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Facilitating Productive Vocabulary Development:

Focus on Lexical Richness in Secondary Students' writing

Tilrettelegging for utvikling av produktivt vokabular:

Fokus på ordrikdom i ungdomsskoleelevers tekster

Liv Ragnhild Steen



OsloMet – storbyuniversitetet

Fakultet for lærerutdanning og internasjonale studier

Institutt for grunnskole- og faglærerutdanning

Abstract

The present thesis investigates vocabulary use in two compositions written by 41 10th-grade pupils of a Norwegian lower secondary school. They were all fluent in Norwegian. The investigator was their regular English teacher. The study implemented the Teaching and Learning Cycle (TLC) as a framework for facilitating productive vocabulary development in the learner group. The intervention period lasted for two weeks, including four class lessons. In an authentic article retrieved from *Time Magazine*, 39 target words were selected, which belonged to the 3,000 most frequent headwords or rarer. The learners completed a two-section vocabulary test that showed how many of the target words were known either receptively or productively. Further, they read the article in class, focusing on the 39 target lexical items, and deciding which they wanted to add to their personal word card library. The target words were subsequently taught through explicit vocabulary instruction. In the last lesson of the TLC, the learners wrote a composition of at least 200 words, henceforth called Version 1. The papers were analysed by a computer program called the Lexical Frequency Profile (LFP), which shows the proportion of words used from the 1,000 most frequent word families, the 1,000-2,000 most frequent word families, and the above 2,000 most frequent word families, the words from the University Word List (UWL), and the target words. In addition, the LFP calculates the total number of word families produced. In the two weeks following after the learners received feedback on their first composition, the target words were recycled only once through a multimode computerised learning program called quizlet.com. Then the learners wrote another composition, which was also analysed by means of the LFP. The data from both versions were computed into SPSS, and the means were calculated and compared by running paired *t*-tests. The data showed that the proportion of basic vocabulary and the target words significantly decreased in the second composition. In contrast, the use of non-basic vocabulary significantly increased. The total number of word families in Version 2 was significantly higher than in Version 1. The results suggest that the learners' texts developed in the direction of improved lexical richness because of richer high-level vocabulary and lexical variation. Principled and teacher-controlled recycling of target words and more longitudinal studies of written productive vocabulary development are proposed.

Keywords: Receptive vocabulary, productive vocabulary, explicit vocabulary instruction, lexical richness, mid-frequency words

Sammendrag

Denne studien undersøker bruk av ordforråd i to skriftlige arbeider utført av 41 elever på 10. trinn i en norsk ungdomsskole. Alle mestret norsk flytende. Forskeren var deres regulære engelsk lærer. Studien brukte sirkelen for undervisning og læring (TLC) som en ramme for å legge til rette for utviklingen av skriftlig produktivt ordforråd i læringsgruppen.

Intervensjonsperioden varte i to uker, noe som innebar fire klasses timer. 39 mål-ord ble valgt fra en autentisk artikkel hentet fra *Time Magazine*. Mål-ordene tilhørte de 3000 mest frekvente ordene eller sjeldnere. Elevene fullførte en todelt vokabular-test som viste hvor mange av mål-ordene de kjente enten reseptivt eller produktivt. Videre leste de artikkelen i klassen og med fokus på å forstå de 39 mål-ordene og valgte hvilke ord de ville legge til i sitt personlige ord-kort bibliotek. Mål-ordene ble deretter undervist på en eksplisitt måte. I den siste timen av TLC skrev elevene en tekst på minst 200 ord, heretter kalt Versjon 1. Tekstene ble analysert i et dataprogram, the Lexical Frequency Profile (LFP), som viser andelen av produserte ord fra de 1000 mest frekvente ordfamiliene, ord fra de 1000-2000 mest frekvente ordfamiliene og ord som er sjeldnere enn de 2000 mest vanlige ordfamiliene, ord fra universitetslisten (UWL), og mål-ordene. I tillegg regner LFP ut det totale antall ordfamilier som er produsert. I de påfølgende to ukene, etter at eleven fikk tilbakemelding på sin første tekst, ble mål-ordene resirkulert bare en gang ved at de brukte et dataprogram som heter quizlet.com. Deretter skrev elevene en ny tekst, som også ble analysert i LFP. Data fra begge versjoner av tekst ble lagt inn i SPSS, som regnet ut gjennomsnitt. Disse ble sammenliknet ved parede *t*-tester ble kjørt. Dataene viste at andelen av basis vokabular og mål-ordene ble signifikant lavere i den andre teksten. Derimot økte bruk av ikke-basis vokabular. Det totale antallet av ordfamilier i Versjon 2 var signifikant høyere enn i Versjon 1. Resultatene antyder at elevenes tekster utviklet seg i retning av forbedret ordrikdom, fordi de brukte flere lav-frekvente ord og større leksikalsk variasjon. Prinsipiell og lærer-kontrollert resirkulering av mål-ord og mer langvarige studier av skriftlig produktivt vokabular utvikling er foreslått.

Nøkkelord: Reseptivt vokabular, produktivt vokabular, eksplisitt undervisning av vokabular, ordrikdom, midt-frekvente ord

Preface

I am privileged to have been mentored by my outstanding supervisor Mona E. Flognfeldt, who has helped me reach greater clarification of my knowledge and thoughts through countless discussions. Her meticulous scrutiny of my drafts, insightful comments, and invaluable dynamism aided me in searching the English language for the exact expressions I needed, as I relied on her sound judgement. She possesses the rare ability always to induce encouragement and the belief that I would be able to complete my MA in due time.

I also wish to thank my pupils, who participated in the study with enthusiasm. Furthermore, special thanks go to my principal, Thomas F. Ruud, for customising my work schedule so that I had time enough to study, which has been an essential precondition to succeed in completing this thesis.

I owe special gratitude to my friends and family, who have shown patience and a positive attitude. An extra note of thanks goes to my two teenage daughters, who have endured fewer homecooked dinners and a less available mother. More than anything, I would like to thank my loving husband, without whom none of this would be. Lasse, now it's time to celebrate!

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Chapter 1: Introduction

1.1 Background

My interest in vocabulary development originates from a long career as an English teacher in a Norwegian secondary school. I started as a teacher in the mid-nineties and have seen a formidable change in students' proficiency since the birth of the internet and the explosive growth of using tablets and screens. Many researchers will agree with me in claiming that the internet has affected us in so many ways that we are dealing with no less than a digital revolution. This transition has brought a considerable surge of English language sweeping over the younger generation, as they are being exposed to English in an unprecedented manner. Most linguists would agree that repeated exposure will inevitably lead to more effective learning of new words. My students pick up words at a rate I could never dream of in my youth.

At the outset of my career, we asked learners to write an essay of 400 words for their mock exams. In hindsight, this looks almost comical. The demands on Norwegian school pupils have grown in line with the increasing knowledge of the English language. When we compare English to Norwegian, which is the L1 of the majority of the pupils, we can easily see that many of the same features of mastering the language are competence aims in both subjects. The pupils are expected to gain proficiency in different genres, argue for their opinions, compare and contrast two texts, be able to use a vocabulary suitable to their recipient, use references and be critical of them (Utdanningsdirektoratet, 2019). These rather ambitious aims are comparable to those learners meet when creating texts in Norwegian. Furthermore, in English, they are asked to address serious and adult topics like climate change, human rights, gender equality, education issues, electoral and governmental build-ups in addition to composing the classic story, which is the category most of my students prefer. However, it is not enough to write a story; one also has to consider the genre: Is it a romantic story, a horror story, a fantasy story, or an action story? So how can Norwegian students confidently meet all these demands?

