Høgskolen i Østfold

MASTER'S THESIS

Strategy based instruction and its effect on vocabulary
retention among Norwegian L2 English learners

Ann-Helen Grimstad

24.05.2021

Masterstudium i fremmedspråk i skolen – engelsk
Faculty of Business, Languages and Social Science

Abstract

Language learning strategy (LLS) use and L2 proficiency often correlate, and the LLSs is an explicit focus in the Norwegian English subject curriculum. This study explores how instruction of vocabulary learning strategies (VLSs) affects the vocabulary retention among a group of Norwegian L2 English learners aged 11–13. The present study aims to: (1) investigate the effect strategy based instruction (SBI) has on vocabulary retention. (2) Investigate how SBI of different VLSs used to determine the meaning of unknown words affects the level of vocabulary retention. (3) Map some learner variables that affect L2 acquisition, and see how they correlate with the degree of vocabulary retention among the individual participants. A total of 32 L2 learners, 16 being part of the control group, and 16 divided equally between two experimental groups, participated in the study.

Based on the participants' results on vocabulary tests (pre-, immediate post- and delayed post-), I have found that SBI of the VLSs in question has a positive impact on both short- and long-term vocabulary retention. Moreover, results also indicate that using lexical inferencing strategies and lexical translation strategies in combination have a stronger effect on long-term retention compared to employing only lexical translation strategies. In regards to the individual variables explored, findings reveal that previously acquired vocabulary breadth is a factor that, in most cases, correlates with the degree of vocabulary retention among these participants - i.e., most of the learners with a higher level of L2 proficiency beforehand performed better on the vocabulary tests. The number of VLSs used beforehand and their self-efficacy beliefs did not yield the same obvious positive correlation with the degree of vocabulary retention among the participants as a whole.

Acknowledgments

Several people have contributed substantially to the completion of my master's thesis, and they are all deserving of my acknowledgments. First, I would like to thank my two supervisors for their guidance throughout this process. Viktoria Börjesson Behre, at Gothenburg University, for helping me in the initial stages with pinpointing a topic for my research. Marcus Axelsson, at Østfold University College, for your steady navigation during the stages of writing and completing my paper. I am very grateful for your thorough feedback.

Thank you to my fiancé, for all your support and encouragement, and for impeccably filling the holes in our household while I have been immersed in my studies. Thank you to my children for your patience and understanding. I look forward to more quality time with you from now on.

I also have to thank Steinar, the teacher of the control group, for taking the time to collect data during your classes. Your work contributed greatly to my study. Thank you to my colleague Stine, for helping me with the practicalities of my study. It would not have been possible to divide the participants into two separate experimental groups without your help. I am also appreciative of my father-in-law's feedback and 'outsider' point of view on my paper. Last, but not least, thank you to all the students who participated in my study.

Ann-Helen Grimstad
Giske, May 2021

Table of contents

1. Introduction

In the fall of 2020, a new national curriculum was put into effect in Norwegian primary schools (Year 1–7). A white paper written by The Norwegian Directorate of Education and Training (2016, p. 39) states that when applying the new curriculum to their practice, teachers must make professional evaluations of whether learning strategies are sufficiently attended to. Moreover, the core curriculum states in section 2.4 titled 'learning how to learn' that "the teaching and training shall fuel the pupils' motivation, promote good attitudes and learning strategies, and form the basis for lifelong learning" (The Norwegian Directorate for Education and Training, 2020a, p. 12). However, the curriculum does not mention what kind of strategies to teach. For teachers in the Norwegian primary school setting, the ambiguity regarding the selection of language learning strategies (LLSs) in the curriculum can bring up several questions. Furthermore, one can also wonder how to approach the specific instruction of selected LLSs in specific subjects like English. Since I currently teach English in Year 6 and 7 (learners aged 11–13), this study is on the topic of teaching LLSs for English language learners in this specific context (I present the specific aims in section 1.4).

Despite the great amount of published studies on the topic of LLS in the past 30 years, defining what LLSs actually are has been challenging (Griffiths, 2007, p. 91). Griffiths (2007) views LLSs as "activities consciously chosen by learners for the purpose of regulating their own language learning" (p. 91). Oxford (1990) defines LLSs a bit more elaborately as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, cited in Marefat & Shirazi, 2003, p. 48). Regardless of how one opts to define LLSs, research reveals that high second language proficiency and high strategy use are linked (Ardasheva & Tretter, 2012, p. 552). Thus, the understanding of LLSs has implications for both language learning and language teaching, and is therefore an area of great pedagogical value (Wang & Bai, 2017, p. 940).

Even though the Norwegian English subject curriculum for Year 1–10 (Norwegian Directorate for Education & Training, 2020b) does not favor any explicit methodologies, it does harmonize well with communicative language teaching. At the core of communicative language teaching is the development of communicative competence, through interaction and collaboration with others (Jafari et al., 2015, p. 708). Jafari et al. (2015) explain that communicative competence "includes not only knowing a set of lexical, grammatical, and phonological rules but also the ability to use the knowledge in a variety of communicative

situations" (p. 708), and it necessitates activating social and cultural knowledge in order to interpret and use the language being learnt. Correspondingly, the English subject curriculum states that after Year 7 the student should be able to "express himself or herself in an understandable way with a varied vocabulary and polite expressions adapted to the receiver and situation" (Norwegian Directorate for Education & Training, 2020b).

1.1 A taxonomy for language learning strategies (LLSs)

From the 1960s and onward, researchers have developed several taxonomies to classify LLSs (e.g. Ellis, 2008; O'Malley et al., 1985; Wenden & Rubin, 1987). Currently, the so-called Strategies Inventory for Language Learning, developed by Oxford (1990) is considered the most comprehensible strategy inventory (Shakarami et al., 2017, p. 235; Mirzaei et al., 2014, p. 210). The Strategies Inventory for Language Learning is divided into two main categories, direct and indirect strategies, which are further subdivided into six groups. Direct strategies contribute to learning and include *cognitive* (e.g., aiding language comprehension and production) *memory* (storage of information), and *compensation* (i.e., despite gaps in knowledge, language can still be used) strategies. (Ardasheva & Tretter, 2012, p. 553). Indirect strategies are those that assist learning and include the sub-categories *metacognitive* (e.g., self-evaluation), *affective* (e.g., regulating emotions), and *social* (e.g., cooperative learning) strategies (Ardasheva & Tretter, 2012, p. 553; Mirzaei et al., 2014, pp. 210-211). For instance, using flash cards for vocabulary learning is a memory strategy that *directly* contributes to learning, while the ability to self-evaluate one's progression is an *indirect* strategy that is valuable when using the flash cards.

Researchers have also applied several methods for measuring the use and success rate of LLSs among learners, such as retrospective interviews, recall interviews, questionnaires, written diaries and journals, and think aloud protocols (Chamot, 2005, pp. 113-115). Despite the fact that these self-report methods cannot be argued to be without fault, they continue to be the only way for researchers to gain insights into unobservable aspects of learners' LLS use. Based on results from previous studies, it is clear that both teachers and students have strong opinions and preferences regarding the use and effectiveness of the various categories of LLSs (cf. Ardasheva & Tretter, 2012; Griffiths, 2007). However, all six sub-categories of LLSs are of importance if one views language learning from a holistic point of view.

Self-efficacy beliefs refer to an individual's personal belief in his or her skills, and affects their motivation, feelings, and behaviors (Wang & Bai, 2017, p. 933). Research has found an

obvious correlation between positive self-efficacy beliefs, higher language proficiency, and academic success (Wang & Bai, 2017, p. 933; Jaekel, 2020, pp. 201-202). Naturally, a learners' self-efficacy beliefs can play a part in their ability to use LLSs effectively as well. Therefore, I focus on this non-linguistic variable in my study, and I will return to theories related to it (see section 2.5.2).

1.2 Vocabulary learning in second language acquisition

LLSs represent a wide area that encapsulates all aspects of language learning, such as speaking, listening, writing, and reading. Vocabulary is an essential part of language proficiency as it affects speaking, writing, listening and reading abilities (Behjat et al., 2017, p. 7). Because of the important role of vocabulary in language learning, this study will focus on that domain within second language acquisition. While there are many ways to define second language acquisition, I have opted for the definition used by Gass et al. (2013) who state that it "refers to the process of learning another language after the native language has been learned. The second language is commonly referred to as the L2" (p. 23).

As this study's scope is within the area of vocabulary, it will naturally only focus on strategies used for vocabulary learning tasks. Vocabulary learning strategies (VLSs) are defined by Graves et al. (2018, p. 534) as the mental processes that a learner engages in when encountering an unknown word. In their research paper, Graves et al. (2018) argue for the value of utilizing VLSs by referring to the well-known "teach a man to fish" proverb. Tamimi Sa'd and Rajabi (2018, p. 159) suggest that since it is not possible to teach all vocabulary items to students, a more fruitful alternative would be to focus on teaching them VLSs, which can also result in more effective L2 word learning.

There is a continuous interest for VLSs in L2 research, and several taxonomies have been developed in an attempt to classify them (Gu, 2018, pp. 326–327). The most commonly used taxonomy is Schmitt's (1997) 58 item taxonomy, which divides VLSs into *discovery* (determination and social) and *consolidation* (social, memory, cognitive, and metacognitive) strategies (Behjat et al., 2017, p.1). Schmitt (1997) explains that the discovery strategies are employed for "gaining initial information about a new word" (p. 206), and determining the meaning is usually what should be regarded as the initial choice (i.e., before making use of consolidation strategies). Consolidation strategies are related to the language learner's efforts at remembering the new words (Schmitt, 1997, p. 206).

Inferring a word's meaning from the surrounding words in a written text is regarded as the most common determination VLS (Schmitt, 1997, p. 219). Schmitt (1997) explains that "[g]uessing an unknown word's meaning from context has been widely promoted in the last two decades as it has been seen to fit in more comfortably with the communicative approach than other more discrete discovery strategies" (p. 209). Since I established in the beginning of the paper that the Norwegian English syllabus centers on developing the learners' communicative competence, it seems safe to conclude that guessing from context should be a prioritized learning strategy to tend to in this specific context. Because of the mentioned arguments in favor of focusing on determination strategies in vocabulary learning, this category of VLSs strategies will be a focus in my study.

1.3 Teaching language learning strategies

According to Parra (2008, p. 197), even though LLSs are teachable skills, it requires that the learner is made aware of them and encouraged to use them. Previous studies on the topic of LLSs suggest that strategy-based instruction (SBI) is necessary in order to help students become aware of, acquainted with, and effective users of a myriad of LLSs (Ardasheva & Tretter, 2012; Griffiths, 2007). In addition, by explicitly training learners in identifying and implementing LLSs, teachers may help them towards becoming more proficient English language learners (Ardasheva & Tretter, 2012, p. 577; Naeimi & Foo, 2015, p. 142). Gunning et al. (2019, p. 156) claim that teachers who raise children's awareness of LLSs help them become better learners. Based on the preceding arguments, it is sensible to assume that SBI could be beneficial for English L2 learners at all ages.

Through his meta-analysis of 61 primary studies on the topic of strategy instruction Plonsky (2011) found a small to medium effect of SBI. Plonsky (2011, p. 993), states that SBI is popular amongst L2 teachers, as well as empirically supported in various contexts (e.g., foreign and second language classrooms). Moreover, SBI relates to different skills, such as writing and reading, and various treatments (e.g., different types of strategies and length of instruction period) (Plonsky, 2011, p. 933). Plonsky (2011) also found that in terms of SBI and its usefulness "the overall results, however, are hardly conclusive." (p. 994).

Researchers have made continuous efforts to decipher the relationship between VLS and learning outcomes (Gu, 2018, p. 328). Researchers have mostly employed qualitative methods, and these studies have yielded results showing a positive correlation between frequent use of strategies and general language proficiency (e.g., Ardasheva & Tretter, 2012;

Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999). Ardasheva and Tretter (2012) and Griffiths (2007) also found that higher-level English L2 learners use indirect LLSs more than lower-level English L2 learners do. Since several studies have revealed dissimilarities between the strategy use among high-proficient and low-proficient language learners, Chamot (2005, p. 116) raises the question whether less successful learners can learn to utilize the LLSs that have proven to play a part in the more proficient learners' success. In a similar vein, Mirzaei et al. (2014) claim that "it is almost implied in the work on language-learning strategies that identifying good strategies assists poor learners to improve their language learning" (p. 210). Nevertheless, Ardasheva and Tretter (2012, p. 556) state that research has yet to conclude what is the ideal method to approach SBI as an L2 English teacher in a classroom context where the students can vary greatly in their level of L2 proficiency.

Several researchers (e.g., Behjat et al. 2017; Candry et al., 2017; Saks & Leijen, 2018,) call for further exploration of the effect of language learning strategies on learning outcomes, while simultaneously considering the role of individual learner variables, such as language proficiency. Candry et al., (2017, p. 311), suggests that future studies should "investigate to what extent individual learner features have an influence of the efficiency of a vocabulary learning technique". Gürsoy (2010, p. 165) stresses that further studies on children's strategy use in formal English language learning contexts (i.e., school) would be particularly useful. What seems to be the recurring theme is the need to execute empirical studies on LLSs involving a variety of L2 learners and carefully consider the individual learner differences they epitomize.

In relation to methodology, both Halvaei and Ansarin (2018, p. 5) and Chamot (2005, p. 126) call for additional experimental studies, in specific learning contexts, to give information on the effects of SBI on L2 language proficiency and acquisition. Furthermore, Nassaji (2006) claims that "one of the key issues in the literature on strategy training is whether learners can be trained to use lexical inferencing strategies effectively." (p. 398). This is especially relevant, as Schmitt (1997, p. 209) has found that this determination strategy is the most common VLS. According to Nassaji (2006, p. 396), one of the most important factors affecting success in lexical inferencing strategy use is the learner's language proficiency. Before one can make further assumptions about the significance of the mentioned factors that play a part in the ability to use lexical inferencing as a strategy for learning vocabulary, more studies need to examine instruction, and L2 learner application, of lexical inferencing in

different contexts, and with different types of texts and words. I address the research gaps mentioned in the two preceding paragraphs in my study.

1.4 Scope, purpose and aim of the study

The current study is a part of the ongoing investigation regarding the usefulness of vocabulary learning strategies. The intention is that an intervention study such as this can function as a valid contribution towards clarifying established implications in this area of L2 learning and teaching. The research project focuses on SBI of some of the most common VLSs employed by successful language learners, namely determination strategies, and measure their effect on vocabulary retention among a group of Norwegian primary school English L2 learners. In addition, I put some prominent individual learner variables, which previous studies suggest affect the ability to learn and use LLSs, under the spotlight. Keep in mind, this study has low external validity due to its small sample size, so the outcomes do not necessarily apply to other contexts.

The main hypothesis is that Norwegian English language learners aged 11–13 will benefit (i.e., acquire more vocabulary) from being taught determination strategies through integrated SBI. In other words, SBI might increase the chances of the learners not only employing lexical inferencing more often when working with texts in the L2, but also the long-term retention of new vocabulary. Moreover, I hypothesize that if learners also utilize lexical inferencing techniques it will increase the prospects for long-term retention of the new vocabulary, compared to only opting for lexical translation tools, such as a bilingual dictionary. I use the same method of SBI between two different experimental groups, albeit with dissimilar types of determination VLSs (i.e., lexical inferencing and lexical translation vs only lexical translation). In addition to investigating to what degree explicit strategy instruction of determination VLSs affects the learners' vocabulary learning, I will also assess how the individual variables (1) vocabulary breadth, (2) already utilized VLSs and (3) self-efficacy beliefs correlate with the level of acquired vocabulary.

