45	17 - 18	Upper Intermediate

From 46 to 50 there are 5 points (out of 50).

5 is 10% of 50.

10% of 20 is 2 points. Therefore, I need a scale from 19 to 20 for the Advanced level of the adapted test.

Total score for 50 points (original test)	Total score for 20 points (adapted test)	Level
0 - 15	0 - 6	Beginner
16 – 24	7 - 10	Elementary
25 – 32	11 - 13	Pre-intermediate
33 – 39	14 - 16	Intermediate
40 – 45	17 - 18	Upper Intermediate
46 – 50	19 - 20	Advanced

## Appendix 3

Complete list of all pairs for the GJT before they were split into two lists.

### Pair 1

- a) I would like to have a cup of coffee.
- b) I would like to have cup of coffee.

### Pair 2

- a) Tom never wears a hat.
- b) Tom wears never a hat.

### Pair 3

- c) I walk to work because I don't have car.
- d) I walk to work because I don't have a car.

### Pair 4

- c) London is nice town.
- d) London is a nice town.

### Pair 5

- c) We have dog that barks a lot.
- d) We have a dog that barks a lot.

### Pair 6

- c) My husband is a doctor.
- d) My husband is doctor.

### Pair 7

- c) Once a month she goes to the cinema.
- d) Once a month goes she to the cinema.

### Pair 8

- a) We see rarely our neighbours.
- b) We rarely see our neighbours.

### Pair 9

- c) John has a fever today.
- d) John has fever today.

### Pair 10

- c) I need a doctor who can help me.
- d) I need doctor who can help me.

Pair 11

- c) I feel like going to theater today.
- d) I feel like going to the theater today.

Pair 12

- a) Last week we bought a new car.
- b) Last week bought we a new car.

Pair 13

- c) You can book an appointment with your doctor online.
- d) You can book appointment with your doctor online.

Pair 14

- c) I saw a car that was driving fast.
- d) I saw car that was driving fast.

Pair 15

- c) He is in difficult situation.
- d) He is in a difficult situation.

Pair 16

- a) I eat hardly ever ice cream.
- b) I hardly ever eat ice cream.

Pair 17

- c) I don't have dog because I am allergic.
- d) I don't have a dog because I am allergic.

Pair 18

- c) There is spider on the wall.
- d) There is a spider on the wall.

Pair 19

- a) Yesterday I saw an elephant in the Zoo.
- b) Yesterday saw I an elephant in the Zoo.

Pair 20

- c) I am ill and I need a doctor.
- d) I am ill and I need doctor.

Pair 21

- a) On Monday had I a very difficult test at school.
- b) On Monday I had a very difficult test at school.

Pair 22

- a) We watched an interesting movie last night.
- b) We watched interesting movie last night.

Pair 23

- c) She plays piano in her free time.
- d) She plays the piano in her free time.

Pair 24

- c) The doctors usually study six years.
- d) Doctors usually study six years.

Pair 25

- a) I am a vegetarian and I never eat meat.
- b) I am a vegetarian and I eat never meat.

Pair 26

- c) We usually go to the cinema once a month.
- d) We usually go to cinema once a month.

Pair 27

- a) He plays often video games.
- b) He often plays video games.

Pair 28

- a) I sometimes listen to radio when I drive.
- b) I sometimes listen to the radio when I drive.

Pair 29

- c) The bananas come originally from India.
- d) Bananas come originally from India.

Pair 30

- c) Lions are the biggest wild cats on the Earth.
- d) The lions are the biggest wild cats on the Earth.

Pair 31

- a) Last Sunday we went to the cinema.
- b) Last Sunday went we to the cinema.

Pair 32

- a) Next Wednesday at 10 o'clock have I an exam in history.
- b) Next Wednesday at 10 o'clock I have an exam in history.

Pair 33

- c) Everyone laughs when he plays the clown.
- d) Everyone laughs when he plays clown.

Pair 34

- c) Penguins are birds that can't fly.
- d) The penguins are birds that can't fly.