It is safe to assume that to develop proficiency in writing, they need a functional vocabulary and an extensive range of words and phrases that they can apply as they write. To know all the English grammar, rules, and exceptions will not be enough to help them express themselves in a varied and precise way. Vocabulary size is critical to and a predictor of classroom performance in listening, speaking, reading and writing, i.e., all four language skills (Lee, 2003; Corson, 2005). Several research studies have shown that proficiency in creating texts heavily depends on an extensive vocabulary, whereas deficiency in vocabulary makes writing harder. A varied and precise wording strongly indicates overall composition quality (Muncie, 2002; Laufer & Nation, 1995, pp. 307-308). In short, “learners need large vocabularies to successfully use a second language” (Schmitt, 2019, p. 265). This leaves teachers with a considerable challenge to facilitate learning environments where pupils mature into more proficient writers in English.

From teacher educator Thornbury's (2005) viewpoint, the English language can be divided into two main categories, function words and content words. The first group consists of all the grammar words, prepositions, pronouns, conjunctions, articles and other determiners and is a closed set. In English, no new words are added to the group, the last one being “them” in the sixteenth century. The other group comprises adjectives, adverbs, nouns and verbs and is an open set where new words are coined every day. These also carry most of the meaning in a sentence (Thornbury, 2005). In the example sentence: “I returned to school to pick up a book I had forgotten”, we can see that the function words “I”, “to”, “to”, “a”, “I,” do not tell us much about what was going on. If we look at, “returned”, “school”, “pick up”, “book”, “had forgotten,” however, they tell us a lot more. In this example, it is easy to see the difference between the two groups of words. Undoubtedly, it is the last category that constitutes a considerable learning challenge for anyone attempting to obtain fluency in their L2.

Being an English teacher in secondary school in Norway implies assessing a lot of text production on the part of learners, so-called essays or assignments of various genres. Over the years, I have encouraged my students to include more advanced or “grown-up” vocabulary, be more precise and nuanced in their writings, and thereby improve the quality of their texts. Thus, they might slowly but surely acquire a more academic writing style. This is necessary to fulfil the competence aims of the English subject curriculum (Utdanningsdirektoratet, 2019), which states that pupils are expected to be able to: “express themselves with fluency and

coherence with a varied vocabulary and idiomatic expressions adapted to the purpose, receiver and situation”. Moreover, they must do this in written work, as explicitly expressed in this competence aim: “...write formal and informal texts, including multimedia texts with structure and coherence that describe, narrate and reflect, and are adapted to the purpose, receiver and situation”. In both these competence aims, we find that they should adapt their vocabulary to the purpose, receiver and situation, which is a considerable task for an L2 learner. Why do educational authorities believe this is an attainable and reasonable goal for young Norwegian teenagers?

The answer could partly be that, together with the ubiquitous influence of the internet, children and teens in Norway have been exposed to an increasing amount of extramural English, which has helped them acquire a solid basis for comprehending English colloquial language. Much of the language they meet every day is oral language, in films, series, music, chatting, social media, including YouTube, and gaming. This development has helped arouse the interest and need for learning English. Most of my students are highly motivated and hope to be as proficient as possible in speaking and writing. I never have to answer questions about why we must have a subject like English in school and when the language will come in handy. Indeed, this is a very privileged position for a teacher to have.

The status of the English language in Norway shows when Norwegian children currently integrate English words into their everyday talk. Examples of this are words like “betray”, “judge” or “join”. When used in sentences, Norwegian morphological rules are applied to English words: “Han betraya henne der”, “Du må ikke judge dem”, or “Du må bare joine om du vil!” can frequently be heard in the school corridors. When it is commonly known that language change typically starts with young people, many linguists fear for the future of the Norwegian language. To further explore this phenomenon of English interference in the Norwegian language is not possible due to the scope of the present thesis. Still, it would be interesting to investigate this in more detail in another research project. The purpose of bringing it up in this context is to underscore the significance of the English language in Norwegian society today. To know English and master it is prestigious to young people; it is the language of popular culture, film stars, and influencers of various kinds that young people look up to and see as their guiding stars.

Nevertheless, the teacher's challenge remains to help learners start *using* more of the words they can understand. Language-teaching professionals researchers like Nation (2013), Thornbury (2005), and Schmitt (2010) have wished to distinguish between receptive and productive vocabulary mastery, which superficially can be described as words learners understand while listening and reading and words they can use while speaking and writing respectively. From my point of view, there seems to be a significant difference in size between the receptive and productive vocabulary that most pupils in secondary school in Norway have. One of the reasons for this assumption is that I may show films, news reports, and documentaries without subtitles or with English subtitles in my classes. Most of the students will have no difficulties understanding what is said, which indicates that they can comprehend relatively advanced language. However, when it comes to speaking and writing, I find that the vast majority of the students hesitate to speak in front of their classmates, and when they write, they use very general terms that first come to mind. These are often words they have known from elementary school. Unsurprisingly, this impoverishes the quality of their writings. Despite admonishing on my part to work on using synonyms for high-frequency words like "interesting", "bad", "say", "thing", and "nice", only very few students do so. Generic words are prevalent in written contexts, contributing to the production of imprecise and vague texts.

Similar observations are made by Lee (2003), who holds that learners only use less than 20% of their receptive vocabulary in writing. In the same vein, Hinkel (2003), after analysing more than one thousand writings by English as a Second Language (ESL) students, found that even if they had received advanced training in English, they continued to have a limited lexical and syntactic repertoire. This caused them to produce only simple texts, which consisted of "the most common language features encountered predominately in conversational discourse" (Hinkel, 2003, p. 297). Similarly, Laufer (1997, pp. 150–151) observed that foreign learners tend to use general terms like "put" that can be applied in many contexts instead of more specific terms like "impose". The latter is usually more restricted in terms of meaning and context and thus constitutes a larger challenge to produce in writing. Finally, Webb and Chang (2012) found that only 47% of Taiwan English as a Foreign Language (EFL) students mastered the 1,000 most frequent words after nine years of English language instruction. Comparably, Norwegian participants in the present study have received English language instruction since they were six years old, which adds up to a total of nine years at the age of fifteen.

1.2 Narrowing the Scope

As I have described above, my background as an English teacher in Norway has made me wonder about how to help students develop a more extensive productive vocabulary, especially in their written work. Laufer (1994, p. 21) states that “longitudinal studies of the development of the productive lexicon are almost non-existent”. Newer research confirms that there is still limited research on English as a Second Language (ESL) learners’ use of vocabulary in free writing (Lee & Muncie, 2006; Webb, 2018). In an article by Schmitt (2019), he identifies this question as one out of six under-researched areas. As he calls for a “number of studies” (p. 265) to shed light on the topic, I feel the urge to contribute to this body of research by exploring how two classes in 10th grade in a Norwegian secondary school could improve the quality of their compositions, by enlarging their productive vocabulary lexicon. Details about the constructs of “receptive” and “productive” vocabulary knowledge will be presented in the theory chapter.