I have designed this study in order to strengthen/weaken the following hypotheses:

H1: Previous studies seem to suggest that strategy based instruction (SBI) of vocabulary learning strategies (VLSs) will yield higher L2 vocabulary retention compared to not including SBI in vocabulary teaching. Therefore, the intention is to test this hypothesis in

this specific L2 learning context. In order to do so, I compare the vocabulary retention of the experimental groups with the vocabulary retention of a control group who did not receive SBI (see chapter 3 for more information).

H2: According to processing theories (see section 2.2.1), SBI of lexical inferencing will yield higher L2 vocabulary retention compared to omitting this VLS in SBI.

In addition, I explore the correlation between the following individual learner variables (general vocabulary size, self-reported VLSs and self-efficacy beliefs) and the learning outcomes, as this could explain the possible differential effects of SBI on VLSs among the students:

H3: The English L2 learners' general vocabulary size affects the degree of vocabulary retention after receiving SBI of direct VLS.

H4: The English L2 leaners' number of self-reported VLSs affects the degree of vocabulary retention after receiving SBI of direct VLS.

H5: The English L2 learners' self-efficacy beliefs affects the vocabulary retention after receiving SBI of direct VLS.

In order to test these hypotheses in an informational manner, I must first address a number of related matters. Ensuing, I will review relevant literature and studies on the topics of LLSs, VLSs, SBI and the individual variables in focus. Next, I present the specific details of the performed study follows, as well as an analysis of the gathered data. Finally, I discuss the results of the study in relation to the research hypotheses I have tested.

2. Literature review

As stated in the introduction, this study is about teaching VLSs to a group of Norwegian L2 English L2 learners. In this section, I briefly review some research on LLSs in general, before I move on to especially relevant research in the fields of VLSs and SBI. The final part of the chapter looks at some of the individual variables that can affect L2 learners' ability to employ VLSs successfully.

2.1 Language learning strategies

Several studies have found that successful L2 readers have the highest use of both metacognitive and cognitive LLSs (Mirzaei et al., 2014; Anastasiou & Griva, 2009; Paris & Meyers, 1981). Therefore, in order to help L2 learners become successful readers, their teachers should strive to develop their awareness and control (metacognition) while the learners are reading (which is a cognitive activity) (Mirzaei et al., 2014, p. 222). Ardasheva and Tretter (2012, p. 575) suggest that teachers also introduce younger students to metacognitive and cognitive LLSs, and encourage use of them. Indirect metacognitive strategies could for instance include planning and organizing strategies (cf. Adawu et al., 2014; Naeimi & Foo's, 2015).

A specific example of direct cognitive LLS is compensation strategies, such as guessing or using gestures. Applying these types of strategies enables communication in the L2, regardless of proficiency level (e.g., gaps in knowledge and/or linguistic deficiency) (Mirzaei et al., 2014, p. 222). The participants in Mirzaei et al.'s (2014) study were all successful L2 readers, and the use of compensation was the second less frequently used strategy type among these learners. In contrast, Paris and Meyers' (1981) study found that compensation was the most frequently utilized strategy among good L2 readers. Thus, since results from the previous studies on specific types of LLSs are inconclusive, there is a need for further studies among various types of L2 learners.

When learners experience first-hand that a strategy facilitates their learning, they use it more frequently (Fan, 2003, p. 234). However, Fan (2003, p. 235) also found that language learners who had extensive L2 vocabulary knowledge used strategies that their teacher had recommended, despite the fact that they personally did not perceive them as useful. What one can gather from this is that since different strategies are helpful to different "types" of learners (e.g., some learn better by listening than reading and vice versa), it is useful for the teacher to attempt to measure what kind of strategies actually work for the student(s). A great deal of research has already looked at this matter, and I will review a small portion of these studies in the following.

2.2 Vocabulary learning strategies

Regardless of what approach the L2 teacher uses, vocabulary instruction should contain teaching individual words to the students through diverse language experiences, where several skills are activated (e.g., writing, reading, listening), not to mention strategies that facilitate

learning the new words (Graves et al., 2018, p. 533, 2018). Graves et al. (2018, p. 533) argue that it is especially important to teach VLSs to L2 learners, as it not only provides them with skills that can be utilized in the given context, but they may also be brought into future language learning contexts. Teachers training students in identifying and implementing LLSs could develop more conscious and effective English language learners (Naeimi & Foo, 2015, p. 142). Thus, if a teacher conveys knowledge of VLSs to their students, it may facilitate their prospects of becoming learners that are more independent.

Some concrete strategies used to learn vocabulary include memorization, repetition, association, using a dictionary, and word lists (Naeimi & Foo, 2015, p. 143). Naeimi and Foo (2015) claim their study can function as "a guide for language teachers to either apply direct or indirect vocabulary learning strategies for the better improvement of the language learners' vocabulary acquisition" (p. 144). Their key finding is that students taught through direct LLSs acquired better results than those taught indirect VLSs, hence highlighting the pedagogical value of direct VLSs in vocabulary learning (Naeimi & Foo, 2015, p. 147). However, only two direct (structured reviewing and using mechanical techniques) and indirect (organizing, and discussing one's feelings with someone else) strategies were taught. Since there are so many direct and indirect strategies Naeimi & Foo's (2015) study does not touch upon, the results do not offer a full overview of the potential learning outcomes of direct and indirect strategies in general.

2.2.1 Determination strategies for vocabulary learning

As mentioned, the SBI in my study will include determination VLSs that belong in the discovery strategies category of Schmitt's (1997) taxonomy. Schmitt (1997) explains that "[i]f learners do not know a word, they must discover its meaning by guessing from their structural knowledge of the language, guessing from a first language (L1) cognate, guessing from context, using reference materials, or asking someone else" (p. 208). Determination includes the four first options, while asking someone else belongs within the social aspect of discovery strategies.

L2 learners use a range of strategies to deal with unfamiliar words in a text they are reading, such as ignoring the word, looking it up in a dictionary, writing it down for future consultation with others (e.g., teacher or peers), or inferring its meaning from the given context. According to Nassaji (2003, p. 647) the latter strategy has been proven to be the most frequently used VLS among L2 learners. It is important to keep in mind that in order for L2

learners to identify unfamiliar words in a text, they must first acknowledge the importance of identifying the unfamiliar words (Harmon et al., 2010, p. 100). This requires a metacognitive awareness that one cannot take for granted that all learners have obtained. Personally, I have often experienced that students in my English classes ignore unfamiliar words while reading, especially if they feel like they can understand the gist of the text's meaning.

Through their meta-analysis of 30 studies on the topic of VLSs, Behjat and Nematollahi (2017) sought to reveal the most and least-reported VLSs among L2 learners. *Guessing from textual context* received the highest mean score, and was the most reported VLS among successful learners (Behjat & Nematollahi, 2017, p. 6). According to Haastrup (1991), guessing the meaning of a word "involves making informed guesses as to the meaning of an utterance in light of all available linguistic cues in combination with the learner's general knowledge of the world, her awareness of context and her relevant linguistic knowledge" (p. 40). In relation to lexical inferencing as a VLS, Nassaji (2003, p. 655) separates between strategies (i.e., cognitive or metacognitive activities utilized without any explicit appeal to any knowledge source) and appeals to knowledge sources (i.e., when the learner references a source of knowledge, such as grammatical, morphological, discourse, world, or L1 knowledge).

Nation & Waring, (1997, p. 11) point to some studies that have concluded that first language learners acquire the greatest portion of their vocabulary through learning from context. However, while there are clear implications that this applies to first language vocabulary, research into L2 contexts have not yielded the same indisputable results (Nassaji, 2006, p. 397). In L2 learning, "the stronger students made more effective use of certain types of lexical inferencing strategies than their weaker counterparts" (Nassaji, 2006, p. 387). Thus, a learner's preexisting semantic system considerably affects the ability to employ lexical inferencing strategies. It therefore comes as no surprise that Paribakht and Wesche (1999) found that 80% of strategies used by university students who spoke English as their L2 were lexical inferencing strategies. Cooper (1999) also found that lexical inferencing was the most frequently used strategy when L2 learners interpreted the meaning of idioms, which is a linguistic component that requires a high level of proficiency in order to use. A meta-analysis of 21 studies by Fukkink and de Glopper (1998) concluded that there was a general positive effect of instruction of context clue strategies. Research has also shown that students can benefit from being taught strategies that help them determine the meaning of a word based on

parts of the word (i.e., affixes – both pre- and su(b)-) (Baumann et al., 2005; Carlilse, 2010; Graves, 2016).

On the other hand, Graves et al. (2018, p. 534) also point to studies that have yielded contrary and mixed results regarding the effectiveness of lexical inferencing strategies. This could be because there are several prerequisites in order for L2 learners to inference the meaning of unfamiliar words successfully. For instance, the learners need to have adequate background knowledge of the subject, not to mention strategic knowledge of the inferencing processes (Candry et al., 2017, p. 299; Schmitt, 1997, p. 209). If a learner has never heard of South Africa, for example, it will surely be difficult to appeal to knowledge sources regarding a text on the topic of South African geography and fauna. The richness of context provided will also effect to what degree lexical inferencing is possible (Schmitt, 1997, p. 209). A text that includes pictures related to the topic could provide more 'clues' compared to a text where there are no pictures. Hence, in some texts there is simply not enough information available for the learner to make an informed guess.

An additional prerequisite for successful lexical inferencing is that the learner must already have acquired a certain level of language proficiency (Hu & Nassaji, 2014, p. 36). Alahmadi and Foltz (2020, p. 978) also point to several studies that have found that higher levels of proficiency lead to a higher ability to guess the meaning of a word. Alahmadi and Foltz (2020, p. 982) also argue that if the participants in their study had been more proficient in English, they could have benefitted more from being taught lexical inferencing strategies. Nassaji (2006) suggests that one way of increasing lexical knowledge among learners could be through establishing "a thorough vocabulary learning program that integrates extensive exposure to language and learning vocabulary from context with direct and systematic vocabulary instruction, particularly in the early stages of L2 acquisition" (p. 398).

Alahmadi and Foltz (2020, p. 987) also suggest making learners familiar with inferencing strategies through explicit instruction, and conclude that this could be beneficial for learners in general (e.g., regardless of proficiency level). What one can gather from this, is that while lexical inferencing is a strategy employed by learners who have a high aptitude for learning (e.g., those who reach university level in their education), all types of L2 English learners should be acquainted with this strategy sooner rather than later.

Another type of determination strategy, which has proven to be useful for L2 English learners at all levels of proficiency, is using reference materials, such as monolingual and bilingual dictionaries (Schmitt, 1997, p. 209). Graves et al. (2018, p. 534) confirm that some

of the most common VLSs include using word parts, using context, *and* using the dictionary. Learners who actively use lexical inferencing strategies, as well as consult a dictionary when reading L2 texts learn more words, and thus advance in their reading comprehension level more successfully than those who do not (Alahmadi & Foltz, 2020, p. 978). In light of this, one can conclude that there is a positive correlation between lexical inferencing, the active use of dictionaries, and proficiency level.

According to the Levels of Processing theory, items processed at a deeper level (e.g., semantically) are said to generate a stronger memory trace compared to items processed at a shallower level (e.g., structurally) (Candry et al., 2017, pp. 295–296). For instance, a learner will more likely remember a new word long-term by focusing on its meaning when practicing, rather than purely on the word's form. Candry et al. (2017, p. 310) found that working with new words in context contributed more to the positive effect of word learning, compared to the strategy where the students simply write down new words in isolation, which did not contribute substantially to word learning. Several studies echo the notion that when learning new vocabulary it is more efficient to utilize deep processing strategies compared to rote repetition strategies (see Hulstijn, 1997; O'Malley & Chamot, 1990; Schmitt, 2000).

Marefat and Shirazi (2003) performed a study on the topic of determination VLSs and their impact on vocabulary retention among Saudi Arabian undergraduates. They divided the participants into a linguistic inferencing group and a lexical translation group, and found that both groups received similar results for short-term vocabulary retention (Marefat & Shirazi, 2003). However, the students in the lexical inferencing group benefitted somewhat more in terms of long-term retention (Marefat & Shirazi, 2003, pp. 58–59). Thus, their study also supports the conception that strategies that require deeper cognitive processing generate stronger vocabulary retention.

2.3 Strategy clustering

As one can see from the previous section, using a combination of LLSs at the same time, or in a certain order, has proven to be fruitful for L2 learners. Saks and Leijen (2018, p. 501) point out that instruction that models and exemplifies a combined usage of cognitive and metacognitive strategies should be implemented in L2 teachers' classroom practice, since these two categories of strategies have been proven to be highly interrelated.

Wright and Cervetti (2017, pp. 222–223) conclude that, in general, it is more beneficial to teach students how to use several strategies compared to one or two. Naeimi & Foo (2015, p.

143) support this notion, stressing that learners should be urged to combine strategies when learning vocabulary. Adawu et al. (2014, p. 70) also point out that even though their study shows the positive effects of using metacognitive strategies, using strategies from the other five categories in Oxford's (1990) Strategies Inventory for Language Learning in addition can further enhance the effectiveness of strategy use, as well as the acquisition of linguistic knowledge. Hence, it seems clear that when selecting LLSs for instruction, it is sensible to aim for a combination of LSSs. However, despite multiple studies concluding that efficient strategy use is using several strategies in combination, there is a shortage of qualitative data on the topic of strategy clustering in practice (Razı & Grenfell, 2021, p. 2).

On the other hand, it is wise that the teacher/researcher does not bite over more than she can chew in regards to strategy clustering, and considers the time at hand. Nassaji (2003) found that "success in inferencing may not be related as much to the quantity as to the quality of the strategies used" (p. 660). In addition, is important to keep in mind that while students often are willing to employ newly learnt VLSs, they do not often combine strategies when working independently on their L2 learning (Chamot, 2005, p. 121). Therefore, teachers should encourage their students to use their existing knowledge of LLS in conjunction with the new knowledge (i.e., recently taught learning strategies). My study contributes to bridge the research gap on the topic of strategy clustering, by combining a few strategies in the SBI. In addition, I urge the participants to use their own preferred VLSs in the final part of the study's intervention, in order to increase the possibilities of the students combining even more strategies.

Chamot (2005, p. 116) points to earlier studies that have found that a typical trait of good language learners is their ability to match the strategy used to the specific language learning task at hand, which in turn requires a metacognitive awareness. These types of learners often employ sequences of strategies to complete their language learning tasks (Chamot, 2005, p. 116). Halvaei and Ansarin (2018) also found substantial dissimilarities in the use of LLSs among more effective and less effective L2 English learners when researching the topic of learner effectiveness. In light of their findings, they suggest that teachers make their learners familiar with a range of language learning strategies, provide practice opportunities, and train them in taking on the responsibility for their own language acquisition (Halvaei & Ansarin (2018, p. 5). With the advice to familiarize learners with LLSs fresh in mind, it is timely to look at some previous studies on the topic of SBI.