Pair 35

- c) She has been learning to play guitar.
- d) She has been learning to play the guitar.

Pair 36

- a) My sister always studies after dinner.
- b) My sister studies always after dinner.

## Appendix 4

### Level Placement and Grammaticality Judgement Test 1

**I. Before you start the test, answer the questions about yourself. Circle the correct answer.**

1. Which grade are you in?  
A. Grade 6  
B. Grade 7
2. Which is your native language?  
A. Norwegian  
B. Other
3. Do you use other languages in your everyday life? For example, if your family is bilingual – one of your parents or family members has a different **native** language, and you use that with them. If so, which is that language? Write it down here:

**II. Level Placement Test**

Circle the answer that best completes the sentence:

1. Mike is \_\_\_\_\_.  
a) my sister's friend  
b) friend my sister  
c) friend from my sister  
d) my sister friend's
2. My brother is \_\_\_\_\_ artist.  
a) the  
b) an  
c) a  
d) —
3. Sorry, I can't talk. I \_\_\_\_\_ right now.  
a) driving  
b) 'm driving  
c) drives  
d) drive
4. She \_\_\_\_\_ at school last week.  
a) didn't be  
b) weren't  
c) wasn't  
d) isn't
5. The living room is \_\_\_\_\_ than the bedroom.  
a) more big  
b) more bigger



- c) biggest  
d) bigger
6. The car is very old. We're going \_\_\_\_\_ a new car soon.  
a) to buy  
b) buying  
c) to will buy  
d) buy
7. Sue \_\_\_\_\_ shopping every day.  
a) is going  
b) go  
c) going  
d) goes
8. They \_\_\_\_\_ in the park when it started to rain heavily.  
a) walked  
b) were walking  
c) were walk  
d) are walking
9. \_\_\_\_\_ seen fireworks before?  
a) Did you ever  
b) Are you ever  
c) Have you ever  
d) Do you ever
10. We've been friends \_\_\_\_\_ many years.  
a) since  
b) from  
c) during  
d) for
11. Jeff was ill last week and he \_\_\_\_\_ go out.  
a) needn't  
b) can't  
c) mustn't  
d) couldn't
12. He doesn't smoke now, but he \_\_\_\_\_ a lot when he was young.  
a) has smoked  
b) smokes  
c) used to smoke  
d) was smoked
13. He said that his friends \_\_\_\_\_ to speak to him after they lost the football match.  
a) not want  
b) weren't  
c) didn't want  
d) aren't wanting
14. Take a warm coat, \_\_\_\_\_ you might get very cold outside.  
a) otherwise

- b) in case
- c) so that
- d) in order to

15. She \_\_\_\_\_ for her cat for two days when she finally found it in the garage.

- a) looked
- b) had been looked
- c) had been looking
- d) were looking

16. If I hadn't replied to your email, I \_\_\_\_\_ here with you now.

- a) can't be
- b) wouldn't be
- c) won't be
- d) haven't

been

17. You may not like the cold weather here, but you'll have to \_\_\_\_\_, I'm afraid.

- a) tell it off
- b) sort itself out
- c) put up with it
- d) put it off

18. She \_\_\_\_\_ a lot of her free time reading.

- a) does
- b) spends
- c) has
- d) makes

19. I think it's very easy to \_\_\_\_\_ debt these days.

- a) go into
- b) become
- c) go down to
- d) get into

20. I feel very \_\_\_\_\_. I'm going to go to bed!

- a) nap
- b) asleep
- c) sleepy
- d) sleeper

### III. Grammaticality Judgement Test

Read the sentences and write **OK** if the sentence is grammatically correct for you, or **NO** if you think it is grammatically incorrect.