I am aware that the quality of written compositions is the product of several factors, not only the vocabulary used. Other essential elements are diversity in syntax and sentence structure, cohesion, recipient awareness, style, and content. According to Hinkel (2003, p. 276), essay raters almost always refer to simple construction and learners’ lexicon when assessing L2 papers. They also look for sophisticated use of lexical items at lower frequency rates, terming these “longer” and “more unique” words, as an indication of a larger vocabulary in learners. In the same vein, Laufer and Nation (1995, p. 307) claim that although vocabulary is only one of many factors determining the quality of a text, using varied and extensive language has proved essential to the general impression of a well-written composition. As such, it has caught my attention. To limit the scope of the present thesis, I have chosen to focus on writing skills and productive vocabulary mastery, as “the relationship between vocabulary and writing skills is particularly strong” (Schmitt, 2010, p. 4). To produce texts of a more precise and pointed language, learners need a large and functional vocabulary, consisting of more low-frequency words.

Schmitt (2019) pointed out that research of productive vocabulary in writing is a complex undertaking. Still, I would like to have a go. After all, what we do at school every day might seem like an impossible task, but at the core, young people are capable of absorbing new

knowledge if they are motivated. Schmitt (2008) points out that whatever way vocabulary is taught, it is about creating maximum excitement and engagement about the topic. I want to use the Teaching and Learning Cycle (section 2.9) developed in Australia to facilitate productive vocabulary development in the learner group. This method's main idea rests on the gradual release of responsibility from the teacher to the learners through strongly scaffolded activities (Education and Training Department, Australia, 2019). Thus, it gives room for tailoring the instruction to individual needs combined with increased student involvement, resonating with the Education Act §1-3, which states that the instruction must be differentiated and adapted to each pupil's abilities.

Being a practising teacher, my approach to vocabulary development is naturally that of a practitioner. How can I enact the Teaching and Learning Cycle in the classroom to help pupils develop a more advanced productive vocabulary? What measures must I take to ensure my students get engaged in vocabulary learning and ultimately start learning for life? Realising that learning an L2 is a lifelong process, how can they not be put off by the task but instead be inspired? As two prominent linguists, Laufer and Nation (1995, p. 308) stated: "Vocabulary is not usually learned for its own sake. An important aim of a vocabulary program is to bring learners' vocabulary knowledge into communicative use". In the current thesis, vocabulary use in writing for communicative purposes constitutes the primary target for the research undertaken. Moreover, there is the question of long-term retention. How can young learners acquire and retain new lexical items long-term? After all, "learning is remembering" (Thornbury, 2005, p. 23). Schmitt (2019) proposes that research that looks into what particular learning tasks, strategies, and activities can promote productive mastery would contribute to understanding this process in more detail. He is concerned about partially known words developing into an active word bank. In the same vein, Laufer (1994, p. 32) calls for experiments that can show a possible relationship between explicit vocabulary teaching and the improvement of the lexical quality of writing. This adds another dimension to the present study: To reach the aim of developing a large and functional productive vocabulary of low-frequency words, explicit vocabulary instruction in the classroom might be a necessary prerequisite.

1.3 The Role of the Teacher

In the core curriculum (Kunnskapsdepartementet, 2017), section 3.2, the role of the teacher is described in terms of supporting and guiding pupils on their path to setting their own goals, selecting their learning strategies, and assessing their development. In other words, the teacher is a facilitator who helps pupils grow in “learning how to learn for life”. In this process, teachers face the considerable challenge of customising their instruction in order to meet different students’ individual needs (Moody et al., 2018, p. 8). If, for instance, teachers are convinced that reading is essential for developing a second language, and insufficient vocabulary mastery constitutes the most significant obstacle to reading fluently, in that case, they should commit themselves to systematically and deliberately teaching vocabulary. The fundamental question remains *how* this should be done.

Nation (2008, pp. 1–6) presents a prioritised list of the tasks of a second language teacher, where the first and most important one is to plan for opportunities for learning and give attention to vocabulary both inside and outside the classroom. Realising that learning a word is a cumulative process, the students should meet the word across four equally large strands of a language course. The model is acknowledged by Webb (2018, p. 414) as a helpful framework and “the best way for advanced learners to continue vocabulary learning”. The first strand is called *meaning-focused input* and consists of tasks like extensive reading, listening to stories or lectures, and taking part in small talk. In these activities, learners meet previously known lexis and new vocabulary through listening and reading. The texts should not be too complex. The second strand is termed *meaning-focused output*. In this unit, the learners produce language through various speaking and writing activities such as giving prepared talks, taking part in discussions and conversations, retelling textbook pieces and reflecting on topics from the syllabus, writing papers on various subjects, role play, and similar tasks. The tasks should challenge learners to use new words without overloading them to use primarily unknown vocabulary.

The third element of a second language learning programme is called *language-focused learning*. The teacher goes more into the depth of vocabulary knowledge by deliberately giving attention to word parts, synonyms, antonyms, and syntactic and collocational patterns of words. The teacher also aims to educate autonomous learners. To help them achieve that

goal, they need vocabulary learning strategies like guessing the meaning of words from context, using word parts, learning to use word cards, and dictionary use. Intensive reading, getting feedback on speaking and writing, practising learning strategies, and doing vocabulary and grammar exercises would suit this strand. Finally, the fourth and equally significant element, and perhaps the one more frequently neglected, is called *fluency development*. The overall purpose of this strand is to help students get more proficient at using already known vocabulary. Learners can develop automaticity and speed in dialogues and writings by engaging in fluency activities that contain no unknown material. These activities have very familiar material, putting some pressure on students to perform faster, focusing on understanding and producing messages, often repetitively (Nation, 2008, pp. 1-2). The equally balanced four strands constitute the teacher's first and most fundamental task.

While focusing on the individual growth of learners, Thornbury (2005, p. 144) warns against considering teachers redundant. Instead, they should be recognised as motivators involved in learners' education, i.e., teaching them strategies for self-directed learning, which leads to a sense of mastering. This agrees with the core curriculum, section 2.4 (Kunnskapsdepartementet, 2017), which holds that schools should educate pupils to learn for life, gradually developing "an awareness of their learning processes" and thus growing more autonomous. In the Teacher and Learner Cycle (section 2.9), the learners receive much support at the beginning of the cycle. However, as they acquire new knowledge, they are also given more independence. Furthermore, Thornbury (2005, p. 22) sees the most critical role of the teacher as the one encouraging learners to be enthusiastic about vocabulary acquisition. In the same vein, Schmitt (2008) holds that anything that leads to more engagement would facilitate vocabulary development, and maximising this is the most fundamental task for teachers. The idea of arousing learners' interest and excitement in acquiring new words is essential for every stage of the present study.

1.4 The Role of the Learner

Nation (2008, pp. 6–7) identifies the learners' most crucial role in vocabulary development as the following two actions: Firstly, they should make the most out of every opportunity to use the language in three out of the four learning strands, including meaning-focused input and output and fluency development. By reading extensively and taking an active part in speaking and writing activities, learners can use new lexis. Secondly, in the strand of language-focused

learning, the student should deliberately learn new vocabulary by applying the four strategies of guessing from context, using word parts, using word cards, and dictionary use. To deliberately learn new vocabulary is much more efficient than listening to deliberate teaching, according to Nation (2008, p.7). This indicates that in the learning process, a lot of responsibility is placed on learners as well as teachers. The reciprocity between the two constitutes a fundament for creating a fruitful learning environment.