2.4 Strategy Based Instruction: Guidelines for vocabulary teaching

The value of SBI has been proven in L1 contexts (e.g., for subjects such as social studies, and related to basic skills like reading), and to a great degree in L2 contexts (Chamot, 2005, p. 122). According to Chamot (2005, p. 123), research carried out in both L1 and L2 contexts has concluded that explicit instruction in how to use strategies is more beneficial for learners than simply asking them to use one or more strategies. More specifically, Chamot (2005) claims that "[s]trategy instruction can contribute to development of learner mastery and autonomy and increased teacher expertise…" (p. 126). Numerous studies that have found that SBI fosters metacognition, and the students' ability to understand their own thinking and learning processes (e.g., Carrier, 2003; Cohen, 2003; O'Malley & Chamot, 1990). Adawu et al. (2014) claim SBI "can better enhance L2 learners' language development and make language learning more enjoyable, effective and efficient" (p. 60). However, as mentioned earlier, the question of how L2 instructors should execute SBI in the classroom context is still left unanswered (Ardasheva & Tretter, 2012, p. 556).

    L2 instructors should take heed of the fact that several researchers agree that in order to carry out SBI successfully it should include raising the learners' awareness of current and potential strategies (Ardasheva & Tretter, 2012, p. 578; Nguyen & Gu, 2013, p. 13; Razı & Grenfell, 2021, p. 2). In addition, SBI should consist of modeling, scaffolding, and providing multiple practice opportunities to the learners (Ardasheva & Tretter, 2012, p. 578). This entails that the teacher introduces and models new, appropriate strategies, before setting up guided practice, with the gradual removal of support from the teacher. Evaluating the effectiveness of strategies and transferring them to new tasks is also something that SBI should include (Ardasheva & Tretter, 2012, p. 578).

    Furthermore, Chamot (2005, p. 125) advises teachers to gather information on what learning strategies students already use for different types of tasks. Several researchers (e.g., Ardasheva & Tretter, 2012, p. 554, Chamot, 2005, p. 125; Tamimi Sa'd & Rajabi, 2018, p. 141) echo the importance of not overlooking what LLSs students favor before researching the best strategy to learn vocabulary. Analyzing the students' current use of LLSs is essential for enlightening and improving teachers' practices in regards to the instruction of LLSs. Both Behjat et al.'s (2017) meta-study and Saks and Leijen's (2018) study found that many students were not aware of a great deal of LLSs that exist, which further asserts the need for language teachers to provide explicit learning strategy instruction to their students.

Psaltou-Joycey (2019) has a well-put explanation of what should be at the core of SBI, stating that "the priority is to help pupils not to panic when they encounter unfamiliar language in reading material, but instead to guess meanings, use resources like dictionaries and ask their teacher and peers for help" (p. 175). Motivation should also be a major priority in SBI, i.e., making the students interested in, and acknowledge the usefulness of, VLSs (Graves et al., 2018, p. 541). Furthermore, researches in the field of LLSs clearly suggest that teachers aim to develop their students' self-awareness and self-regulation (related to metacognition) regarding their individual thinking and learning (Chamot et al., 1999; Rubin, 2001; Wenden, 2000).

Another significant research finding on SBI effectiveness is that L2 learners need several opportunities for practicing, in order to overcome the cognitive challenges related to learning how to use strategies while simultaneously developing proficiency in the L2 (Razı & Grenfell, 2021, p. 2). However, as both Graves et al. (2018, p. 534) and Plonsky (2011, p. 1016) point out, a great deal of studies on SBI have failed to provide detailed explanations of how to ideally put this into practice. For that reason, I include a detailed description of the SBI sessions of this study (section 3.2.2.1–3.2.2.5).

2.4.1 The Cognitive Academic Language Approach

According to the so-called Learner-Based Approach theory, "learners construct their own knowledge by associating new information with already existing cognitive knowledge." (Shakarami et al., 2017, p. 236). The learner-based approach views the learner as central in the learning process while the teacher is a facilitator/guide, and highlights the learners' contact with their environment (both social and psychological). A range of metacognitive models that can aid teachers in how to think of learning strategies within the framework of the learner-based approach have been developed (Chamot, 2005, p. 125). The main thought behind several of these models is that if learners get frequent opportunities to practice strategies, such as using word parts and context, the strategies will go from being part of their declarative knowledge (necessitates conscious efforts) to their procedural knowledge (internalized and applied without conscious efforts) (Chamot, 2005, pp. 123–124).

I have chosen to follow a model for SBI that resonates particularly well with the mentioned learner-based approach. The model is called the Cognitive Academic Language Learning Approach (CALLA), and according to Nguyen and Gu (2013, p. 13) the CALLA model includes all the mentioned features that SBI should entail. Oxford et al. (2014, p. 31) confirms

that the CALLA has been fruitful in many studies focusing on cognitive and metacognitive strategies. Moreover, "CALLA is based on cognitive theory which assumes that learners are mentally active participants in the teaching-learning process" (Albashtawi, 2019, p. 685), and therefore harmonizes impeccably with the mentioned learner-based approach. The CALLA model consists of five phases: introducing, teaching, practicing, evaluating, and applying learning strategies (Albashtawi, 2019, p. 686). This framework's methodology entails that the learners take on more responsibility for their learning process as they move from one stage to another (i.e., gain more learner autonomy) (Nguyen & Gu, 2013, p. 13). In addition, the CALLA allows the teacher to make individual adjustments regarding time spent and support given, based on previous knowledge and experience (Nguyen & Gu, 2013, p. 13). As I have established the relevance of the CALLA model that I use in my study, I will present some additional theories regarding individual variables in the following, as they play a major role in the success rate of SBI.

2.5 Individual learner variables

Research in the field of L2 acquisition on the topic of SBI effectiveness also addresses a number of issues related to individual learner variables. For instance, Chamot (2005, p. 126) calls for more intervention studies that investigate the effects of SBI in terms of enhanced language acquisition among a variety of L2 learners in specific contexts around the world, in order to unveil SBI's potential. Previously cited researchers have found that L2 learners benefit from SBI. However, as Plonsky (2011, p. 1017) stresses, this is not a universal truth that applies to all L2 learners. Similarly, establishing a universal hierarchy of strategies based on their usefulness is not possible because of the numerous individual learner variables that affect the usefulness of LLSs.

According to Jaekel (2020) "[i]ndividual differences and learner characteristics are among those variables that have been named as having an effect not only on LLS use but also language proficiency as the dependent variable." (p. 199). Gass et al. (2013, p. 330) list a number of non-linguistic factors that affect the effectiveness of LLSs, such as age, aptitude, motivation, affect, anxiety, and extroversion/introversion. This surely asserts the immensely complex area of research that LLSs is. Nassaji (2003, p. 656) advises more in-depth case studies to explore and evaluate the impact of individual variables on LLS use and its effectiveness. Gunning et al., (2019) stress that regardless of what model for SBI is chosen, it

is essential that the empirical research is "adapted to the age, proficiency level, context and culture of the learners" (p. 157).

Ardasheva & Tretter (2012, p. 577) emphasize that age is an important variable when researching LLS use and effectiveness. Schmitt (1997, p. 225) indicates that "it may well be that some learning strategies are more beneficial at certain ages than others, and that learners naturally mature into using different strategies" (p. 225). In a similar vein, Plonsky (2011) hypothesizes that perhaps the "greater (meta)cognitive capacity of adults offers an advantage over children" (p. 997). Moreover, Smemoe and Haslam (2013, p. 452) point to numerous studies that have found correlations between level of motivation and frequency of LLS use. That is, highly motivated students use more strategies, and in most cases more efficiently. Consequently, reaching a higher age and having higher levels of motivation increase chances of using learning strategies successfully.

Whether to use the L1 or the L2 in SBI is also a matter that needs more investigation. Adawu et al.'s (2014) small-scale study exemplifies how beginner L2 learners can benefit from using the indirect, metacognitive LLSs planning and organizing. However, Adawu et al. (2014) conclude that if they could have communicated with the participants of their study in their L1, their research would have yielded better results in terms of learning outcomes. Grenfell and Harris, (1999) also conclude that teachers should use a combination of the L1 and the L2 when teaching LLSs, as this will ensure better understanding, and increase the chances of the learners employing the strategies they are taught. An instructor that communicates in both languages is of especial importance for language learners that have yet to reach high levels of L2 proficiency (Adawu et al., 2014, p. 72).

Based on what I have presented above, it is clear that the teacher needs to consider the learners' language proficiency in SBI, and keep in mind that low-proficient learners need more guidance from the teacher also when acquiring and implementing LLSs. Both Ikeda and Takeuchi (2006) and Moore and Surber (1992) have tested the effects of SBI on learners with different levels of proficiency. Both studies found that the participants with higher levels of proficiency benefitted more from the SBI compared to participants with lower levels of proficiency. A difference in the levels of processing could explain this finding, i.e., higher proficient L2 learners are able to process new information more efficiently. In contrast, Chularut and DeBacker (2004), who also sought out to investigate the difference in proficiency among participants and its effect on learning outcomes, did not find that advanced learners benefitted more from SBI. Having established that an outcome of SBI has often (yet,

not always) been that "the rich get richer", it is necessary to investigate further how to adapt SBI in a way that will help students regardless of the level of proficiency they have reached in their L2.

2.5.1 Vocabulary size

According to Graves et al. (2018), "Learning to effectively and efficiently use word-learning strategies can be very helpful for all students, but doing so is particularly crucial for students whose vocabularies are markedly smaller than those of many of the peers" (p. 534). Nevertheless, as previously established, in order to be able to apply LLSs, such as guessing from context, it requires that the learner has already acquired a certain amount of knowledge (i.e. vocabulary) (Naeimi & Foo, 2015, p. 147).

Researchers have found a strong correlation between vocabulary size and successful reading skills (Alahmadi & Foltz, 2020, Baumann et al., 2003; Beck & Mckeown, 1991; Graves, 2016). However, L2 vocabulary researchers do not necessarily agree on how many words a student needs to learn, and naturally, the differences between L1 and L2 vocabulary knowledge differ (Graves et al., 2018, p. 533). Nation and Waring (1997) claim, "a vocabulary size of 2,000 to 3,000 words provides a very good basis for language use" (p. 10). Nassaji (2003, p. 648) points to research that has shown that around 5,000 word families (i.e., a dictionary entry in all its forms) are required for understanding 95% of the words in a text. Nation (2006, p. 79) suggests a 98% coverage (i.e., 8,000–9,000 word family vocabulary) as the ideal when dealing with written texts. Correspondingly, Laufer and Ravenhort-Kalovski (2010) conclude that "adequate reading comprehension would require the knowledge of 8,000 word families" (p. 26), since corpus analyses have shown that this amount will cover 98% of a text. Schmitt and Schmitt (2014, p. 494) have also drawn the same conclusion, claiming that the L2 learner needs knowledge of the 8,000–9,000 most frequent word families in order for their receptive vocabulary knowledge to be considered advanced.

2.5.2 Self-awareness and self-efficacy

Tseng et al. (2006, p. 78) state there is a consensus among LLS experts that learners who have acquired a strategic approach to language learning are more successful compared to those who have not. Therefore, if a learner has a repertoire of LLSs it can be great facilitator towards increased L2 proficiency. However, as mentioned in the previous section on strategy clustering, it is not sufficient to have knowledge of strategies for language learning alone. A "good language learner" has also developed the ability to critically determine which strategies

will be most effective in a given situation (e.g., dependent of the nature of the task in a school context) (Tseng et al., 2006, p. 95). In the individual learner's process of learning vocabulary, this is connected to self-regulation. Tseng et al. (2006, pp. 95–96) state that while instruction of strategies undoubtedly is valuable in order to help students 'learn to learn', a great capacity to self-regulate in the process of learning is what determines whether the SBI will be effective or not. In other words, self-regulation is significant for both language learning aptitude and the potential language-learning outcomes.

According to Wang & Bai (2017, p. 931) there are three phases of self-regulation: forethought, performance and self-reflection. Self-efficacy is a part of the forethought-phase of self-regulation, and an important factor when it comes to persistence and use of self-regulated LLSs when learning an L2 (Wang & Bai, 2017, p. 931). While research on self-efficacy is limited, Jaekel (2020, p. 2020) informs that the existing studies are founded on social cognitive theory, human agency, and the belief that the language learners can shape their own development. Wang and Bai (2017) have found "an extremely high correlation between strategy use and self-regulation" (p. 937). Moreover, a link between positive self-efficacy beliefs, self-regulated learning strategies, and academic accomplishment has been established across disciplines (e.g., language learning and mathematics), and in different school systems (Asian and European) (Wang & Bai, 2017, p. 933). Correspondingly, low self-efficacy beliefs could have unfavorable effects, such as raising anxiety (the learner quickly concludes that a task is too challenging) and "thus trapping learners in a vicious self-efficacy cycle" (Jaekel, 2020, p. 201).

In order to determine the capabilities of the participants in their study, Wang & Bai (2017) created The Questionnaire of English Self-Efficacy (QESE), which consists of 32 questions revolving around the ability to accomplish tasks in English (see section 3.2.1 and Appendix A for the adapted version used in this study). Participants in their study who reported high use of LLS and high levels of self-efficacy beliefs in the QESE performed well on the final exams (Wang & Bai, 2017, p 938). Wang & Bai (2017, p. 939) propose that teachers should measure the level of self-efficacy beliefs among their students, as it can reveal how one must adjust teaching in order to meet the students' needs.

When teachers raise students' awareness of LLSs, and help them identify, use, and develop them, they are simultaneously helping students gain autonomy (Parra, 2008, p. 205). Parra (2008) defines the autonomous learner as "a self-activated maker of meaning, an active agent in his own learning process" (p. 205). Behjat et al. (2017, p. 7) resonate with this in their

study on vocabulary learning, stating that strategy training creates the opportunity to be autonomous in learning. Therefore, when a teacher contributes to broadening a learners' repertoire of VLSs, they can also evolve their learners' individual self-regulation and learner autonomy. Consequently, even if teachers merely test their students for their language learning outcomes at the end of the SBI, it is important to keep in mind that teaching VLSs is beneficial for more than just the sake of learning new words.

To sum up, after having reviewed relevant literature related to this study's research hypotheses, it is clear that that there is a need for more research in the field of LLSs in general, and VLSs in particular. Therefore, I draw on the mentioned studies and their implications in my study, in order to see if they hold up in my teaching context.

3. Research methods and instruments

As mentioned, I primarily aimed to examine the possible effects strategy based instruction (SBI) of determination vocabulary learning strategies (VLSs) have on vocabulary retention in this study. I assigned the participants (see section 3.1 below) to a control group and two different experimental groups. The instruction in each experimental group was nearly identical, except that explicit focus on lexical inferencing as a strategy for vocabulary learning was only included in one of them (experimental group 2). While the experimental groups received explicit SBI, this was not included in the control group. All three groups read and worked on the same texts (which included the new vocabulary) and underwent identical vocabulary tests. Due to practicalities, I did not use the instruments measuring individual variables (i.e., questionnaires and vocabulary size test expanded on below) with the control group.