Example: *She is going to school now.* **OK** (Sounds correct to me, so I write OK)

*She go to school now.* **NO** (Sounds wrong to me, so I write NO)

1. I would like to have a cup of coffee.

2. Tom never wears a hat.
3. I walk to work because I don't have car.
4. London is nice town.
5. We have dog that barks a lot.
6. My husband is a doctor.
7. Once a month she goes to the cinema.
8. We see rarely our neighbours.
9. John has a fever today.
10. I need a doctor who can help me.
11. I feel like going to theater today.
12. Last week we bought a new car.
13. You can book an appointment with your doctor online.
14. I saw a car that was driving fast.
15. He is in difficult situation.
16. I eat hardly ever ice cream.
17. I don't have dog because I am allergic.
18. There is spider on the wall.
19. Yesterday I saw an elephant in the Zoo.
20. I am ill and I need a doctor.
21. On Monday had I a very difficult test at school.
22. We watched an interesting movie last night.
23. She plays piano in her free time.
24. The doctors usually study six years.
25. I am a vegetarian and I never eat meat.
26. We usually go to the cinema once a month.

27. He plays often video games.
28. I sometimes listen to radio when I drive.
29. The bananas come originally from India.
30. Lions are the biggest wild cats on the Earth.
31. Last Sunday we went to the cinema.
32. Next Wednesday at 10 o'clock have I an exam in history.
33. Everyone laughs when he plays the clown.
34. Penguins are birds that can't fly.
35. She has been learning to play guitar.
36. My sister always studies after dinner.

## Level Placement and Grammaticality Judgement Test 2

### **I. Before you start the test, answer the questions about yourself. Circle the correct answer.**

1. Which grade are you in?
  - A. Grade 6
  - B. Grade 7
2. Which is your native language?
  - A. Norwegian
  - B. Other
3. Do you use other languages in your everyday life?  
For example, if your family is bilingual – one of your parents or family members has a different **native** language, and you use that with them. If so, which is that language?  
Write it down here:

### **II. Level Placement Test**

Circle the answer that best completes the sentence:

1. Mike is \_\_\_\_\_.
  - a) my sister's friend
  - b) friend my sister
  - c) friend from my sister
  - d) my sister friend's
2. My brother is \_\_\_\_\_ artist.
  - a) the

- b) an
  - c) a
  - d) —
3. Sorry, I can't talk. I \_\_\_\_\_ right now.
- a) driving
  - b) 'm driving
  - c) drives
  - d) drive
4. She \_\_\_\_\_ at school last week.
- a) didn't be
  - b) weren't
  - c) wasn't
  - d) isn't
5. The living room is \_\_\_\_\_ than the bedroom.
- a) more big
  - b) more bigger
  - c) biggest
  - d) bigger
6. The car is very old. We're going \_\_\_\_\_ a new car soon.
- a) to buy
  - b) buying
  - c) to will buy
  - d) buy
7. Sue \_\_\_\_\_ shopping every day.
- a) is going
  - b) go
  - c) going
  - d) goes
8. They \_\_\_\_\_ in the park when it started to rain heavily.
- a) walked
  - b) were walking
  - c) were walk
  - d) are walking
9. \_\_\_\_\_ seen fireworks before?
- a) Did you ever
  - b) Are you ever
  - c) Have you ever
  - d) Do you ever
10. We've been friends \_\_\_\_\_ many years.
- a) since
  - b) from
  - c) during
  - d) for

11. Jeff was ill last week and he \_\_\_\_\_ go out.  
a) needn't  
b) can't  
c) mustn't  
d) couldn't
12. He doesn't smoke now, but he \_\_\_\_\_ a lot when he was young.  
a) has smoked  
b) smokes  
c) used to smoke  
d) was smoked
13. He said that his friends \_\_\_\_\_ to speak to him after they lost the football match.  
a) not want  
b) weren't  
c) didn't want  
d) aren't wanting
14. Take a warm coat, \_\_\_\_\_ you might get very cold outside.  
a) otherwise  
b) in case  
c) so that  
d) in order to
15. She \_\_\_\_\_ for her cat for two days when she finally found it in the garage.  
a) looked  
b) had been looked  
c) had been looking  
d) were looking
16. If I hadn't replied to your email, I \_\_\_\_\_ here with you now.  
a) can't be  
b) wouldn't be  
c) won't be  
d) haven't \_\_\_\_\_ been
17. You may not like the cold weather here, but you'll have to \_\_\_\_\_, I'm afraid.  
a) tell it off  
b) sort itself out  
c) put up with it  
d) put it off
18. She \_\_\_\_\_ a lot of her free time reading.  
a) does  
b) spends  
c) has  
d) makes
19. I think it's very easy to \_\_\_\_\_ debt these days.  
a) go into  
b) become