Ultimately, learners should gradually take more and more responsibility for their learning to grow autonomous. The process involves selecting lexical items and applying strategies to acquire, rehearse, and produce the words in spoken and written contexts. The teacher should support and motivate students to learn how to independently get on with learning (Nation, 2008, pp. 6–7). This dovetails nicely with the core curriculum, section 2.4 (Kunnskapsdepartementet, 2017), which states that one of the main principles for education in Norway is that pupils should be trained to reflect on their learning to understand how to acquire knowledge independently. This process would add to a sense of mastery, increasing their motivation to understand learning strategies and eventually establishing a basis for lifelong learning.

1.5 Advanced Vocabulary and Lexical Richness

In section 1.1, the term “advanced vocabulary” was used without further explanation. To explore what is understood by the construct, the theory of Corson (1995, pp. 1–14) was helpful. He perceives the English language as divided into two main categories, the first being words of Anglo-Saxon origin, and the second words of Greek or Latin origin. The first group consists of familiar and typically short words which are relatively frequent and used in everyday speech. These are learnt early in life. The second category of words comprises the typically longer and more foreign-sounding words that normally are acquired later in adolescent years as part of the academic language. In pursuing an educational system that rewards the use of the second category, he points out that educational success primarily builds on pupils’ ability to display knowledge by using a precise and diverse vocabulary, consisting of the items of Greek or Latin origin. Thus, learners face the challenge of acquiring these (Moody et al., 2018, p. 2). This category represents a difficulty for Norwegian students learning English as an additional language as well as native speakers. Similarly, Nagy and Townsend (2012) argue that academic vocabulary is inseparable from academic language.

They claim that teachers need to pay more attention to academic vocabulary to support their students in understanding and producing more precise language. The language of schooling is directly linked to teacher assessment of students' writings and represents a severe obstacle to their success if not mastered. Therefore, it seems to be a reasonable goal to support students' development of more academic language proficiency to improve their overall achievement in their L2 writings.

Advanced lexical development has been defined in different ways. According to Webb (2018, pp. 401–403), the most common and transparent way of defining learners' lexical proficiency has been to measure their vocabulary size. Learners with a small vocabulary size would be termed beginners, whereas learners who know many words would be classified as advanced. Unsurprisingly, several research studies have consistently shown a correlation between vocabulary size and comprehension in reading and listening. The exact size of the productive lexicon of the learners is impossible to measure, as there are no regular tests designed for this purpose (Webb, 2018, p. 403). A second way of measuring advanced vocabulary development is by focusing on lexical sophistication (Webb, 2018, p. 404). This is connected to how frequent words are, as beginners tend to use a large proportion of high-frequency words, but as learners expand and stretch their vocabulary, they include more low-frequency words. For instance, when beginners write “The girl sat down on the chair”, more advanced learners might express themselves differently, “The adolescent nestled in the armchair”. Although topic and background knowledge might also influence the proportion of low-frequency words, Webb (2018) holds inherent value in measuring words produced by learners to demonstrate vocabulary learning progress. There are several methods to describe advanced lexical development. I decide to not cover them all due to the scope of the present thesis.

The above-described elements of “advanced vocabulary” partly deal with the words used, indicating that when learners select the more low-frequency words in their writings, their language will be considered more advanced, while a second way of looking at linguistic quality in a composition is to what extent vocabulary is varied. Lexical variation is acknowledged by Corson (1995, p. 14), Hinkel (2003, p. 276) and Laufer and Nation (1995, p. 307) as a hallmark of *lexical richness*. According to Read (2000, p. 200), lexical richness is defined partly by the proportion of low-frequency words used in writing as opposed to basic,

high-frequency words and partly by the amount of variation in vocabulary. The frequency levels of vocabulary and lexical diversity combined should be measured to make judgements of lexical quality in writing, according to Laufer (1994, p. 30). She proposed that lexical variation should be taught as a skill in its own right, as “learning advanced vocabulary will not automatically result in the learner’s ability or wish to vary the old and newly learnt words effectively” (p. 32). This realisation prompted Laufer and Nation (1995) to develop a computer programme, called the Lexical Frequency Profile (LFP), which will be further described in section 2.8.2. The tool can analyse texts in relation to frequency levels and lexical variation, thus giving a broader picture of learners’ productive vocabulary competence and the lexical richness of their papers. In the current study, the LFP has proved to be a valuable tool to measure productive vocabulary mastery.

1.6 Summing up

Intuitively, most linguists would agree that the size of one’s lexical repertoire is essential for language use. This notion has been shown in studies where the link between vocabulary size and language proficiency is confirmed (Schmitt, 2019; Webb, 2018). Laufer (1994, p. 21) claims that measuring writing progress through lexical progress makes sense “since lexical quality and writing quality are interconnected”. To sum up, improvement in writing in an additional language is directly linked to an increase in a learner’s productive vocabulary mastery. It is safe to assume that all the four language skills, i.e., reading, listening, speaking and writing, largely depend on the size and quality of the learner’s lexicon. Seeing lexical items as “building blocks of communication” that convey meaning, it is easy to agree with Webb (2018, p. 401) when he holds that: “Vocabulary is ... at the heart of language learning”. My experience as a teacher in Norwegian secondary school has prompted me to explore how learners can develop a more functional productive vocabulary, especially in their written work. Related to this process, I have wished to shed light on the separate yet interconnected roles of teachers and learners and link those to the core and national curriculum in English. Finally, what is involved in the terms “advanced vocabulary” and “lexical richness” has been briefly outlined.

Chapter 2: Theoretical Framework

In creating a theoretical framework for the present study, a number of terms need to be explored. First, the “learning burden” will be explained in light of relevant theory. Second, what is involved in “knowing a word” will be investigated in terms of receptive and productive knowledge. Third, why frequency is essential will be discussed, followed by a comparison of explicit and implicit vocabulary instruction. Related to vocabulary instruction is a brief description of how words are remembered. Theories underpinning the current study, the Lexical Frequency Profile, and the Teaching and Learning Cycle will be presented.

2.1 The Learning Burden

Anyone that has tried to learn an additional language has experienced that some words are more challenging to learn than others. Why should we pay attention to this fact? First of all, studies of how words are forgotten show that the terms that are the easiest to learn are the ones that are best retained (Thornbury, 2002, p. 26). So what words are these? The high-frequency words met multiple times constitute minimal effort to learn. They represent a light “learning burden”, a term used by Nation (2013, pp. 44–45) to explain how much effort it takes to learn a new word. Often, they are short, and they may also resemble some words in the learner’s first language. The underlying principle is that the more patterns and knowledge a learner already is familiar with within a word, the easier the learning burden is.

Understanding the word may come from knowledge of other languages, from L1, or from other words one knows in L2. The further away from the L1 sound system and grammatical pattern of a word, the heavier the learning burden is. In the opposite case, the closer it is to sounds in the first language, to regular spelling and grammatical patterns resembling those in the learner’s L1, the easier the lexical item is acquired and retained. The learning burden will be very light if it is a loanword in L1 with approximately similar collocations and constraints. If one’s mother tongue is close to L2, the learning burden will generally be very light. Perhaps unsurprisingly, in a study by deGroot (1992), evidence was found that the learning burden affects how well bilinguals recall L2 words. Variables such as frequency, cognate status, and context availability were shown to impact performance in translation. This is of relevance to

the present study, as some of the target words were cognates, all were relatively low-frequent, and all were encountered in a written context.