I have employed a mixed-methods approach in the study, in part consisting of a quantitative survey research. I also used a methodology for case studies, since this is particularly relevant if one wishes to "trace the language development of one or more learners" (Mckay, 2006, p. 72), which is precisely what I aim for. Moreover, this is also a useful methodology if the contextual conditions (e.g., vocabulary and the other individual variables I look into) are especially relevant to the focus of the study. In terms of reliability, case studies do not offer a great deal of universally applicable evidence. Nevertheless, they can indeed offer support of broader existing theories (McKay, 2006, p. 73). Methodological triangulation (i.e., using more than one method to gather and analyze research data) is important to increase the credibility of the findings in this study. Classroom observations hold

the possibility of identifying "key problems" regarding students' use of LLSs (McKay, 2006, p. 81). Therefore, I used observations in addition to the post-test, in order to evaluate the usefulness of the SBI and the students' employment of the VLSs (cf. Oxford, 1990, as cited in Yildirim & Akcayoglu, 2015, p. 102).

3.1 Participants

The participants in the experimental groups of the study consisted of 16 L2 English learners (6 student in Year 7 and 10 students in Year 6, which make up the entire classes) enrolled in the Norwegian primary school I work at. The control group consisted of 16 students in Year 6 from another school in the same municipality (this group did not include the entire class, since not everyone wanted to participate in the study). In all three groups, the study was carried out as an integrated part of the English lessons during school hours. For the experimental groups, the SBI sessions also involved working towards the following learning aims for after completion of Year 7 in the English subject curriculum:

- the student can use simple strategies for language learning, text creation and communication
- the student can use digital resources and different dictionaries in language learning, text creation and interaction

 (The Norwegian Directorate for Education & Training, 2020b)

   Due to the Covid pandemic, and the infection control measures that followed, another teacher had to execute the instruction of the control group, and then he conveyed the observation details and results to me after completion. On the bright side, one can view having the same instructor that the students normally have as a factor that contributes positively to the validity of the research. All the participants' spoke Norwegian as their L1, and they had all been learning English in school since Year 1. In accordance with the Norwegian Centre for Research Data's regulations, I gave the students a study consent form in Norwegian, which the parents had to sign in order for the students to participate in the study (see Appendix B). After all the students had handed in their signed consent forms, I initiated the interventions of my study.

3.2 Material and procedures

In the following I give detailed information on the instruction process in the experimental groups, and other aspects of the SBI, which, according to Plonsky (2011, p. 1016) a large number of studies on this topic has failed to provide. The intervention consisted of three phases for the experimental groups: 1) answering a questionnaire and taking a pre-test, 2) five 45-minute training sessions (SBI) for each experimental group, and an immediate post-test, and 3) a delayed post-test. The following sections describe instruments, material and procedures for each phase of the study.

3.2.1 Phase 1: Vocabulary size test, Pre-test, VLS questionnaire and QESE

According to Masrai (2019, p. 4), it is wise to test learners' receptive vocabulary size, as it maps their proficiency level in relation to reading. Therefore, I used the Vocabulary Size Test (VST) developed by Nation & Beglar (2007) to determine the participants' vocabulary breadth size before giving the SBI. The VST is a multiple-choice test in English that gives a maximum score of 14,000. I must emphasize, that despite repeated tests for validity and reliability, one needs to interpret the VST results as a rather generous estimate of the learners' vocabulary size. Next, the students were given a 40 item vocabulary pre-test, identical with the post-tests (see Appendix C). All the words in the test were in the L2, and I instructed the students to translate them to the L1. Each correct answer gave 1 point. I did not give the students any practice opportunities or provide any textual context for the pre-test.

Gu (2018) claims that, "[f]or both research and pedagogical purposes, a convenient tool for 'catching' learning strategies is the use of questionnaires" (p. 328). Moreover, Chamot (2005) advises to make use of instruments that "measure other factors deemed important in learning, such as achievement/proficiency, motivation, attitudes, and/or self-efficacy." (p. 116). Accordingly, as the next step in my research, all participants had to fill in a two-part questionnaire written in the L1, to ensure that the students' varying levels of L2 proficiency did not interfere (see Appendix A). The first part of the questionnaire aimed at revealing the students' current behavioral and attitudinal information on VLS use (adapted from Schmitt's (1997) Vocabulary learning strategies taxonomy) with a total score of 48. The second part aimed at revealing the students' self-efficacy beliefs (adapted from Wang & Bai's (2017) QESE) with a total score of 72. I asked the participants to answer how true different statements were for them on a Likert-scale.

When students identify what strategies they already employ, it can facilitate their L2 acquisition as it raises their general awareness of LLSs (Gürsoy, 2010, p. 165). In addition, since it is important for the instructor to gain awareness of the students' current LLSs, the questionnaire also served as the initial phase of SBI for me as the instructor. It is crucial to point out that there is no flawless instrument for measuring use of LLSs, as it is not possible to develop a perfectly validated version of a VLS questionnaire instrument (Gu, 2018, p. 346). The questionnaire I used was rather short, since I suspected that if I gave the students a form requiring them to reflect on a considerable number of potential strategies, they would perceive the task as daunting and demotivating. Because of the scarce selection of VLSs, the questionnaire might not have included all strategies for vocabulary learning that the students might have utilized prior to the study. This lack may have decreased the validity of the survey results.

One of the benefits of having rather few participants in the experimental groups (N = 16), is that it was manageable to carefully adapt the ensuing SBI to the individual learners' needs, based on their reported frequency of use of the learning strategies in question and self-efficacy beliefs. It is also relevant to mention that my previous first-hand acquaintance with the students in the experimental groups (and knowledge of their learner profiles) was also very valuable in evaluating the individual needs in the upcoming classes.

3.2.2 Phase 2: SBI procedures

Based on the results from the VST and the vocabulary pre-test, I grouped the students into two (nearly) similar experimental groups of equal size. In other words, the test results ensured that the respective groups' overall difference in English proficiency were not statistically significant. According to the VST results (and my previous knowledge of the students' level of L2 proficiency), most of the participants are considered intermediate level English speakers, with some variations (i.e., lower intermediate, higher intermediate).

For the SBI I used the CALLA model described in the literature review. To repeat, it includes five phases: introducing, teaching, practicing, evaluating, and applying learning strategies (Albashtawi, 2019, p. 686). Each experimental group received five 45-minute sessions of SBI integrated as a part of their ordinary English classes, over the course of five separate school days. Both English (L2) and Norwegian (L1) functioned as instructional languages to ensure that the students understood everything.

The SBI sessions for all the groups were based on a text on the topic of South Africa, spanning over three pages, from an English course textbook called *A New Scoop* (Flemmen, Sørheim & Drew, 2007) (see Appendix D). The 40-item vocabulary pre- and post-tests (see Appendix C) were made up of words from this text. Since I followed the principles of the CALLA, the students worked on the first page of the text and the VLSs in focus with thorough guidance from me. When working on the remaining pages of the text, I was still very much available for guidance, though I urged the students to attempt to employ the strategies modelled more independently.

Both experimental groups received SBI of word writing, although this is not a determination strategy. Nevertheless, word writing is arguably a pedagogical valid method for vocabulary learning, regardless of a learner's level of vocabulary proficiency. This is because it can instigate "the creation of a motor trace in memory, which in turn might have aided subsequent recall of the item to be learned" (Candry et al., 2017, p. 310). Schmitt (1997, p. 209) also confirms that writing word lists can be a beneficial exposure to new words for L2 learners. In addition, both groups received SBI of how to use a bilingual dictionary. The SBI of using a dictionary entailed modelling so-called critical lexical translation. More specifically, this involved the students looking up the word(s), reading the various suggestions listed carefully, and then deciding which definition best fits the context. Therefore, the lexical translation also required some degree of inferencing as well, in order for it to be deemed "critical". I also need stress that using a dictionary is not a strategy that can become solely a part of the learner's procedural knowledge, since a dictionary is a tool that requires deliberate effort to apply (Graves et al., 2018, p. 534).

As mentioned, the main difference between experimental group 1 and 2 was that only the second group received SBI of lexical inferencing. This entailed that only experimental group 2 were shown how to make inferences through clues given in the immediate sentence and the wider context of the reading material, as suggested by Fraser (1999, p. 239). The context strategy procedure also involved pausing when reading an unknown word, and then reading the surrounding words and sentences to look for context clues (Graves et al., 2018, p. 537). Moreover, I explicitly modelled how to translate the context into the L1, and how to try out inferences to see if they made sense. I also urged the students to see if they could break the unknown word(s) into meaningful parts, think about the meaning of the parts, and then combine the meanings of the parts to infer the meaning of the unknown word (defined as the *word parts strategy* by Graves et al., 2018, p. 535). In addition, I explained how to acquire

and apply strategic knowledge of inferencing processes (Nassaji, 2003, pp. 656–658). This involved explaining some of the different knowledge sources one could use when encountering unfamiliar word in the text, such as using their background knowledge about South Africa.

3.2.2.1 Session 1

After the experimental groups had completed the questionnaire and the VST, and I had divided them into two separate groups, it was time to initiate the SBI sessions. The first sessions for both groups were actually nearly identical. They started with the students and I talking about the term 'learning to learn', and what this means. Primarily, my major priority was to motivate, and make the students interested in VLSs. I exemplified the values of learning VLSs through the "teach a man to fish" proverb, and this seemed to be a fruitful means to get the students to acknowledge its usefulness. I then read the first few paragraphs from the text on South Africa aloud and modeled how to underline the unfamiliar words the students detected. The students remembered several of the words from the pre-test, but seemed to understand them much better when provided with a context. We also talked about using a dictionary critically, i.e., assessing the various word definitions and reflecting on whether they were a good fit. The students spent the last few minutes continuing to detect unfamiliar words and writing them down.

3.2.2.2 Session 2

In this session, I continued to read the text aloud, and present and model the VLSs from session 1 to both experimental groups. The lexical inferencing group spent much more time researching the background and talking about the context, both textual and historical, in plenary, pairs and individually. The other group had more time at hand to actually write down the words and use the dictionary for (critical) translation.

3.2.2.3 Session 3

In this session, the groups continued from where they left off in the previous session, with me presenting and modeling the strategies, and then giving the students practice opportunities. The practice consisted of two phases for group 1; 1) underline in text and write down unfamiliar words, and 2) immediately consult a dictionary directly when coming across unfamiliar words and evaluate which of the suggestions fit. Like in the previous session, experimental group 1 had much more time at hand to practice the words. The session

consisted of three phases for experimental group 2; 1) write down unfamiliar words, 2) read the entire sentence, and attempt to infer the meaning of the word from the context, and 3) consult a dictionary to make sure that their suggested inference was correct.

3.2.2.4 Session 4

In the fourth session, both groups started out by reading the text aloud to each other in pairs. After that, I instructed them to go through different steps (the same steps for each of the groups as in the third session). Similar to the other sessions, I continued to provide support, through modelling and scaffolding use of the strategies based on the individual participants' needs in both groups. I instructed the lexical inferencing group to locate words from the vocabulary list (i.e., the vocabulary test) in the text and try to figure out the meaning from the context. I urged these students to ask for tips on what context clues they could use. For instance, I suggested that the students read the surrounding words and sentences to look for context clues, translated the context into the L1, and tried out their inference to see if it made sense. It was still necessary that I continue to give guidance in using the dictionary critically for a large part of the participants in both groups.

It proved to be challenging for some of the students in experimental group 2 to follow the instructions regarding use of lexical inferencing strategies, and some of them opted for consulting the dictionary directly. Since participants in experimental group 2 spent a great deal of time on discovering and using various context clues, it naturally led to this group not progressing as quickly as the other experimental group. Consequently, the lexical inferencing group has less time to write down the new words. In contrast, some of the participants in experimental group 1 even had time to write down the words a second time.

3.2.2.5 Session 5

Not everyone in the lexical inferencing group had completed their word-writing list by the start of the fifth session, despite the fact that their assigned homework instructed them to do so. Therefore, some of the students also spent this session writing down the 40 items of vocabulary. I instructed the students in the lexical inferencing group to stop and reflect on the words to a much larger degree (in a number of ways, e.g., using world knowledge, semantic knowledge etc.) than the other experimental group. Therefore, the experimental group 1 progressed more swiftly in the text, and had time to and make use of some of their individual practice strategies when preparing for the test. Both of the experimental groups performed the post-test (Appendix C) as a concluding part of this final session of SBI. In order to measure

the improvement in vocabulary retention at the end of the study, I compared the results from the pre-test with the post-test results.

3.2.3 Phase 3: Delayed post-test

In his meta-study on SBIs, Plonsky's (2011, p. 1016) found that there is a lack in the use of delayed post-tests to measure the long-term effects of SBI. For that reason, I had the students in the experimental groups complete a delayed post-test identical to the immediate post-test two weeks after the immediate post-test, in order to measure the longer-term retention of the new vocabulary. This test contributed to determine the effects of the SBI, as it helped me evaluate whether or not the effects last over time, and thus increased the validity of the research (cf. Plonsky, 2011, p. 1016).

4. Results and discussion

In the following sections, I discuss the results related to the five research hypotheses I have tested. This study has looked at how strategy based instruction (SBI) of different vocabulary learning strategies (VLSs) over a short period affects vocabulary retention among Norwegian L2 learners aged 11–13 (H1). Several of the findings give prospective understanding of whether receiving explicit SBI of different types of determination VLSs affects the learners' L2 vocabulary retention (H2). The final three hypotheses (H3–H5) center on some specific individual learner variables among the participants in the study (general vocabulary breadth, self-reported use of VLS, and self-efficacy-beliefs), with the aim of revealing whether these variables influence the L2 learners' learning outcomes of SBI.

4.1 Participant profiles

Before elaborating on the findings related to the research hypotheses, a summary of the results from the VST (maximum score: 14,000), VLS and QESE questionnaire (maximum score: 48 and 72), pre-test, immediate post-test and delayed post-test (maximum score: 40) for each respective group and its individual members is provided (Table 1, 2 and 3). The final column in the tables refers to the calculated progress in percentage between the pre-test and the delayed post-test. In the tables, M stands for mean scores, which is the average performance among the groups.

Table 1. *Results for the participants in experimental group 1*

Participant	VST	VLS questionn aire	QESE	Pre-test	Immediate post-test	Delayed post-test	Progress in percentage
4	9,200	19	63	7	21	18	27.5
13	8,900	23	48	24	38	36	35
16	7,800	32	60	21	40	40	47.5
3	6,000	21	57	9	39	40	77.5
8	6,300	26	61	11	35	35	60
15	5,800	25	49	5	23	19	35
10	6,200	31	35	3	30	24	52.5
14	6,500	33	42	12	27	25	32.5
	M 7,087.5	M 24.19	M 51.875	M 11.56	M 32.85	M 29.625	M 45.93

Table 2. *Results for the participants in experimental group 2 (lexical inferencing group)*

Participant	VST	VLS questionn aire	QESE	Pre- test	Immediate post-test	Delayed post-test	Progress in percentage
11	8,900	29	66	21	40	40	47.5
5	7,900	31	67	14	32	27	32.5
1	6,900	27	70	13	32	32	47.5
2	6,200	24	29	8	29	28	50
6	6,300	27	49	6	34	32	65
7	4,600	26	38	10	24	22	30
9	6,300	27	35	11	36	33	55
12	6,700	29	66	5	24	24	47.5
	M 6,725	M 27.5	M 52.5	M 11	M 32.42	M 29.75	M 46.875

Table 3. *Results for the participants in the control group*

Participant	Pre-test	Immediate post-test	Delayed post-test	Progress in percentage
17	20	29	21	2.5
18	19	27	27	20
19	2	25	17	37.5
20	12	38	35	57.5
21	12	23	18	15
22	14	38	36	55
23	18	24	34	40
24	11	19	23	30
25	7	11	8	2.5
26	19	27	23	10
27	9	15	13	10
28	14	25	19	12.5
29	27	32	30	7,5
30	10	20	17	17,5
31	10	20	13	7,5
32	17	39	36	47.5
	M	M	M	M
	13.8	25.75	23.125	23.28

The mean scores on the VLS questionnaires of 24.19 (Table 1) and 27.5 (Table 2) of 48 points in total reveal that the participants in the experimental groups were moderate users of VLSs before the study's intervention. Overall, with mean scores of 51.875 (Table 1) and 52, 5 (Table 2) of 72 points in total on the QESE questionnaire, the self-efficacy beliefs in both experimental groups can be considered rather high. The experimental group participants' mean score on the VST (which was carried out before the intervention) was 7,087.5 for the group that did not receive SBI of lexical inferencing (Table 1), and 6,725 for the lexical inferencing group (Table 2). A comparison of the mean scores for the progression in percentage reveals that the results between experimental group 1 (45.93, Table 1) and experimental group 2 (46.875, Table 2) did not differ greatly. Since the control group only received a mean score of 23.28 percent (Table 3) in progression, both experimental groups outperformed the control group.