- c) go down to
- d) get into

20. I feel very \_\_\_\_\_. I'm going to go to bed!
- a) nap
  - b) asleep
  - c) sleepy
  - d) sleeper

### III. Grammaticality Judgement Test

Read the sentences and write **OK** if the sentence is grammatically correct for you, or **NO** if you think it is grammatically incorrect.

Example: *She is going to school now.* **OK** (Sounds correct to me, so I write OK)

*She go to school now.* **NO** (Sounds wrong to me, so I write NO)

1. I would like to have cup of coffee.
2. Tom wears never a hat.
3. I walk to work because I don't have a car.
4. London is a nice town.
5. We have a dog that barks a lot.
6. My husband is doctor.
7. Once a month goes she to the cinema.
8. We rarely see our neighbours.
9. John has fever today.
10. I need doctor who can help me.
11. I feel like going to the theater today.
12. Last week bought we a new car.
13. You can book appointment with your doctor online.
14. I saw car that was driving fast.
15. He is in a difficult situation.
16. I hardly ever eat ice cream.

17. I don't have a dog because I am allergic.
18. There is a spider on the wall.
19. Yesterday saw I an elephant in the Zoo.
20. I am ill and I need doctor.
21. On Monday I had a very difficult test at school.
22. We watched interesting movie last night.
23. She plays the piano in her free time.
24. Doctors usually study six years.
25. I am a vegetarian and I eat never meat.
26. We usually go to cinema once a month.
27. He often plays video games.
28. I sometimes listen to the radio when I drive.
29. Bananas come originally from India.
30. The lions are the biggest wild cats on the Earth.
31. Last Sunday went we to the cinema.
32. Next Wednesday at 10 o'clock I have an exam in history.
33. Everyone laughs when he plays clown.
34. The penguins are birds that can't fly.
35. She has been learning to play the guitar.
36. My sister studies always after dinner.



## Appendix 5

List of all sentences, coded for marker and grammaticality

### Condition 1

Pair	Sentence	Marker	Grammaticality
Obligatory indefinite article in English and Norwegian – EN and NOR have indefinite article but BG does not have an overt indefinite article			
1a	I would like to have a cup of coffee.	indef	ok
1b	I would like to have cup of coffee.	indef absent	no
4a	London is nice town.	indef absent	no
4b	London is a nice town.	indef	ok
5a	We have dog that barks a lot.	indef absent	no
5b	We have a dog that barks a lot.	indef	ok
10a	I need a doctor who can help me.	indef	ok
10b	I need doctor who can help me.	indef absent	no
14a	I saw a car that was driving fast.	indef	ok
14b	I saw car that was driving fast.	indef absent	no
15a	He is in difficult situation.	indef absent	no
15b	He is in a difficult situation.	indef	ok
18a	There is spider on the wall.	indef absent	no
18b	There is a spider on the wall.	indef	ok
22a	We watched an interesting movie last night.	indef	ok
22b	We watched interesting movie last night.	indef absent	no
Generics – NOR and ENG do not require definite article but BG requires definite article for generics			
24a	The doctors usually study six years.	def	no
24b	Doctors usually study six years.	def absent	ok
29a	The bananas come originally from India.	def	no
29b	Bananas come originally from India.	def absent	ok
30a	Lions are the biggest wild cats on the Earth.	def absent	ok
30b	The lions are the biggest wild cats on the Earth.	def	no
34a	Penguins are birds that can't fly.	def absent	ok
34b	The penguins are birds that can't fly.	def	no