The almost identical words in L1 and L2 are the easiest to learn. They are called *cognates* if their derivation from the same origin causes their similarity. The Norwegian words “mann” and “husband” historically come from the same source as the English words “man” and “husband”. Another group of similar words are loanwords from English into Norwegian, e.g., “shopping”, “computer”, and “gaming”, which will be easy to learn and retain. The same goes for words of Latin origin, such as “ambitious” and “ambisiøs”, and “discourse” and “diskurs”. Because they are used in the same way and the closeness of pronunciation and spelling, these lexical items could constitute a helpful doorway in the initial stages of approaching the English language (Thornbury, 2005, p. 26). In the list of target words (Appendix 3), we find a number of words that belong to this group, among which are: “to confront - å konfrontere”, “rehabilitation - rehabilitering”, “traumatic - traumatisk”, “extraordinary - ekstraordinær”, and “terrace - terrasse”. These should constitute a light learning burden, because of their resemblance to the learners’ L1.

Laufer (1997) has investigated what it is in a word that makes it challenging to learn. Could we identify any particular categories of words that are troublesome for L2 learners? She explores any intrinsic features in a word that represent a challenge for foreign language learners. After listing all the various aspects of knowing a word, she uses the magnifying glass to see which are trickier than others pertaining to second language acquisition. These are called “intralexical factors”, and by that term, she means intrinsic factors related to form and meaning that may affect the word’s learnability. She also sums up what features of a word must be known for a learner to be truly familiar with it. These aspects will be described in greater detail in section 2.2.

The first factor that affects word learnability is pronounceability (Laufer, 1997, pp. 142–143). As could be expected, foreign learners experience various difficulties regarding the phonetic features of a word. Which of the particular sounds represents a difficulty depends on the learner’s L1. A Chinese learner of English as a foreign language will experience other problems than Spanish learners, or Norwegian learners, for that matter. Not surprisingly,

learners prefer words with a familiar sound system to their L1. Laufer found that these words are easily understood and remembered. Moreover, if a word follows the pronunciation rules in L2, i.e., shows phonotactic regularity, it is more likely to be stored in the long-term memory. A third factor deals with stress in words. If learners study a language with a fixed stress pattern, like in Finnish, the words will be easier to acquire than in English, where the stress is variable. One example of the latter is found in the words “person” and “personality”; “nature”, “naturalistic”. The last word is also an example of vowel weakening when the syllable is no longer stressed.

One should expect that longer words would constitute a greater difficulty to learn than shorter words. Research on working memory (section 2.6.3) has shown that individuals find it easier to remember a sequence of short words than long words (Baddeley, 2000). However, this is not always the case. Studies on word length and learnability show conflicting results, according to Laufer (1997, pp. 144–145). Some have shown that it is harder to recognise longer words in the written form than shorter ones. On the other hand, what characterises long words is that they consist of a combination of familiar morphemes, e.g., “unavailable”, and “underdeveloped”. Thus, if learners know the different word parts, they would most likely know the longer word because of morphological transparency. One could argue that many short words are easier to remember because there is less to learn and remember. This holds for a large group of terms of Anglo-Saxon origin. Still, Laufer (1997, p. 145) argues that the easier learnability of the shorter words is not so much due to their length as to the frequency with which they occur. The more often one is exposed to a word, the more likely one perceives and remembers it long-term.

A difficult inducing factor is the multiple meanings represented by one single word, related either to homonymy or polysemy. Another group of words that are hard to learn are the so-called synforms. Neither time nor space allows me to go into details here, but I will explain briefly. Similar lexical forms are called “synforms”, according to Laufer (1997, pp. 146–148). These come in multiple categories; Laufer numbers no less than ten. They all have in common that they are lexical items that look or sound more or less the same, making it tricky to learn and remember them long-term. Some differ only in one vowel, others in only one consonant. Laufer claims overwhelming evidence that learners are prone to confuse words that sound or look the same. The phenomenon involves learners experiencing so-called acoustic encoding

interference, meaning that similar words are stored adjacent to each other in the long-term memory. When retrieved, learners tend to confuse them. As a teacher, I have seen this in word pairs like “affect” and “effect”, “hole” and “whole”, “to”, “too” and “two”, and in many others. The hardest synform to learn had different suffixes, e.g., “industrial” and “industrious”; “comprehensive” and “comprehensible”. Believing that the word is already known can be a considerable obstacle in understanding a text because the reader is unaware that they do not know it (Laufer, 1997, p. 147). These words can be said to constitute a heavy learning burden.

What can teachers do to reduce the learning burden? Nation (2013, p. 45) holds that teachers must as soon as possible recognise the underlying patterns in a word that might cause difficulties for the learner. Then they should pay attention to those structures and try to find connections between the second language and the first language. By making students aware of these, they could ease the learning process for learners.

2.2 What Does It Mean to “Know a Word”?

What is entailed in “knowing a word” is not as simple as it may seem. On the contrary, Laufer and Paribakht (1998), Henriksen (1999), Webb (2018), and Gonzalez-Fernandez & Schmitt (2020) hold that there does not exist any clear consensus regarding how to describe the complex construct of vocabulary knowledge and that this is essentially the case today. Thus, every researcher must define which aspect of lexical knowledge will be investigated. From Laufer’s (1997, p. 141) perspective, to know a word involves knowing no less than six distinct features.

The different properties generally considered crucial to knowing a word are: Firstly, one has to know both the spoken and written form of the word, particularly pronunciation and spelling. Secondly, the structure of the word must be known, i.e., its root morpheme along with standard derivations and inflexions. Thirdly, knowledge of the syntactic pattern of the word in a phrase or sentence is necessary. Fourthly, various types of meaning ought to be known, including the referential, connotative, and affective meaning and the appropriateness of the word in certain situations, also called restrictions of use. Furthermore, it would be an advantage to know the lexical relations of the word with other words, namely its synonyms,

antonyms and hyponyms. Finally, collocations, i.e., groups of words that generally occur together, should be known to create fluency in the language. Laufer (2006, p. 162) proposes that the above-described elements combined “with vocabulary use, speed of access, and strategic competence” may constitute the construct of *lexical competence*.

Laufer's specification is closely related to Nation's (2013, pp. 49-50) comprehensive description of the various aspects of knowing a word. He divides lexical knowledge into nine distinct categories, which can be either receptive or productive (section 1.1). His categorisation is referred to as the “...best specification of the range of ‘word knowledge’ aspects to date” by Schmitt (2010, p. 16). It is widely recognised and constitutes a reference tool for many researchers (Schmitt, 2019, p. 262; Gonzalez-Fernandez & Schmitt, 2020, p. 482). The aspects of “knowing a word” are summed up below in Table 1.

Form	spoken	R	What does the word sound like?
		P	How is the word pronounced?
	written	R	What does the word look like?
		P	How is the word written and spelled?
	word parts	R	What parts are recognisable in this word?
		P	What word parts are needed to express the meaning?
Meaning	form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?
	constraints on use (register, frequency ...)	R	Where, when, and how often would we expect to meet this word?
		P	Where, when, and how often can we use this word?

Note: R = receptive knowledge, P = productive knowledge

Table 1. Downloaded from *Learning Vocabulary in Another Language*, by P. Nation, 2013, ch. 2, p. 49.

At the most basic level, knowing a word means knowing its *form*, *meaning*, and *use*. Receptive knowledge of the form of a word means to recognise it when it is heard or written. In longer words, such as *unavailable*, one should recognise and understand the meaning of the different word parts. Receptive knowledge of meaning involves knowing that *unavailable* has a particular meaning and understanding the word's specific meaning in a specific context.