4.2 Degree of vocabulary retention in SBI groups compared to control group (H1)

Theory suggesting that SBI of VLS(s) would yield higher L2 vocabulary retention compared to not including SBI in vocabulary teaching forms the basis of the first hypothesis (cf. Candry et al., 2017). I compare the participants' test results in both experimental groups (Table 1 and

2) with the control group (Table 3) in order to assess whether the collected data supports the H1. The results on the immediate and delayed post-test for each respective group show that the mean scores of both experimental groups (Group 1, immediate: 32.85, delayed: 29.625. Group 2, immediate 32.42, delayed 29.45) surpassed the control group's mean score (immediate 25.75, delayed 23.125). Since the control group received a higher mean score on the pre-test than the two experimental groups, this group also had overall lower progress in percentage (M = 23.28) compared to the mean scores in group 1 (M = 45.93) and group 2 (M = 46.875). Even though the control group progressed, it was not nearly as much as the experimental groups' progression.

The difference in mean scores of the progress in percentage from the experimental groups (Group 1: 45.3, Table 1. Group 2: 46.875, Table 2) versus the control group (23.28, Table 3) indicates that receiving SBI served as a great advantage for the participants' degree of vocabulary retention in this study. Based on these numbers, my study has found that SBI of VLSs has a rather large effect on the students' vocabulary retention, compared to small to medium effect of SBI that Plonsky (2011) found in his meta-analysis. In this case, explicit strategy instruction of VLSs turned out to be much more effective compared to asking students to use their own, preferred methods when learning new vocabulary (which is was the teacher of the control group instructed the students to do). Overall, the comparison of the test results between the experimental groups and the control group supports H1, and thus the claims made in Plonsky's (2011, p. 933) meta-study, and other studies (e.g., O'Malley and Chamot, 1990; Oxford, 1990) regarding the importance of explicitly teaching learning strategies to L2 learners.

I mentioned in the introduction of this paper that The Norwegian curriculum (The Norwegian Directorate for Education & Training, 2020a) clearly expects that teachers promote learning strategies in the classroom. What is more, there is no mention of a clearly defined method of approach in neither the Core curriculum (The Norwegian Directorate for Education & Training, 2020a) nor the English subject curriculum (The Norwegian Directorate for Education & Training, 2020b). Not even research provides a definite answer to the question of how one should go about SBI (cf. Ardasheva & Tretter, 2012, p. 556). However, since the CALLA model (see section 2.4.1) has proven profitable in studies focusing on cognitive and metacognitive strategies (e.g., Albashtawi, 2019), I chose this model for the SBI in my study as well. The results from this study echo the previous notions regarding CALLA's usefulness, since following this model positively affected the participants'

vocabulary learning achievements. In other words, the findings not only support SBI in general, but more specifically the value of using the CALLA model in SBI of VLSs. However, one can also consider the use of the CALLA model a variable that prevents generalizable results. That is, another method for SBI could have yielded different results, both in a positive and negative sense.

Another variable to consider is the instrument used for testing the vocabulary retention. I designed the test with what the students in the experimental groups were accustomed to in mind. I did not consider the control group when designing the vocabulary test, since I did not have first-hand knowledge of them beforehand. Other studies in the field of vocabulary learning have used multiple choice tests in their pre- and post-tests (e.g., Alahmadi & Foltz, 2020, Naeimi & Foo, 2015). In addition, previous research has found that L2 to L1 translation is easier than L1 to L2 translation (Candry et al., 2020). Consequently, some of the participants could have perceived the test used as either too difficult or too easy.

The small sample groups (N = 8) in the two experimental groups, allowed for a closer follow-up adapted to the needs of the individual L2 learner compared to the control group (N = 16). This could be a possible explanation to why the experimental groups as a whole received better results than the control group. Besides, the fact that all the participants were aware of that this was not just "your regular English class" could have led to an increased motivation to perform well. The limited time at hand for the SBI is also a factor that needs to be considered when discussing the support found for H1 in this study. As Razı and Grenfell (2021, p. 2) point out, L2 learners need several opportunities for practicing in order to overcome the cognitive challenge of learning to use strategies while simultaneously developing proficiency in the L2. The SBI of the determination VLS(s) most likely increased the students' skills related to for instance using a dictionary critically. Nevertheless, the results might have supported SBI more clearly if the students in the experimental groups had even more time to practice the VLSs taught (i.e., then the scores on the post-test might have been even higher). In any case, the results show that also a shorter period of SBI has a positive effect on the degree of vocabulary retention.

Based on what the control group's teacher relayed to me, the group seemed overwhelmed with the idea of learning this large amount of new words rather independently, compared to the experimental groups, who were aware that they would receive explicit guidance in the form of SBI. This observation supports claims made by Adawu et al. (2014) who state that SBI can "make language learning more enjoyable, effective and efficient" (p. 60), and

Psaltou-Joycey (2019) that SBI can "help pupils not to panic when they encounter unfamiliar language in reading material" (p. 175). On a final note related to H1, I have to add that it would have been beneficial if the participants in the control group had also answered the questionnaires and taken the vocabulary size test. Then I could have determined if their VLSs use, self-efficacy beliefs and vocabulary size differed from the experimental groups, and whether this could explain the difference in vocabulary retention among the groups. However, due to practicalities, this was not an option.

4.3 SBI of lexical inferencing and vocabulary retention (H2)

The second hypothesis of this study was that lexical inferencing strategies would yield higher L2 vocabulary retention compared to not including this strategy in SBI. Like in Naeimi and Foo's (2015) and Adawu et al.'s (2014) studies, results on the pre- and post-tests measure the SBI's effect on vocabulary learning outcomes. Comparing the results of the immediate post-test and the delayed post-test in both experimental groups have provided information on the long-term retention of the vocabulary acquired.

The mean score on the pre-test for the group that did not receive SBI of lexical inferencing (experimental group 1) was 11.56, while the mean score on the delayed post-test was 29.625 (Table 1). The lexical inferencing group received a slightly lower mean score of 11.12 (Table 2) on the pre-test, and they received a slightly higher mean score of 29.75 on the delayed post-test (Table 2). By subtracting the mean score on the pre-test from the mean score on the delayed post-test, I have found that experimental group 1 had a relative increase of 156%, while experimental group 2 had a relative increase of 168%. The difference in the relative increase in percentage on the vocabulary tests reveal a minimal difference in the total vocabulary retention between the two experimental groups. This is especially interesting since experimental group 1 had more time at hand to practice the vocabulary after the word writing and dictionary word translation. Although the differences are small, the results do in fact reveal a slight advantage for the lexical inferencing group in terms of long-term retention. Hence, this study found a similar effect of linguistic inferencing on learners' long-term retention level as both Marefat and Shirazi (2003) and Alahmadi and Foltz (2020) did in their studies.

The mean score between the immediate and delayed post-tests decreased by 3.225 points for experimental group 1, and by 2.92 points for experimental group 2. Consequently, the fact that, as a whole, experimental group 2 performed better on the delayed post-test supports H2,

and thus the idea that since inferring an unfamiliar word's meaning before consulting a dictionary probably requires greater depth of cognitive processing compared to merely inferencing or consulting, the prior will lead to greater long-term vocabulary retention (cf. Fraser, 1999, p. 238). The slightly better results for the group that received SBI of lexical inferencing strategies are consistent with the claims made by other researchers (Hulstijn, 1997; O'Malley & Chamot, 1990; Schmitt, 2000), that when learning new vocabulary, it is more effective to utilize deep processing strategies compared to rote repetition strategies. All in all, the study findings support the notion that learners who actively use lexical inferencing strategies and consult a dictionary, when reading L2 texts, learn more words and raise their reading comprehension level more than those who do not employ these strategies in conjunction (Alahmadi & Foltz, 2020, p. 978).

Standard deviation (SD) is "an average of the distance of all the answers from the mean" (McKay, 2006, p. 44). When comparing the standard deviation on the delayed post-test between the experimental groups (group 1: SD = 8.55, group 2: SD = 5.35) it turns out that the individual results in the lexical inferencing group are closer to the average (i.e., more levelled out), while the results differ more in the group that did not receive SBI of lexical inferencing. Therefore, it seems that the SBI of lexical inferencing aided progression and helped minimize the differences in acquired vocabulary among all the members of experimental group 2. In turn, the reduced span in learning outcomes among these students gives a better basis for their future learning as a group.

Nevertheless, as there were no major differences in vocabulary retention between the two experimental groups, possible explanations for this require some attention. First, the students spent time during the SBI sessions on the word-writing technique (see section 3.2.2), which is considered a memory strategy. In hindsight, it could have been wiser to hand out the list of vocabulary, instead of the students spending time writing them down. Then the students would have had more time to focus on the determination strategies. Furthermore, the possibility that individual variables play a role in the cause of these results need to be considered (this is further dealt with in sections 4.4–4.6).

The VLS questionnaire (see Appendix A) revealed that lexical inferencing was a strategy that some of the students in both experimental groups employed beforehand. I also observed during the SBI sessions that even though the students in experimental group 1 did not receive SBI of lexical inferencing strategies, some of the group members used them regardless. Besides, in order for the students to use a dictionary critically (which was a strategy both

groups received SBI of), it necessitated that they applied some degree of lexical inferencing (see section 3.2.2). Participants in both experimental groups stated that they felt that the words were easier to understand once they saw the words in a given context (i.e., while reading a text). Lexical inferencing has proven to be of more value than simply writing down the vocabulary in isolation (Candry et al., 2017, p. 310). Observations made during the SBI lessons support suggestions made by Marefat and Shirazi (2003, p. 60), that even though some learners reported not using lexical inferencing before the SBI lessons, the training they received affected and improved the use of this strategy. Nonetheless, it is not possible to determine unequivocally to what degree the students employed lexical inferencing strategies solely based on observations and the VLS questionnaire.

Another variable that could have contributed greatly to the participants' results is their previously acquired vocabulary. The VST scores revealed that most of the participants' vocabulary was not broad enough for what for instance Laufer and Ravenhorst-Kalovski (2010, p. 26) suggest as the minimum for high text coverage and effective usage of inferencing strategies (I discuss the aspect of vocabulary size further in section 4.4). The context clues provided, or lack thereof, in the reading material could also be a contributing factor to the minimal difference in retention between the experimental groups. For instance, one participant asked, "Is this the picture of the mountain mentioned in the text?" This information was not given in the text, and in order to find out for sure one would need to do additional online research. This exemplifies how contextual information makes lexical inferencing possible (Schmitt, 1997, p. 209). If the authors of the text had added a short caption to the pictures, it would have facilitated lexical inferencing. In turn, the lack of information in the text illustrates the importance to evaluate variables, such as reading material, thoroughly in regards to how well they suit the LLSs in question. It is possible that other texts on the topic of South Africa would have worked better in this specific context. Since evaluation/assessment of the textbook itself is not within the scope of this study, I will not elaborate further on this, though it is relevant to bear in mind for future research on lexical inferencing strategies.

While lexical inferencing is considered a direct strategy, the learner still needs metacognitive awareness in order to employ it successfully (Chamot, 2005, p. 116). The lexical inferencing group struggled greatly with using lexical inferencing strategies autonomously. As mentioned, I observed that some of the learners even skipped the suggested inferencing methods, and rather opted for consulting the dictionary directly. These

participants might not have been cognitively ready and/or sufficiently motivated to do the required work. Possibly, some students at this age are not developmentally ready to use all of the types of lexical inferencing strategies successfully. If the latter is the case, it supports implications by Schmitt (1997, p. 225) that learners mature into the ability to use certain strategies. Plonsky's (2011, p. 997) hypothesis that an adult's greater (meta)cognitive capacity is an advantage when being taught certain LLSs can also serve as a possible explanation. Nonetheless, SBI of lexical inferencing to students at this age should not be considered in vain, since Schmitt (1997) also suggests that "it is sensible to introduce young learners to a variety of strategies, including those which they are likely to use more as they grow older" (p. 226). Besides, the vocabulary retention was in fact slightly higher for the lexical inferencing group.

The time at hand is surely a variable that could have played a significant part in the minimal differences in vocabulary retention among the experimental groups. Due to the limited time at hand for the intervention, the lessons took place in the span of only two weeks. In contrast, Graves et al. (2018) had the advantage of continuing their lexical inferencing strategy program for a whole semester, and thus optimizing the possibilities for the students reaching a higher mastery of this intricate VLS. Plonsky (2011, p. 1015) also argues that allowing students to develop and practice strategies over time is what yields the greatest advances. On the other hand, one could argue that the short time span of this study made it easier for the participants to build on the contents from previous lessons, as the knowledge was more "fresh". Nonetheless, the fact that the participants did not have a great amount of time to evaluate and apply the learning strategies, especially for such an intricate strategy as lexical inferencing, is a shortcoming of the study.

Researchers advise that when teaching students new LLSs, it is important to provide them with several practice opportunities in various contexts (Ardasheva & Tretter, 2012, p. 578). One could conclude that this is of especial importance when focusing on lexical inferencing, due to the complexity of this VLS and its mentioned pitfalls (see section 2.2.1). Thus, in retrospect, having given the students the chance to see the same words used in different texts would have been valuable. The time at hand did not permit working with several texts as part of the study, but I will surely consider this in the future instruction of these students. To conclude, H2 could benefit from even more longitudinal research and making use of more than one text containing the new vocabulary.

4.4 L2 vocabulary size and vocabulary retention (H3)

As mentioned, researchers like Chamot (2005) and Candry et al., (2017) have concluded that more research is needed on to what degree a learner's level of vocabulary proficiency influences the ability to learn new vocabulary. Therefore, H3 specifically focused on the potential correlation between these variables. When comparing all of the learners' individual results on the VST with their scores on the post-tests, one can see a low positive correlation between learners' level of vocabulary proficiency and the degree of retention for the new vocabulary. In general, students with a well-developed vocabulary breadth outperformed the students with lower developed vocabulary breadth in terms of total score on the delayed vocabulary post-test (Figure 1).