## Condition 2

Pair	Sentence	Marker	Grammaticality
Omission of the indefinite article (bare noun) in Norwegian			
3a	I walk to work because I don't have car.	indef absent	no
3b	I walk to work because I don't have a car.	indef	ok
6a	My husband is a doctor.	indef	ok
6b	My husband is doctor.	indef absent	no
9a	John has a fever today.	indef	ok
9b	John has fever today.	indef absent	no
13a	You can book an appointment with your doctor online.	indef	ok
13b	You can book appointment with your doctor online.	indef absent	no
17a	I don't have dog because I am allergic.	indef absent	no
17b	I don't have a dog because I am allergic.	indef	ok
20a	I am ill and I need a doctor.	indef	ok
20b	I am ill and I need doctor.	indef absent	no
Phrases/collocations that require definite article in English (musical instrument, places, etc.) but not in NOR and BG			
11a	I feel like going to theater today.	def absent	no
11b	I feel like going to the theater today.	def	ok
23a	She plays piano in her free time.	def absent	no
23b	She plays the piano in her free time.	def	ok
26a	We usually go to the cinema once a month.	def	ok
26b	We usually go to cinema once a month.	def absent	no
28a	I sometimes listen to radio when I drive.	def absent	no
28b	I sometimes listen to the radio when I drive.	def	ok
33a	Everyone laughs when he plays the clown.	def	ok
33b	Everyone laughs when he plays clown.	def absent	no
35a	She has been learning to play guitar.	def absent	no
35b	She has been learning to play the guitar.	def	ok

### Fillers

Pair	Sentence	Marker	Grammaticality
Adverb placement - BG has a flexible word order, in Norwegian the adverb is in postverbal position			
2a	Tom never wears a hat.	adv	ok
2b	Tom wears never a hat.	adv	no
8a	We see rarely our neighbours.	adv	no
8b	We rarely see our neighbours.	adv	ok
16a	I eat hardly ever ice cream.	adv	no
16b	I hardly ever eat ice cream.	adv	ok
25a	I am a vegetarian and I never eat meat.	adv	ok
25b	I am a vegetarian and I eat never meat.	adv	no
27a	He plays often video games.	adv	no
27b	He often plays video games.	adv	ok
36a	My sister always studies after dinner.	adv	ok
36b	My sister studies always after dinner.	adv	no
V2 – Bulgarian allows a flexible word order, in Norwegian the verb is always in the second position			
7a	Once a month she goes to the cinema.	V2	ok
7b	Once a month goes she to the cinema.	V2	no
12a	Last week we bought a new car.	V2	ok
12b	Last week bought we a new car.	V2	no
19a	Yesterday I saw an elephant in the Zoo.	V2	ok
19b	Yesterday saw I an elephant in the Zoo.	V2	no
21a	On Monday had I a very difficult test at school.	V2	no
21b	On Monday I had a very difficult test at school.	V2	ok
31a	Last Sunday we went to the cinema.	V2	ok
31b	Last Sunday went we to the cinema.	V2	no
32a	Next Wednesday at 10 o'clock have I an exam in history.	V2	no
32b	Next Wednesday at 10 o'clock I have an exam in history.	V2	ok

## Appendix 6

Whole dataset proficiency levels – number of participants in each proficiency level

### Mean Proficiency:

BG= 2.717949

NOR= 3.80597

The difference is significant:

we use the Wilcoxon test to compare the scores in the two groups,  
because the data are not normally distributed

Wilcoxon rank sum test with continuity correction

data: score.BG\$prof and score.NOR\$prof

W = 13139496, **p-value < 2.2e-16**

alternative hypothesis: true location shift is not equal to 0

## Appendix 7

### Accuracy by Condition and Group matched for proficiency level

#### MODEL (matched proficiency)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial ( logit )

Formula: Acc ~ 1 + Language \* Condition + Grade + (1 | code) + (1 | Pair)