There are related words like *available*, *avail*, *unavailing*, *out of stock*, *unobtainable*, and *inaccessible*.

Receptive knowledge of the use of the word *unavailable* means that one can perceive that the word has been correctly used in a sentence and recognise words that often collocates with it, such as *commodity* or *goods*. Finally, receptive knowledge of the word also means that one is aware that it is a fairly common word, which usually does not have negative connotations.

Productive knowledge of a word will also touch upon the aforementioned aspects: form, meaning, and use. Firstly, knowing a word's form productively implies knowing how a word is pronounced and spelt, including knowledge of its word parts so that one can construct it by combining the single parts into a new word. Secondly, to know a word's meaning in a productive sense, one must produce the word to express the meaning of, e.g., *unavailable*.

The production must occur in various contexts to describe a range of meanings inherent in the word. To produce synonyms and antonyms is also part of claiming full productive knowledge of the word. Thirdly, productive knowledge of the use of a word implies that one knows in what grammatical patterns the word belongs so that the word might be correctly delivered in a sentence. In addition, one must understand what other lexical items frequently appear together with the word and produce these in a language setting. Lastly, it is crucial to know if there are any constraints to the use of the word and in what circumstances it is most appropriate to use it, which includes an understanding of what degree of formality the word has (Nation, 2013, pp. 49 - 50). Of relevance for the present study, is that when learners create texts, they need some degree of productive knowledge of words to use them freely.

As most teachers consider a word "known" when the form/meaning link, often called "breadth" of knowledge, both in written and spoken form, is established, it is clear from the table above that to know a word has a lot of other dimensions to it. The additional knowledge is recognised as "depth" of word knowledge (Henriksen, 1999, p. 305; Schmitt, 2008, p. 333). This type of knowledge has proved to be as important as knowing the relationship between form and meaning, especially for productive use. Schmitt (2010, p. 15) sees vocabulary development as an incremental learning process, and at the beginning stage, the form-meaning link should first be established. Later, it would follow naturally to measure

contextualised aspects such as collocation to assess what “depth” of knowledge the learner has of a lexical item.

2.2.1 Word Families

Inherent in the discussion of what “knowing a word” involves lies the question of what we define as a word. In a common-sense meaning, most laypeople would quickly define it as a group of letters conveying a meaning, with spaces on each side in texts. The requirement to write a master thesis of 40 000 words reflects this view. Some researchers, among them Lee and Muncie (2006, p. 299), assert that this view represents a somewhat dated vocabulary concept. A more multifaceted discussion would arise when addressing a linguist with the same question. What constitutes “a word” is not as simple as it may seem.

One example may be the lexeme “face”, in the form it appears in a dictionary, which is generally counted as a word. What about the inflectional forms of “face”, such as “faces”, “facing”, and “faced”? Are these three different words, or are they counted as the same word? What about the fact that the word is both a noun and a verb? Does that piece of knowledge add another digit to the word count? Moreover, when the word is used figuratively, like in the phrase: “The main difficulty that faces us today is...”, is it counted as another word?

These questions have prompted researchers to count words in a certain way, not by single words, which has all these complicated questions inherent, but by word families. By knowing a headword, which is the form of the word typically listed in a dictionary, one can know a group of words. These include inflections of the headword, affixes attached to it, and common derivatives, which usually have their own entry in the dictionary (Thornbury, 2002, p. 4). So, a word like “joy”, by undergoing the process called affixation, is given slightly different meanings:

joy + ful

joy + less

re + joi + ce

en + joy

Both derivation and inflection are a result of affixation. The list above gives us an idea of the number of words that could derive from one headword, or root form, as some researchers name it. Some of the word family members might be easily understood, while others are less

transparent. These may constitute a considerable challenge for learners, especially in production. Consequently, one cannot automatically assume that knowing the root form of a word implies that one can guess the meaning and use all the other members of the word family productively (Schmitt, 2010, p. 8).

Inflections are also formed by affixation so that in a word like *kick*, for example, forms like

kick + s

kick + ed

kick + ing

can be found in the text and heard due to the grammatical context. From the same root, derivatives like

kick + back

kick + off

can be made. The above examples clarify that the word family members that are hardest to learn are formed as derivatives. From a cognitive perspective, what is interesting about counting words in this way is that the total number of words does not become too large and that it seems that similar words are stored adjacent to each other in the brain. Hinkel (2006, p. 122) holds that teaching word families rather than individual words might significantly speed up “the rate of learning”. I will come back to this later in section 2.6.

Another way of approaching what constitutes a word is to look at the fact that words carry meaning. Considering one particular meaning, e.g., “to die”, this could be expressed in different ways, among others “to expire”, “pass away”, “bite the dust”, “kick the bucket”, and “give up the ghost” (Schmitt, 2010, p. 50). From this example, we can see no one-to-one correspondence between form and meaning. All the different lexical units, single orthographic and multi-word units, convey the same meaning. In other words, they function as a single meaning unit, regardless of how many words are included. A meaning unit can be called a “lexeme”, a “lexical unit” or a “lexical item”, and these terms can be used interchangeably. In the current thesis, I have chosen to use the term a *lexical item*, covering both single word units and multiple word units. However, when I count specific words, e.g., in the target word list, the term *word* will also be used. The main focus of the present study will be on single word units, even if a few multiple word units appear in the target word list (Appendix 3).

2.2.2 How Are Lexical Items Learned?

Schmitt (2019, p. 265) holds that learning new lexis is an incremental and gradual process in which some features of words are acquired before others. Following a single encounter with a lexical item, learners will typically learn the basic meaning before they fully master collocational behaviour, not to mention constraints of use. After the initial meeting, the learner must repeatedly be exposed to the item in various contexts to understand it fully. According to Schmitt, every new piece of knowledge follows a similar incremental path. If we look at the proficiency in spelling, for instance, it can be pictured on a cline, where the learner goes from no knowledge via partial knowledge to complete mastery. Furthermore, the receptive/productive distinction can be seen as a continuum, and so can all the other components of knowing a word.

In the same vein, Henriksen (1999) points to three dimensions describing vocabulary development, which can be pictured as points on a continuum rather than fixed stages. The first is partial to precise knowledge, as vocabulary knowledge is often operationalised to translate from L1 to L2. However, to move from partial to more accurate understanding, the learner should know how to pronounce the word, explain its meaning, identify its domain, and find other word forms. Henriksen (1999) points out that the second dimension is construed as a cline where the learner goes from shallow to a deep knowledge of the word. Embedded in this dimension is knowing a word's antonyms, synonyms, hyponyms, gradation, syntactic register, collocational restrictions, and morphological features. This description is comparable to Nation's (2013, p. 49) table of the nine levels involved in knowing a word (section 2.2). Finally, the third dimension Henriksen (1999) portrays is the receptive-productive dimension, which will be further elaborated on in section 2.3. Interestingly, she asks whether the depth of knowledge is a prerequisite for developing productive knowledge of words, which is the focus of the current thesis.