Figure 1. *VST and delayed post-test scores*
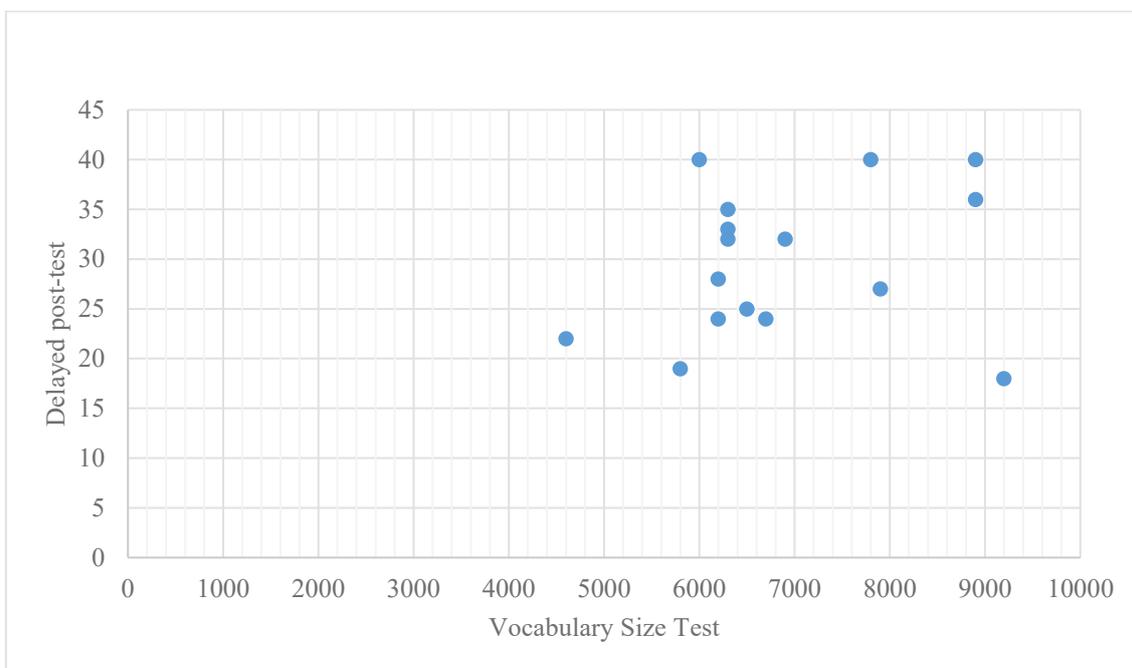
A scatter plot diagram illustrating the experimental group participants' results on the VST with their scores on the delayed post-test.

One example that prevents a generalizable verification regarding H3 is participant 4 (the dot farthest to the right in Figure 1). This student had the highest score of everyone on the VST (9,200), and yet, received the lowest score on the post-tests (18), as well as the smallest progress in percentage (27.5) (Table 1). Another instance that weakens H3 is participant number 3 (Table 1 and dot number three from the left in Figure 1), who had a total vocabulary size more than a 1,000 words lower than the group's mean score, and still ended up with an

impressive 77.5% in progress between the pre- and delayed post-test. These cases affirm that individual variables are complex in the way they interact (cf. Gass et al., 2013, p. 330). Not to mention, such results confirm why so many previous studies have opted for quantitative methods with a significantly larger sample size of participants, as this increases the prospects of drawing conclusions that are more generalizable.

The results for participant 13 on the VST and the post-tests (Table 1) were among the highest of all the participants (8,900 words, 36 points and 38 points). The progress in percentage between the pre- and the delayed post-test for this participant was below the mean score for the group as a whole. Participant 13's results supports the notion that while all of the students seemed to benefit from the SBI in terms of increased vocabulary retention, there is only a certain gain high proficient students can have from SBI (Plonsky, 2011, p. 1014). In regards to this, Plonsky (2011) further elaborates that "ceiling effects may come into play when strategies are taught to learners who use strategies effectively prior to any formal intervention" (p. 1014).

It is necessary to evaluate the instrument used for measuring the students' vocabulary size regarding its reliability. The VST only measures receptive word breadth, but how deeply a learner has knowledge of a word has been proven by Nassaji (2006, p. 398) to have an impact on retention of new vocabulary as well, especially when using lexical inferencing as a VLS. More specifically, Nassaji (2006) found that "depth of vocabulary knowledge made a significant contribution to inferential success over and above the contribution made by the learner's degree of strategy use." (p. 387). This confirms empirically that vocabulary depth is associated with the ability to use lexical inferencing strategies. Consequently, since I did not measure the participants' vocabulary depth in my study, it may well be considered a factor that decreases the reliability of the study findings related to H3.

4.5 Self-reported utilization of VLS and vocabulary retention (H4)

The fourth hypothesis suggested that there is a positive correlation between the participants' self-reported VLS usage and their acquired vocabulary at the end of the SBI sessions. According to Wang and Bai (2017), "[u]nderstanding the self-regulated learning strategies that students use has implications for language teaching and learning." (p. 940). Overall, the scores on the VLS questionnaire indicate that the participants who reported that they already used a great deal of strategies regularly did not necessarily outperform those with lower scores on this questionnaire. Particularly, the small standard deviation of the scores on

the VLS questionnaire in experimental group 2 (SD = 2), reveal that the amount of VLSs used before the SBI was rather similar among these participants. Considering that the progress in percentage on the vocabulary tests in this group range from 30 (P7, Table 2) to 65 (P6, Table 2), the results support the notion that successful and less successful learners do not necessarily use different amounts of strategies (cf. Chamot, 2005, p. 115). Thus, the analyzed data does not support the hypothesis (H4) in this specific context.

The individual results elaborated on are limited to those that I deem the most "sensational". One instance that clearly weakens H4 is participant 14, who had the highest score on the VLS questionnaire (33), and one of the lowest percentages in progress on the vocabulary tests (32.5%). In contrast, participant 4 had the highest score of everyone on the VST (9200), and reported the lowest score on the VLS questionnaire (19). With these unexpected results, participant 4 represents the most evident example of how challenging it can be to make generalizable conclusions regarding individual variables and its effect on vocabulary retention after receiving SBI of VLSs (take into consideration, this participant also had the lowest progress in percentage, 27.5, among the experimental group participants).

Despite the fact that the number of strategies used might not differ substantially among those participants that received the highest scores on the post-tests and those that scored the lowest, Chamot (2005, p. 115) claims that more successful learners possibly employ learning strategies more fruitfully. Of particular interest in this regard are participants number 3 and 13 (Table 1), who had the second and third lowest reported scores on the VLS questionnaire (P3 = 21, P13 = 23). The scores imply that a wide range of VLSs was not employed beforehand, and this could be because these students had come a long way in their self-discovery, i.e., they had already detected their personal learning styles and strengths, not to mention determined what strategies contributed to success for them (cf. Gass et al., 2013, p. 359). If one looks at their delayed post-test results (P13 = 36 and P3 = 40) it seems likely that well-developed self-discovery and knowledge of personal learning styles have played a part. Considering participant number 13's total vocabulary size of 8,900 words, the theory about self-discovery seems even more credible. Hu and Nassaji (2014) also resonate with this explanation, as they state, "[r]esearch findings also suggest that low reported strategy use is not necessarily a sign of unsuccessful learning. What matters is how learners use them and what knowledge sources they employ to support their inferences." (p. 28).

Even though I pointed out to the students beforehand, both orally and in writing in the questionnaire, the importance to answer what was most true for them, there is always the

possibility that the students in fact answered what they felt was "desired" by me as their teacher on the questionnaire. At the risk of being repetitive, I feel the need to stress that the questionnaire poses a threat to the validity, as one cannot be sure that the participants interpreted the Likert-scale in the same way and/or responded truthfully. In addition, it is difficult to determine to what degree variables not related to language (e.g., motivation) affect the way the individual participants interpret and answer the questionnaire (cf. Gass et al, 2013, p. 332).

On a final note in connection to H4, it is especially important to help learners that are struggling (e.g., with reading in general) to understand a survey such as the one in question. In turn, this can minimize the chances of misinterpreting differences in the level of understanding among the learners as "differences in strategies used" by the analyst. Moreover, Gass et al. (2013) point out that "good or better language learners may self-report actions that all language learners in fact undertake, but only the good language learners are somehow aware of" (p. 358). I have realized that while the scaffolding and support given to students during the SBI was adapted according to the different students' needs and level of proficiency, I should have helped the students with the process of interpreting and answering the questionnaire to a larger degree.

4.6 Self-efficacy beliefs and vocabulary retention (H5)

The final hypothesis of this study centered on the relationship between the participants' self-efficacy beliefs and their level of vocabulary retention. Based on the experimental groups' means scores on the QESE questionnaires the participants' self-efficacy beliefs can be considered high (M = 51.875 out of 72 in total for group 1, M = 52.5 points out of 72 for group 2). A comparison of the scores on the QESE questionnaires with the VST results reveals no obvious positive correlation, as high scores on one does not necessarily equal high scores on the other. Furthermore, comparing some of the participants' results on the post-tests with their scores on the QESE questionnaires reveal that self-efficacy beliefs do not always correlate with the level of vocabulary retention. For instance, participant number 2 and 9 (in the lexical inferencing group (Table 2) came out with some of the lowest scores in terms of self-efficacy beliefs (P2 = 29, P9 = 35), while the progress between the pre- and delayed post-test can be argued to be rather good (P2 = 50%, P9 = 55%). What one could take from this, is that the conclusions made by Jaekel (2020) and Wang and Bai (2017) regarding the

correlation between positive self-efficacy beliefs and language learning effects is not a universally applicable truth, at least not for L2 learners as young as in this case.

On the other hand, the discrepancy between the stated theory and my empirical results could also be because the students interpreted the questions differently, or that they had yet to develop the self-awareness required to answer the matters addressed in the QESE. Regarding the validity of the QESE, the arguments posed for H4 that it is not possible to create a flawless questionnaire also apply for H5. It is also important to keep in mind that Wang and Bai (2017, p. 940) recommend that a modified version of the QESE for younger English language learners were developed. While this is what I have attempted to do, it is challenging, and the QESE employed for this study would surely have benefitted from expert reviews. Given time and resource constraints, I have not been able to seek such advice.

Wang and Bai (2017) state that "it is very important for teachers to know their students well and adjust their teaching practices in the classroom accordingly" (p. 239). This study supports this notion. Since the students answered the questionnaire before the SBI, and the fact that I knew the students well beforehand, allowed me to make informed adjustments to SBI based on the individual participants' needs. Consequently, these adjustments may have minimized the chances of scarce vocabulary retention among the participants who received the lowest score on the self-efficacy beliefs questionnaire.

5. Conclusion: Pedagogical implications and future research

The results from the current study argue in favor for the pedagogical value of SBI in English L2 learning. In other words, if teachers provide their students with guided experiences of LLS use, it could increase the possibilities of developing effective English L2 learners (cf. Ardasheva & Tretter, 2012; Naeimi & Foo, 2015). I hypothesized that the learners in the experimental groups would acquire more vocabulary than the control group, since they received integrated SBI of VLSs, and the results strengthen this hypothesis to a great degree.

Both lexical inferencing and lexical translation are common determination VLSs among L2 learners, which earlier studies (e.g., Alahmadi & Foltz, 2020) have found to be beneficial when learning new L2 vocabulary. My study has also illustrated that when familiarizing L2 learners with both inferencing strategies and lexical translation strategies, the teacher can influence the L2 word learning process positively. Furthermore, the results of this study have shown that using these two VLSs in conjunction results in better long-term vocabulary retention, compared to solely employing lexical translation. Therefore, I suggest that L2

English teachers prioritize teaching both of these strategies to their students, since they, in general, seem to have a positive effect on the students' L2 vocabulary learning.

As illustrated, also shorter periods of explicit focus on VLSs can have positive effects on the L2 English learners' vocabulary retention. Although the findings of this study can contribute to a better understanding of VLSs training, one should also note the limitations addressed in the discussion. For instance, due to the complexity of the VLSs in focus and the short time at hand one can argue that five instructing sessions per experimental group did not allow the students to reach their full potential. Thus, a longitudinal study could perhaps have given more comprehensive/precise conclusions regarding SBI and its effect on L2 vocabulary retention. Moreover, due to the small sample size, it is hard to make any externally valid generalizations from this stud. Nonetheless, the sample size increased the possibilities to adapt the instruction based on individual needs.

Even though this study has focused on the impact of a few learner variables, exploring a greater number of non-language factors that have proven to effect LLSs effectiveness (e.g., age, aptitude, motivation, overlapping stages of acquisition, affect, anxiety, and extroversion/introversion) could have provided additional explanations for the results (cf. Gass et al., 2013, p. 330). I suggest that if other researchers wish to replicate this study in the future, they also investigate some, it not all, of these elements in addition. It would also be relevant to investigate how the LLSs taught may transfer to other areas of English L2 learning, such as writing. Furthermore, it would be interesting to apply other approaches to SBI, in addition to the CALLA model I used, and compare the effectiveness in the Norwegian L2 classroom context.

When working with reading materials, such as the text about South Africa in this study, there would be a faster progression in the everyday classroom compared to in my SBI sessions. Based on my experience, working this thoroughly with one text as in this study is not something every English teacher feels comfortable with prioritizing, as there are a number of topics and skills the curriculum expects us to convey to our students. However, the results of this study also argue in favor of focusing on quality over quantity concerning both the number of strategies in focus *and* the amounts of reading material at hand.

Finally, I would like to address an ethical consideration regarding my future English language instruction of the students in the experimental group that did not receive SBI of lexical inferencing strategies. As the lexical inferencing group ended up with slightly better results, I will compensate for this lack by also giving the participants in experimental group 1

instruction of these types of determination VLSs. In addition, I will also advise the teacher of the control group to include similar SBI to those students, as a means to reach the learning aims from the English subject curriculum that the experimental groups worked towards when participating in this study.

List of references

Adawu, A., Chen, J.C., & Wei, J. (2014). Teaching ESL beginners metacognitive writing strategies through multimedia software. *The CATESOL Journal 26*(1), 60–75.

Albashtawi, A. H. (2019). Improvement of EFL students' academic reading achievement through the Cognitive Academic Language Learning Approach (CALLA). *Reading Psychology, 40*(8), 679–704. https://doi.org/10.1080/02702711.2019.1658669

Alahmadi, A., & Foltz, A. (2020). Effects of language skills and strategy use on vocabulary learning through lexical translation and inferencing. *Journal of Psycholinguistic Research, 49*(6), 975–991. https://doi.org/10.1007/s10936-020-09720-9

Anastasiou, D., & Griva, E. (2009). Awareness of reading strategy use and reading comprehension among poor and good readers. Elementary Education Online, 8(2), 283–297.

Ardasheva, Y., & Tretter, T.R. (2012). Perceptions and use of language learning strategies among ESL teachers and ELLs. *TESOL Journal, 3*(4), 552–585. https://doi.org/10.1002/tesj.33

Baumann, J.F., Font, G., Edwards, E.C., & Boland, E. (2005). Strategies for teaching middle-grade students to use word part and context clues to expand reading vocabulary. In E.H. Hiebert & M.L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 179–205). Erlbaum.

Baumann, J.F., Kame'enui, E.J., & Ash, G.E. (2003). Research on vocabulary instructing: Voltaire redux. In J. Flood, D. Lapp, J.R. Squire, & J.M. Jensen (Eds.), *Handbook of research on teaching the English language arts* (2nd ed., pp. 752–785). Erlbaum.

Behjat, F., Kargar, A.A., & Nematollahi, B. (2017). A meta-analysis of vocabulary learning strategies of EFL learners. *English Language Teaching 10*(5), 1–10.