Data: filtered

Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	deviance	df.resid
10372.7	10436.1	-5177.4	10354.7	8487

Scaled residuals:

Min	1Q	Median	3Q	Max
-2.8048	-1.0481	0.5073	0.7024	1.9080

Random effects:

Groups Name	Variance	Std.Dev.
code (Intercept)	0.2696	0.5193
Pair (Intercept)	0.1479	0.3845

Number of obs: 8496, groups: code, 236; Pair, 36

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z )
(Intercept)	-1.03833	0.55748	-1.863	0.062525 .
LanguageNOR	0.44982	0.10681	4.212	2.54e-05 ***
ConditionCond2	-0.04905	0.17609	-0.279	0.780604
ConditionFiller	0.73177	0.17835	4.103	4.08e-05 ***
Grade	0.22335	0.08388	2.663	0.007750 **
LanguageNOR:ConditionCond2	-0.22550	0.11491	-1.962	0.049720 *
LanguageNOR:ConditionFiller	-0.43905	0.12087	-3.632	0.000281 ***

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Appendix 8

### Accuracy by sub-condition and group matched for proficiency

Generalized linear mixed model fit by maximum likelihood (Laplace  
Approximation) [glmerMod]

Family: binomial ( logit )

Formula: Acc ~ 1 + Language \* subcond + (1 | code) + (1 | Pair)

Data: filtered

Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	deviance	df.resid
10339.2	10437.9	-5155.6	10311.2	8482

Scaled residuals:

Min	1Q	Median	3Q	Max
-2.8069	-1.0354	0.5015	0.7030	1.9376

Random effects:

Groups Name	Variance	Std.Dev.
code (Intercept)	0.28455	0.5334
Pair (Intercept)	0.06776	0.2603

Number of obs: 8496, groups: code, 236; Pair, 36

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z )
(Intercept)	0.083886	0.168919	0.497	0.619468
LanguageNOR	-0.017922	0.152431	-0.118	0.906406
subcond1_indef	0.472419	0.198590	2.379	0.017366 *
subcond2_def	0.198238	0.208725	0.950	0.342237
subcond2_indef	0.335262	0.209153	1.603	0.108945
subcond3_adv	0.810445	0.211086	3.839	0.000123 ***
subcond3-top	1.292225	0.214906	6.013	1.82e-09 ***
LanguageNOR:subcond1_indef	0.738247	0.171794	4.297	1.73e-05 ***
LanguageNOR:subcond2_def	0.007296	0.175311	0.042	0.966805
LanguageNOR:subcond2_indef	0.483104	0.178505	2.706	0.006802 **
LanguageNOR:subcond3_adv	0.044588	0.180845	0.247	0.805254
LanguageNOR:subcond3-top	-0.001018	0.189048	-0.005	0.995703

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$contrasts

```
subcond = 1_generic:
  contrast estimate    SE  df z.ratio p.value
BG - NOR    0.0179 0.152 Inf  0.118  0.9064
```

```
subcond = 1_indef:
  contrast estimate    SE  df z.ratio p.value
BG - NOR   -0.7203 0.126 Inf -5.704  <.0001
```

```
subcond = 2_def:
  contrast estimate    SE  df z.ratio p.value
BG - NOR    0.0106 0.131 Inf  0.081  0.9353
```

```
subcond = 2_indef:
  contrast estimate    SE  df z.ratio p.value
BG - NOR   -0.4652 0.135 Inf -3.439  0.0006
```

```
subcond = 3_adv:
  contrast estimate    SE  df z.ratio p.value
BG - NOR   -0.0267 0.138 Inf -0.193  0.8472
```

```
subcond = 3-top:
  contrast estimate    SE  df z.ratio p.value
BG - NOR    0.0189 0.149 Inf  0.127  0.8988
```

Results are given on the log odds ratio (not the response) scale.