Due to this complexity, several features of vocabulary acquisition are under-researched, particularly how receptive vocabulary knowledge can mature into productive knowledge (Schmitt, 2019, p. 264). However, one word knowledge component that has been subject to several research studies is the meaning of a lexical item. What seems to be a well-established

conclusion from this body of research is that receptive knowledge is generally developed before productive mastery of vocabulary (Schmitt, 2010, pp. 19 - 22). Logically, learners typically understand more while listening and reading than they can produce in speech and writing. Should we then assume that learners pick up words incidentally from language tasks that focus on other linguistic aspects? According to Schmitt (2008), the answer to this rhetorical question is a negative one.

2.2.3 Principles for Learning New Lexis

Several principles should be observed when designing a vocabulary learning program. According to Schmitt (2008, p. 338), the overriding principle in vocabulary instruction is to create engagement in learners when facing the challenge of acquiring new vocabulary items. This is a key term that affects every area of vocabulary development. Likewise, Thornbury (2005, p. 22) claims that the essential element of second language teaching is to spur learners to be enthusiastic about vocabulary acquisition. The teacher should also educate learners with self-directed learning strategies to help them grow more independent. (Thornbury, 2005, p. 22). Thus, teachers, material writers, and learners' most rudimentary task is to create engagement to facilitate vocabulary development. Equally fundamental is the willingness of students to be active learners over a long period. In this process, they need both guidance and help from teachers, who rely on the expertise and resources of researchers (Schmitt, 2008). In sum, general importance is given to affective factors, and vocabulary development is seen as a personal journey. In section 2.2.4, various teaching and learning strategies in vocabulary acquisition will be presented.

What elements may lead to more engagement? Schmitt (2008, p. 339) lists a range of factors that affect vocabulary learning. First, frequent exposure in practically any form enhances vocabulary growth. Second, increased attention to the lexical item and the intention to learn it may add to the success of the learning process, advocating explicit vocabulary instruction. Third, even formal requirements initiated by teachers, such as assignments and tests, create a need to learn the lexical item, and this has shown to have a positive impact. Fourth, personal goals like being accepted in an L2-speaking community or at an English-speaking university may motivate and lead to more time spent engaging with learning new words. Finally, using the lexical item in speech or writing may also successfully contribute to the long-term retention of newly discovered vocabulary.

Hulstijn and Laufer (2001, p. 543) proposed that the notion of engagement included three more precisely defined terms, namely *need*, *search*, and *evaluation*. *Need* is what learners experience when they have to know a word to understand a passage in writing or speech. Furthermore, *search* denotes the quest to find the meaning of a lexical item by looking it up in a dictionary or asking a more knowledgeable other. In the term *evaluation* lies the comparison and assessment necessary to determine if a word properly fits in the context or another word should be selected. A common denominator for these three elements is that they require involvement. Interestingly, Hulstijn and Laufer (2001, p. 551) found that students using target words in a writing composition were more likely to remember them than those using the target words in a reading comprehension task. The current study aims to investigate how target words encountered in reading are used in free writing.

In his approach to vocabulary learning, Nation (2008, pp. 98–99) emphasises the principle that the frequency of words should determine whether they deserve attention in a second language learning class or not. More consideration should be given to high-frequency words, whereas low-frequency words should be dealt with more quickly. He advocates a cost-benefit calculation regarding the “learning burden” described in section 2.1. The following timesaving principles should guide the teaching of both categories: Firstly, the meaning of the lexical item should be given in L1-translation to save time and avoid misunderstanding. Secondly, the teacher can effectuate the instruction by using oral and written presentations and giving attention to the word parts that are already known. Thirdly, the learners should be told how frequent and valuable the lexical item is for their purpose. Finally, one should avoid presenting other unknown or similarly looking words simultaneously, as this may confuse the filing system of the learners’ long-term memory.

How can this be done in practical ways in the second language classroom? Seeing vocabulary development as a cyclical process, Nation (2008, p.113) advocates the principle that recurring and varied meetings with a word are needed. Systematic recycling of words instead of a deep study is better for long-term retention. The most effective way of creating “spaced” learning is to increase the time intervals between meetings of new lexis systematically. The first recycling could be made after a few minutes, the second one after half an hour, the third one the next day, the fourth one after a week, and the fifth one after one month (Nation, 2008, p. 113). This exact recycling plan is just meant as an example, as the school schedule might not

allow implementation of it. The main point is that repeated exposure to new words should initially be provided frequently and gradually less so. This principle is supported by Thornbury (2005, p. 24), who asserts that if a word is encountered at least seven times in reading over spaced intervals, it is more likely to be remembered long-term than if this recycling had not taken place. Similarly, Schmitt (2008) emphasises the principle of recycling and repeated exposure to newly learned words. He claims that the number of repetitions necessary depends on the level of engagement, suggesting that between five and twenty repeated meetings would be required to learn a word according to the criteria described in section 2.2 above. To consolidate learning of previously studied words is time well spent in the classroom. Otherwise, these words would most likely be forgotten, and the time spent learning them would be wasted.

Another fundamental principle presented by Thornbury (2005, pp. 93–105) is popularly known as *Use it or lose it*. Thornbury has devoted an entire chapter to this golden rule and called it “How to Put Words to Work”. He presents a range of tasks that are increasingly cognitively demanding and thus force the learners to make decisions about words. The deeper the level of decisions, the better the word is remembered. In the same vein, Craik and Lockhart (1972) suggested that every new memory trace a word leaves will be reinforced and last longer, with more profound levels of analysis. As such, trace strength can be perceived as a function of depth of processing. In the case of “shallow” processing, if new lexical items were only partially elaborated on, they would leave a fleeting memory trace and thus be easily forgotten. If learners' judgements about words are personalised by reading them aloud or using them in a sentence, the word will be even better retained than if it was solely repeated (Thornbury, 2005, p. 25). In the Method section 3.3.3, I will present a range of tasks which are based on this principle of making decisions about words.

2.2.4. Strategies for Learning New Lexis

When facing a multitude of vocabulary learning strategies, it is essential to remember that there is no single strategy that has proved to be superior to all others, in the sense that “no single strategy can help learners learn all aspects of a word” (Lee, 2003, p. 539). It is indeed not easy to arrive at a single definition of what a learning strategy *is* (Nation, 2013, p. 326). Instead, various strategies are needed to provide an efficient instructional practice that leads to a depth of word knowledge, according to Lee (2003). He defines *systematic vocabulary*

instruction as numerous strategies that can bring about the depth of word knowledge that facilitates word learning, word memory, and word recall. Moreover, the “one size” of vocabulary strategies does not fit all learners. The teacher's challenge is to customise vocabulary instruction so that students' individual differences, interests, and needs are matched (Moody et al., 2018). This tailored instruction is described in section 1.3 as a vital part of the role of a teacher.

Thornbury (2005, pp. 144 –145) examines capable learners' strategies when learning new lexical items. First, they notice the form of the word, both spelling, pronunciation, and stress pattern. Second, they pay attention to meaning in the broader sense, including nuances in the meaning and connotations of words, style, and associations. Third, they are good at guessing the meaning of unfamiliar words by studying morphological features and context. Fourth, they are willing to take risks and are not afraid of making mistakes, with the result being that they can find their way around an unknown word by using the vocabulary resources they already have. Finally, they have developed autonomy and a system for recycling new words and using dictionaries and other study aids.