Beck, I.L., & McKeown, M.G. (1991). Conditions of vocabulary acquisition. In R. Barr, M.L. Kamil, P.B. Mosenthal, & P.D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 789–814). Longman.

Candry, S., Elgort, I., Deconinck, J., & Eyckmans, J. (2017). Word writing vs. meaning inferencing in contextualized L2 vocabulary learning: Assessing the effect of different vocabulary learning strategies. *Canadian Modern Language Review, 73*(3), 293–318. https://doi.org/10.3138/cmlr.3688

Candry, S., Decloedt, J., & Eyckmans, J. (2020). Comparing the merits of word writing and retrieval practice for L2 vocabulary learning. *System (Linköping), 89*. https://doi.org/10.1016/j.system.2020.102206

Carlisle, J.F. (2010). Effects of instruction in morphological awareness on literacy achievement: An integrative review. *Reading Research Quarterly*, *45*(4), 464–487. https://doi.org/10.1598/RRQ.45.4.5

Carrier, K. A. (2003). Improving high school English language learners' second language listening through strategy instruction. *Bilingual Research Journal, 27*(3), 383–408. https://doi.org/10.1080/15235882.2003.10162600

Chamot, A. U. (2005). Language learning strategy instruction: Current issues and research. *Annual Review of Applied Linguistics* 25, 112–130. https://doi.org/10.1017/S0267190505000061

Chamot, A. U., Barnhardt, S., El-Dinary, P. B., & Robbins, J. (1999). *The learning strategies handbook*. Addison Wesley Longman.

Chularut, P., & DeBacker, T. K. (2004). The influence of concept mapping on achievement, self-regulation, and self-efficacy in students of English as a second language. *Contemporary Educational Psychology, 29*(3), 248–263. http://dx.doi.org/10.1016/j.cedpsych.2003.09.001

Cohen, A. D. (2003). The learner's side of foreign language learning: Where do style, strategies, and tasks meet? *International Review of Applied Linguistics, 41*(4), 279–291. https://doi.org/10.1515/iral.2003.013

Cooper, T. C. (1999). Processing of idioms by L2 learners of English. *TESOL Quarterly*, *33*(2), 233–262. https://doi.org/10.2307/3587719

Ellis, R. (2008). *The study of second language acquisition* (2nd ed.). Oxford University Press.

Fan, M. Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. *The Modern Language Journal (Boulder, Colo.), 87*(2), 222–241. https://doi.org/10.1111/1540-4781.00187

Flemmen, R. L., Sørheim, B. & Drew, I. (2007) *A New Scoop 7*. Det Norske Samlaget.

Fraser, C.A. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition*, *21*(2), 225–241. https://doi.org/10.1017/S0272263199002041

Fukkink, R.G., & de Glopper, K. (1998). Effects of instruction in deriving word meanings from context: A meta-analysis. *Review of Educational Research*, *68*(4), 450–469. https://doi.org/10.3102/00346543068004450

Gass, S. M., Behney, J., & Plonsky, L. (2013). *Second language acquisition : An introductory course* (4th ed.). Routledge.

Graves, M.F. (2016). *The vocabulary book: Learning and instruction* (2nd ed.). Teachers College Press.

Graves, M. F., Schneider, S., & Ringstaff, C. (2018). Empowering students with word-learning strategies: Teach a child to fish. *The Reading Teacher*, *71*(5), 533–543. https://doi.org/10.1002/trtr.1644

Grenfell, M., & Harris, V. (1999). *Modern languages and learning strategies: In theory and practice*. Routledge.

Griffiths, C. (2007). Language learning strategies: Students' and teachers' perceptions. *ELT Journal 61*(2), 91–99. https://doi.org/10.1093/elt/ccm001

Gu, P. Y. (2018). Validation of an online questionnaire of vocabulary learning strategies for ESL learners. *Studies in Second Language Learning and Teaching*, *8*(2), 325–350. https://doi.org/10.14746/ssllt.2018.8.2.7

Gu, P. Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning*, *46*(4), 643–679. https://doi.org/10.1111/J.1467-1770.1996.TB01355.X

Gunning, P., White, J, & Busque, C. (2019). Designing effective strategy instruction: Approaches and materials for young language learners. In Chamot, A. U., & Harris, V. (Eds.). *Learning strategy instruction in the language classroom : issues and implementation* (pp. 155–170). Multilingual Matters.

Gürsoy, E. (2010). Investigating language learning strategies of EFL children for the development of a taxonomy. *English Language Teaching 3*(3), 164–175. https://doi.org/10.5539/elt.v3n3p164

Haastrup, K. (1991). *Lexical inferencing procedures or talking about words: Receptive procedures in foreign language learning with special reference to English.* Gunter Narr.

Halvaei, M. Y., & Ansarin, A. A. (2018). Learner effectiveness: A cause of learner strategy use? *International Journal of Education and Literacy Studies*, *6*(4), 1–6. https://doi.org/10.7575/aiac.ijels.v.6n.4p.1

Harmon, J. M., Buckelew-Martin E., & Wood K. D. (2010). The cognitive vocabulary approach to word learning. *English Journal*, *100*(1), 100–107.

Hu, H. M., & Nassaji, H. (2014). Lexical inferencing strategies: The case of successful versus less successful inferencers. *System (Linköping)*, *45*(1), 27–38. https://doi.org/10.1016/j.system.2014.04.004

Hulstijn, J. H. (1997). Mnemonic methods in foreign language vocabulary learning. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 203–224). Cambridge University Press.

Ikeda, M., & Takeuchi, O. (2006). Clarifying the differences in learning EFL reading strategies: An analysis of portfolios. *System (Linköping)*, *34*(3), 384–398. https://doi.org/10.1016/j.system.2006.04.007

Jaekel, N. (2020). Language learning strategy use in context: The effects of self-efficacy and CLIL on language proficiency. *International Review of Applied Linguistics in Language Teaching, IRAL*, *58*(2), 195–220. https://doi.org/10.1515/iral-2016-0102

Jafari, S. M., Shokrpour, N., & Guetterman, T. (2015). A mixed methods study of teachers. Perceptions of communicative language teaching in Iranian high schools. *Theory and Practice in Language Studies, 5*(4), 707–718. https://doi.org/10.17507/tpls.0504.06

Kojic-Sabo, I., & Lightbown, P. M. (1999). Students' approaches to vocabulary learning and their relationship to success. *The Modern Language Journal (Boulder, Colo.), 83*(2), 176–192. https://doi.org/10.1111/0026-7902.00014

Laufer, B., & Ravenhorst-Kalovski, G. C. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language, 22*(1), 15–30.

Marefat, H., & Shirazi, M. A. (2003). The impact of teaching direct learning strategies on the retention of vocabulary by EFL learners. *The Reading Matrix, 3*(2), 47–62.

Masrai, A. (2019). Vocabulary and reading comprehension revisited: Evidence for high-, mid-, and low-frequency vocabulary knowledge. *SAGE Open*, *9*(2), 1–13. https://doi.org/10.1177/2158244019845182

Mirzaei, A., Rahimi D. M., & Heidari, N. (2014). Exploring the relationship between reading strategy use and multiple intelligences among successful L2 readers. *Educational Psychology (Dorchester-on-Thames), 34*(2), 208–230. https://doi.org/10.1080/01443410.2013.785053

McKay, S.L. (2006). *Researching second language classrooms.* Routledge.

Moore, J. C., & Surber, J. R. (1992). Effects of context and keyword methods on second language vocabulary acquisition. *Contemporary Educational Psychology*, *17*(3), 286–292. https://doi.org/10.1016/0361-476X(92)90067-9

Naeimi, M., & Foo, T.C.V. (2015). Vocabulary acquisition through direct and indirect learning strategies. *English Language Teaching 8*(10), 142–151. http://dx.doi.org/10.5539/elt.v8n10p142

Nassaji H. (2003). L2 Vocabulary learning from context: Strategies, knowledge sources, and their relationship with success in L2 lexical inferencing. *TESOL Quarterly, 37*(4), 645–670. https://doi.org/10.2307/3588216

Nassaji, H. (2006). The relationship between depth of vocabulary knowledge and L2 Learners' lexical inferencing strategy use and success. *The Modern Language Journal (Boulder, Colo.)*, *90*(3), 387–401. https://doi.org/10.1111/j.1540-4781.2006.00431.x

Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening*? Canadian Modern Language Review, 63*(1), 59–81. https://doi.org/10.1353/cml.2006.0049

Nation, I.S.P. & Beglar, D. (2007) A vocabulary size test. *The Language Teacher, 31*(7), 9–13.

Nation, P., & Waring, R. (1997) Vocabulary size, text coverage and word lists. In Schmitt, N., & McCarthy, M. (Eds.). *Vocabulary: Description, acquisition and pedagogy* (pp. 6–19). Cambridge University Press.

Nguyen, L. T. C., & Gu, Y. (2013). Strategy-based instruction: A learner-focused approach to developing learner autonomy. *Language Teaching Research: LTR, 17*(1), 9–30. https://doi.org/10.1177/1362168812457528

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R. P., & Kupper, L. (1985). Learning strategy applications with students of English as a second language. *TESOL Quarterly, 19*(3), 557–584. https://doi.org/10.2307/3586278

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Newbury House.

Oxford, R. L., Rubin, J., Chamot, A. U., Schramm, K., Lavine, R., Gunning, P., & Nel, C. (2014). The learning strategy prism: Perspectives of learning strategy experts. *System (Linköping)*, *43*, 30–49. https://doi.org/10.1016/j.system.2014.02.004

Paribakht, S., & Wesche, M. (1999). Reading and "incidental" L2 vocabulary acquisition: An introspective study of lexical inferencing. *Studies in Second Language Acquisition, 21*(2), 195–224. https://doi.org/10.1017/S027226319900203X

Paris, S. G., & Myers, M. (1981). Comprehension monitoring, memory and study strategies of good and poor readers. *Journal of Reading Behaviour, 13*(1), 5–22. https://doi.org/10.1080/10862968109547390

Parra, Y.J.F. (2008). Action research on affective factors and language learning strategies: A pathway to critical reflection and teacher and learner autonomy. *PROFILE 10*(1), 195–210.

Plonsky, Luke. (2011). The effectiveness of second language strategy instruction: A meta-analysis. *Language Learning*, *61*(4), 993–1038. https://doi.org/10.1111/j.1467-9922.2011.00663.x

Psaltou-Joycey, A. (2019). Guidelines for materials for integrating language learning strategy instruction into the language lesson. In Chamot, A. U., & Harris, V. (Eds.). *Learning strategy instruction in the language classroom: Issues and implementation* (pp. 171–183). Multilingual Matters.

Razı, Ö., & Grenfell, M. J. (2021). Strategy-Instruction and strategy clustering in the development of young learners' reading skills. *System (Linköping)*, *97*, 1–14. https://doi.org/10.1016/j.system.2020.102430

Rubin, J. (2001). Language learner self-management. *Journal of Asian Pacific Communication*, *11*(1), 25–37. https://doi.org/10.1075/japc.11.1.05rub

Saks, K., & Leijen, Ä. (2018). Cognitive and metacognitive strategies as predictors of language learning outcomes. *Psihologija, 51*(4), 488–505. https://doi.org/10.2298/PSI180121025S

Shakarami, A., Hajhashemi, K., & Caltabiano, N.J. (2017). Compensation still matters: Language learning strategies in third millennium ESL learners. *Online Learning 21*(3), 235–250. http://dx.doi.org/10.2139/ssrn.3032963

Schmitt, N. (1997). Vocabulary learning strategies. In Schmitt, N., & McCarthy, M. (Eds.). *Vocabulary: Description, acquisition and pedagogy* (pp. 199–228). Cambridge University Press.

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge University Press.

Schmitt, N., & Schmitt, D. (2014). A reassessment of frequency and vocabulary size in L2 vocabulary teaching. *Language Teaching, 47*(4), 484–503. https://doi.org/10.1017/S0261444812000018

Smemoe, W. B., & Haslam, N. (2013). The effect of language learning aptitude, strategy use and learning context on L2 pronunciation learning. *Applied Linguistics*, *34*(4), 435–456. https://doi.org/10.1093/applin/ams066

Tamimi Sa'd, S. H., & Rajabi, F. (2018). Teaching and learning vocabulary: What English language learners perceive to be effective and ineffective strategies. *CEPS Journal*, *8*(1), 139–163. https://doi.org/10.26529/cepsj.492

The Norwegian Directorate of Education and Training. (2016). *Fag – Fordypning – Forståelse. En fornyelse av Kunnskapsløftet [Subjects – Immersion – Comprehension. A renewal of the Knowledge Promotion]*. https://www.regjeringen.no/contentassets/e8e1f41732ca4a64b003fca213ae663b/no/pdfs/stm201520160028000dddpdfs.pdf

The Norwegian Directorate of Education and Training. (2020a). *Overordnet del – verdier og prinsipper for grunnopplæringen [Core curriculum – values and principles for the primary education]*. https://www.udir.no/lk20/overordnet-del/

The Norwegian Directorate of Education and Training. (2020b). *Curriculum in English (ENG01-04)*. https://www.udir.no/lk20/eng01-04?lang=eng

Tseng, W. T., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics, 27*(1), 78–102. https://doi.org/10.1093/applin/ami046

Wang, C. & Bai, B. (2017). Validating the instruments to measure ESL/EFL learners' self-efficacy beliefs and self-regulated learning strategies. *TESOL Quarterly 51*(4), 931–947. https://doi.org/10.1002/tesq.355

Wenden, A. L. (2000). Learner development in language learning. *Applied Linguistics, 23*(1), 32–55. https://doi.org/10.1093/applin/23.1.32

Wenden, A. L., & Rubin, J. (1987). *Learner strategies in language learning.* Prentice Hall.

Wright, T.S., & Cervetti, G.N. (2017). A systematic review of the research on vocabulary instruction that impacts text comprehension. *Reading Research Quarterly*, *52*(2), 203–226. https://doi.org/10.1002/rrq.163

Yildirim, R., & Akcayoglu, D. I. (2015). Strategy-based English language instruction: The impact on the language proficiency of young gifted learners. *Education 3–13, 43*(2), 97–114. https://doi.org/10.1080/03004279.2012.759606

Appendices

Appendix A

The VLS and self-efficacy questionnaire

<u>Vocabulary learning strategies and self-efficacy beliefs</u>

Sjå for deg at du har fått utdelt ein tekst i timen med fleire ord som er ukjent for deg. Du har fått beskjed om at det er viktig å forstå teksten sidan du seinare skal gjere/løyse oppgåver knytt til den. Ver vennleg å tenke over korleis du vil gå fram for å lære deg dei nye engelske orda i teksten.

Kryss av for det alternativet under som stemmer mest for deg når du skal lære nye ord på engelsk:

☐ Eg må konsentrere meg hardt, og øve mykje for å hugse orda etterpå
☐ Eg treng berre å sjå på orda eit par gongar for å hugse dei
☐ Eg øver mykje, men det er vanskeleg å hugse nye ord

Svar på dei følgjande påstandane ut frå det som passer deg best. Det er ingen riktige eller gale svar, og det er viktig at svara dine reflekterer det du faktisk gjer og ikkje kva du tenkjer at du *bør* gjere

1. Aldri
2. Av og til
3. Ofte
4. Alltid

		Score			
1	Eg legg merke til ukjente ord når eg les ein engelsk tekst	1	2	3	4
2	Det er viktig å lære alle ukjente ord når eg les ein tekst	1	2	3	4
3	Bruke engelsk/norsk ordbok til å omsette orda til norsk	1	2	3	4
4	Streke under/skrive ned ordet til seinare	1	2	3	4
5	Eg prøver å gjette kva ordet betyr ut frå samanhengen	1	2	3	4
6	Eg ignorerer ordet	1	2	3	4
7	Eg spør læraren kva ordet betyr	1	2	3	4
8	Eg spør ein medelev kva ordet betyr	1	2	3	4
9	Eg prøver å bruke ordet i ei setning	1	2	3	4
10	Eg les/skriv ned det nye ordet fleire gongar	1	2	3	4
11	Eg seier/lyttar til det nye ordet fleire gongar	1	2	3	4
12	Skriv ned det nye ordet og kva det betyr på norsk	1	2	3	4

Svar på dei følgjande spørsmåla. Prøv å gjer ei nøyaktig vurdering av din noverande beherskelse av engelsk. Desse spørsmåla er utarbeide for å måle dine eigne bedømmingar av dine evner, så det er ingen riktige eller feil svar. Ver vennleg å velje det nummeret som best representerer dine evner.

1. Eg kan ikkje gjere det
2. Kanskje eg ikkje kan gjere det
3. Kanskje eg kan gjere det
4. Eg kan gjere det litt
5. Eg kan gjere det
6. Eg kan gjere det godt

		Score					
1	Forstår du forteljingar fortalt på engelsk?	1	2	3	4	5	6
2	Forstår du engelskspråklege TV-program/filmar med norsk tekst?	1	2	3	4	5	6
3	Forstår du engelskspråklege TV-program/filmar utan norsk tekst?	1	2	3	4	5	6
4	Kan du gi vegbeskrivingar frå klasserommet ditt og heim att på engelsk?	1	2	3	4	5	6
5	Kan du fortelje ei historie på engelsk?	1	2	3	4	5	6
6	Kan du gi ein beskjed til klassekameratane dine på engelsk?	1	2	3	4	5	6
7	Når du les engelske tekstar, kan du gjette tydinga av ukjente ord?	1	2	3	4	5	6
8	Kan du forstå engelskspråklege nyheiter på internett?	1	2	3	4	5	6
9	Kan du stille spørsmål til læraren din på engelsk?	1	2	3	4	5	6
10	Kan du lage setningar med engelske fraser?	1	2	3	4	5	6
11	Kan du samtale med andre i klassa di om eit tema du er interessert i?	1	2	3	4	5	6
12	Kan du svare på spørsmål frå læraren din på engelsk?	1	2	3	4	5	6
13	Forstår du engelske songar?	1	2	3	4	5	6
14	Kan du finne ut kva eit engelsk ord betyr ved hjelp av ei engelsk-norsk ordbok?	1	2	3	4	5	6
15	Kan du presentere deg sjølv på engelsk?	1	2	3	4	5	6
16	Kan du forstå nytt innhald (tekstar, oppgåver osb.) i engelskboka di?	1	2	3	4	5	6

Appendix B

Study consent form assessed by Norsk senter for forskningsdata (NSD)

Vil du delta i forskningsprosjektet *"Instruction of L2 Vocabulary Strategies and its effect on vocabulary retention"?*

Dette er en forespørsel til deg/dere om ditt/deres barn kan delta i et forskningsprosjekt hvor formålet er å kartlegge bruk av læringsstrategier i engelsk språklæring, samt vurdere språklæringsutbyttet av eksplisitt undervisning av språklæringsstrategier knyttet til ordinnlæring. I dette skrivet gir jeg deg informasjon om målene for prosjektet og hva deltakelse vil innebære for ditt barn.

Formål
Formålet med denne studien er å utforske i hvilken grad eksplisitt undervisning av ulike ordinnlæringsstrategier påvirker elevenes ordlæring, samt vurdere hvordan noen elevvariabler (ordforråd, allerede implementerte strategier og egen følelse av mestringsevne) kan påvirke grad av ordlæring.

Følgende forskningsspørsmål vil rettlede studien:

RQ1: Does strategy based instruction (SBI) of lexical inferencing yield higher L2 vocabulary retention compared to not including this VLS (Vocabulay Learning Strategy) in SBI?

RQ2: Is there a correlation between the ELL's (English Language Learner) general vocabulary size and the degree of vocabulary retention after receiving SBI of direct VLS?

RQ3: Is there a correlation between the ELL's degree of self-reported utilization of VLS and the degree of vocabulary retention after receiving SBI of direct VLS?

RQ4: Is there a correlation between the ELL's self-efficacy and the degree of vocabulary retention after receiving SBI of direct VLS?

Det kan være at ordlyden i forskningsspørsmålene blir noe endret, men fokuset vil uansett være tilnærmet identisk. Dette forskningsprosjektet er en del av min masteravhandling i engelsk.

Hvem er ansvarlig for forskningsprosjektet?
Høgskolen i Østfold

Hva innebærer det for deg å delta?
Hvis ditt barn velger å delta i dette prosjektet innebærer det at han/hun fyller ut et papirbasert spørreskjema om sin kjennskap til og eventuell bruk av en rekke læringsstrategier knyttet til engelsk ordinnlæring, samt mestringsevne. Dette vil ta ca. 10 minutter. Deres svar fra spørreskjemaet blir registrert elektronisk. Foreldre kan få se spørreskjemaet på forhånd ved å ta kontakt. Undervisningen vil bestå av det samme lærestoffet for begge gruppene, men det vil fokuseres på ulike læringsstrategier. Observasjoner av deltakere vil bli gjort underveis. Deltagerne kan bli stilt muntlige spørsmål om sine tanker og formeninger om bruk av læringsstrategier, både i forkant, underveis og etter undervisningen. Deltagerne vil deles inn i to utvalgsgrupper som er tilnærmet identiske med tanke på nivå. Deltakerne vil gjennomføre tre identiske tester (pedagogisk testskjema) for å kartlegge læringsutbyttet av ordinnlæringen

og de anvendte strategiene – en før strategiundervisningen, en direkte etter strategiundervisningsopplegget og en forsinket test to uker etterpå. Alle opplysninger registreres elektronisk eller i form av skriftlige notater. Lyd-/videoopptak benyttes **ikke**. Dato for prosjektslutt er 20.mai 2021, og da vil alle data med personopplysninger slettes.

Det er frivillig å delta
Det er frivillig å delta i prosjektet. Hvis ditt barn velger å delta kan det når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for ditt barn hvis det ikke vil delta eller senere velger å trekke seg. De som ikke ønsker å delta får et alternativt opplegg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger
Jeg vil bare bruke opplysningene om ditt barn til formålene vi har fortalt om i dette skrivet. Jeg behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Det er kun jeg og min veileder som vil ha tilgang til opplysningene. Navnet og kontaktopplysningene vil jeg erstatte med en kode som lagres på egen navneliste adskilt fra øvrige data. Deltakerne vil være anonyme i den publiserte masteravhandlingen, det vil si at ingen skal kunne gjenkjennes av de som måtte lese den.

Dine rettigheter
Så lenge ditt barn kan identifiseres i datamaterialet, har du rett til:
- innsyn i hvilke personopplysninger som er registrert om ditt barn, og å få utlevert en kopi av opplysningene,
- å få rettet personopplysninger om ditt barn,
- å få slettet personopplysninger om ditt barn, og
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger.

Disse rettighetene vil jeg også opplyse ditt barn om muntlig, samt de vil få inngående, alderstilpasset informasjon om hva en eventuell deltagelse vil innebære.

Hva gir meg rett til å behandle personopplysninger om ditt barn?
Vi behandler opplysninger om ditt basert på ditt samtykke.
På oppdrag fra Høgskolen i Østfold har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?
Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:
- Høgskolen i Østfold ved Ann-Helen Grimstad (prosjektansvarlig) eller Viktoria Börjesson Behre (veileder).
- Vårt personvernombud: Martin Jakobsen. martin.g.jakobsen@hiof.no
Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:
- NSD – Norsk senter for forskningsdata AS på epost (personverntjenester@nsd.no) eller på telefon: 55 58 21 17.

Med vennlig hilsen
Viktoria Börjesson Behre   Ann-Helen Grimstad
   (Forsker/veileder)   (Student)

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet "Instruction of L2 Vocabulary Strategies and

its effect on vocabulary retention"

og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i spørreskjema
- ☐ å delta i undervisning brukt til forskningsprosjekt/masteravhandling
- ☐ å delta i refleksjonsoppgaver underveis og i etterkant av undervisning
- ☐ å delta i ordtest(er) i etterkant av undervisningen

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

----

(Signert av prosjektdeltaker, dato)

<u>Vocabulary test – South Africa</u>

Translate the words from English to Norwegian – omsett orda frå engelsk til norsk. You may also attempt to explain the word's meaning if you are not able to translate it directly. Du kan òg forsøke å forklare kva ordet tyder om du ikkje klarer å omsette det direkte.

1. Consist of -

2. Diverse -

3. Origin -

4. Several -

5. Southernmost -

6. Position -

7. Supplies -

8. Dutch -

9. Company -

10. Settle -

11. Colonization -

12. Tribe -

13. Apartheid laws -

14. Rights -

15. Cheap -

16. (A) Mine -

17. Township -

18. Shanty town -

19. Sanitary conditions -

20. Simple -

21. Herds of -

22. Rhinoceros -

23. Hippopotamuses -

24. (to) spot -

25. Experience -

26. Ostrich -

27. Not allowed -

28. Along the coast -

29. Prisoner -

30. (a) view -

31. Impressed -

32. Poverty -

33. Troublesome -

34. Belief -

35. Willingness -

36. Forgive -

37. Inspired by -

38. Especially -

39. Civil war -

40. Suffer -

Appendix D

The reading material on South Africa from *A New Scoop* (Flemmen, Sørheim & Drew, 2007)

The Republic of South Africa

The Republic of South Africa has an interesting history and is not like any other African nation. Today it consists of over 44 million people of diverse origins, cultures, languages and religions. There are 11 official languages in South Africa, and it is normal to know several languages.

Cape of Good Hope

The southernmost point of Africa had an important position. The European ships needed fresh supplies on their way to India, and a colony called Cape of Good Hope was set up. Both British and Dutch sailors and their companies settled here. They brought slaves and fought the natives and also fought each other. This was the starting point for the colonisation of what is now South Africa.

Apartheid

Apartheid was a policy introduced in 1948 by the white minority. It said that whites and blacks had different laws and rights. Blacks could be used as cheap workers in the mines and also as slaves for the whites. They had to live in townships or shanty towns where the houses consisted of some wooden planks and a simple roof, with no electricity and bad sanitary conditions. Around all the larger cities there are townships where poor blacks have their simple houses.

Black Africans

The Black Africans come from very different tribes with different languages and cultures. There has been a long history of fighting between the blacks and the whites, but the whites had guns and very often won the fighting. The blacks were often taken as slaves. Today the blacks are much poorer than the whites, but since South Africa lifted the apartheid laws things seem to have become better.

nineteen 19

Wild life

As a tourist, visiting one of the wild life parks in South Africa is a must. In the Kruger National Park, for example, you can see herds of elephants, giraffes, rhinoceros, hippopotamuses, crocodiles in the rivers, herds of zebras, and lots of impalas.

If you are lucky you might spot a family of lions or a leopard and the African version of buffalos. It is a fantastic experience. You are, of course, not allowed to leave the car, but you may stop to take pictures.

The Garden Route and Cape Town

Many tourists take the Garden Route from Port Elizabeth along the coast ending up in Cape Town, which is a beautiful city by the foot of Table Mountain. From there you can spot the famous Robben Island where Nelson Mandela was held prisoner for 18 years. The route along the coast offers beautiful views and smaller, friendly towns where it is not dangerous to walk alone at night. You can visit ostrich farms and ride on ostriches, go whale watching, visit a penguin colony and see dolphins and seals in action. The warm Indian Ocean, with inviting beaches, is on one side during the whole trip. If you want to see where the Indian Ocean and the much colder South Pacific Ocean meet, you can go to the southernmost part of Africa, called the Cape Point.

African music

Norwegians who have visited Africa are very impressed with African music. There is a sense of rhythm and a way of singing and an enthusiasm that you won't find elsewhere. In spite of their problems, poverty and the troublesome past, there is a belief in the future and a willingness to forgive that we do not meet very often. The Norwegian group The Brazz Brothers went to Africa and came home inspired by African music. In your workbook there is a song they brought home with them.

There is one person especially who saved South Africa from a gruesome civil war after the years of apartheid. His name is well known all over the world.

Nelson Mandela

Nelson Mandela (born 1918) worked very hard to get rid of the Apartheid laws before he was put in prison, where he suffered a lot. But in February 1990 he was set free after 27 years in captivity. This was a very important day for all black Africans in South Africa. There was singing and feasting in the streets when he drove through Cape Town in an open car. Instead of trying to revenge himself on his enemies he told the nation that the only way forward was to forgive and try to live peacefully together. He became the country's first black President. He saw to it that the apartheid rules were given up and democracy was introduced. In 1993 he was given the Nobel Peace Prize and came to Oslo to get it. He will always be looked upon as one of the world's greatest and most popular leaders.

Reflective note

My study originated from a sincere wish to gain a greater understanding of language learning strategies (LLSs) in general. I realized early on that when researching the topic of LLSs it is not as easy as creating a list of the least and most successful ones, as this varies as much as the individual learners' learning styles. Hence, I went into this project with the mindset that the purpose was not to reveal some universally applicable "truth" regarding learning strategies, but rather to try out a selection of strategies and a model of SBI verified in previous studies in another L2 context.

I am especially happy that the research methods I chose for my project turned out to harmonize well with the hypotheses I sought to test. It was especially challenging to work out the application to the NSD, since I was not adequately prepared for this part of the process. Fortunately, it all worked out in the end.

For several of the participants in my study, independent employment of the vocabulary learning strategies (VLSs) was not straightforward. One explanation for this is that the time at hand to practice the strategies was not adequate. In hindsight, it would have been beneficial to spend more time on the strategy-based instruction (SBI). I have also realized that the students I taught lexical inferencing strategies to would have benefitted more from working with texts where they could have applied a greater amount of their previously acquired knowledge. For instance, texts on topics such as USA or Great Britain could have activated more background knowledge than the text I chose about South Africa. Moreover, a greater selection of participants in the experimental groups would have contributed to the external validity of my research, but since I teach at a rather small school, this was not an option. However, the small sample size also turned out to be an asset, since I could adapt the SBI to the individual learners to a great degree. I regret not measuring the same individual variables in the control group as I did in the experimental groups, since this would have strengthened my study.

Vocabulary learning is a central part of learning a language, though clearly, L2 teachers cannot teach all the vocabulary in a language to their students. The outcomes of my study confirm the pedagogical values of SBI of vocabulary learning strategies, and the most important thing I take away from this experience is that it is well worth the time to focus on LLSs as an integrated part of L2 teaching. Moving forward, I will certainly include LLSs to a greater degree in my classroom. It has also become evident to me that the success rate of SBI largely depends on teachers' knowledge of individual learner variables in their class. I hope

that peers who read my thesis (e.g., L2 teachers and teachers in training) are left with the same impression as me regarding the value of SBI in L2 teaching.

Ann-Helen Grimstad