Similarly, Nation (2013, p. 342) made a list of characteristics of what makes effective learners. His first point establishes that choosing already partially known words to learn more thoroughly is effective. This strategy aligns with the principle of recycling and spaced repetition described in section 2.2.3. Next, they would choose words from various relevant sources and personalise them. This is in line with Thornbury (2005, p. 25), who holds that if learners make personal judgements about new words, e.g., use them in a sentence they have created, they are more likely to remember them. Furthermore, Nation (2013, p. 342) makes the third point that an effective learner will explore more than one of the word's meanings. This agrees with Thornbury's second point above, where he observes that a good learner is aware that words might have a range of nuances in meaning. Finally, and perhaps most importantly, both Nation and Thornbury agree that effective learners will not be afraid of making mistakes and, as a result, make an effort to *use* the words they have learnt.

In an attempt to classify vocabulary learning strategies, Schmitt (1997) distinguishes between two main categories. He labels the first one “discovery strategies”, under which we find the two subgroups “determination strategies” and “social strategies”. Both of these groups are used when a learner meets the new word for the first time. In the initial encounter, the most

fundamental task is to establish the form-meaning link. The learners may use contextual clues, their structural knowledge of the language or ask somebody who knows to find out what must be considered the most basic knowledge: what the word means in that particular setting. Consulting a dictionary and keeping word lists in the form of flashcards are also strategies under “determination strategies”. As for “social strategies”, teachers are often in the position of being the knowledgeable other. They can provide help in numerous ways, by giving the word in L1 translation, naming a synonym, paraphrasing it in L2, or using it in a sentence to let the student infer the meaning from context.

The second leading group is labelled “consolidation strategies” by Schmitt (1997) and will be applied after the introductory meeting with the word to facilitate long-time retention. In this group, we find four sub-groups, named “social”, “memory”, “cognitive”, and “metacognitive” strategies. However, Schmitt admits that the line drawn between the two main groups is blurred. The discovery strategies could easily be used as consolidation strategies as well. One example is “social strategies”, which can be effectuated when learners discover a new word and practise the new word in collaborative group work. Such a setting would provide opportunities to process information and rehearse new words and phrases. In addition, the social context may enhance motivation, which is assumed to be a critical factor in vocabulary development (Laufer, 1997, p. 240). The consolidation strategies are “memory strategies”, which attempt to incorporate new words into the previously known lexicon, following one of the fundamental principles described above in section 2.2.3.

Nation (2008, pp. 3–4) advises that one should observe the principles that guide strategies. In the process of using word cards, for instance, there are no less than eight principles of learning involved: The need for retrieval and thoughtful processing, spaced repetitions, changing the order of cards to avoid serial memory, keeping apart similar words that may interfere with the target word, and use mnemonics like the keyword technique. Finally, selecting which words to put on the cards is decision making that may facilitate independent learning. One fundamental premise is that a number of strategies are necessary to develop the depth of word knowledge needed to improve productive mastery of words, which in turn may enhance the lexical quality of writing. In sum, both principles and strategies for vocabulary development play an essential role in the present study, where learners encountered the target words in reading before applying various principles and strategies to acquire them.

2.3 Receptive and Productive Vocabulary Knowledge

The receptive and productive distinction is a construct much used in the present thesis. Many scholars refer to it in their approach to L2 vocabulary work, but the distinction is not unproblematic (Read, 2000, p.154). Still, the definition of the terms deserves some attention, along with the issues involved in them. In general, receptive vocabulary use means recognising the form of a word when hearing or reading it and understanding its meaning. Productive vocabulary use involves expressing meaning through speaking or writing and remembering and producing the appropriate spoken or written word form (Nation, 2013, p. 47). There is no consensus on whether this distinction constitutes a dichotomy or a continuum, but several researchers consider it knowledge on a cline rather than mutually exclusive dimensions (Henriksen, 1999; Laufer & Goldstein, 2004; Schmitt, 2019). Vincy (2020) found that the receptive-productive gap is dynamic, influenced by factors such as explicit vocabulary teaching and repeated exposure to the target vocabulary. There is yet to discover what specific measures should be taken to develop receptively known words into a productive vocabulary. Of particular interest for the current study is Nation's (2013, pp. 50–52) observation that productive learning is more demanding than receptive learning. This will be explored further in the discussion chapter in section 5.2.1.

How can receptive versus productive mastery be defined more accurately? Gonzalez-Fernandez & Schmitt (2020, p. 486) detail *receptive mastery* as “knowing a lexical item well enough to extract communicative value from speech or writing”, whereas *productive mastery* means knowing a lexical item “well enough to produce it when needed to encode communicative content in speech or writing”. In other words, the two levels of mastery are connected to different language skills. The core curriculum states that “school shall facilitate and support the pupils' development of the five basic skills throughout the entire learning path” (Kunnskapsdepartementet, 2017). The present thesis focuses mainly on two language skills: reading and writing. It investigates the written production of mid-frequent target words encountered in reading.

As pointed out above, receptive vocabulary mastery is connected to listening and reading skills, whereas productive vocabulary mastery is related to speaking and writing. The idea behind *receptive* is that we receive linguistic input from others through listening and reading. In contrast, *productive* carries the notion that we produce meaning in language by speaking

and writing. The two terms do not constitute a dichotomy because we produce meaning in listening and reading; thus, we might claim productive traits in the receptive skill. Rather, they could be illustrated as knowledge on a scale. To be more specific, I will use the terms “...meaning recognition and meaning recall for receptive knowledge and form recognition and form recall for productive knowledge” (Nation, 2013, p. 47).

2.3.1 Other Descriptions of Vocabulary Knowledge

The receptive/productive distinction above is by no means the only way of conceptualising language skills. Meara (1990) sees language driven by associations, meaning productive vocabulary might be activated by other words or by the learners themselves. In contrast, receptive vocabulary only can be triggered by external stimuli. One criticism against his view is that language is essentially meaning driven, and one can be stimulated to produce a word only by seeing an image of it.

Another researcher, Corson (1995, p. 44), distinguishes between “words passively held and actively used words”. He observes that even though learners fully know a word, they may not *want* to use it, e.g., swearwords. Alternatively, they may not have the opportunity to use it. The latter may be the case if they have received higher education and thereby developed academic language but do not live in a social environment where such language is naturally used. Thus, the vocabulary remains passive, although the words could have been used actively. Corson (1995, p. 82) uses the term “unmotivated” to describe this storage of words. If it is not lack of knowledge that prevents the production of the word, is the word then known productively or receptively? In an attempt to shed light on this question, Corson operates with a continuum of motivation rather than one of knowledge in relation to vocabulary knowledge.

In his sociocultural approach to vocabulary, Corson (1995) claims that the Greek-Latin vocabulary of English often remains receptive for several reasons: These words are often low-frequency, so learners seldom encounter them in context. Moreover, their morphological build-up is less transparent than their Anglo-Saxon equivalents, making the processing time longer. Thus, learners tend to avoid them in communicational situations. Finally, some learners with social backgrounds that do not allow them to familiarise themselves with the rules of such academic language could be said to meet a “lexical bar”, and much of their vocabulary remains receptive. This barrier must be overcome to succeed in one's education (Corson,

1995, pp. 179 - 181). Read (2000, p. 200) points out that a relatively high proportion of low-frequency words in an essay will be assessed as “lexical richness” if the words are appropriate to the topic and style. Contrarily, if the text predominantly consists of high-frequency, everyday words, it will be judged simplistic and obtain a lower grade.

Laufer and Paribakht (1998) divide vocabulary into three categories. They label the first *passive vocabulary*, consisting of familiar words readily understood by learners. The active vocabulary equivalent consists of *controlled active* or *free active* levels. The first one denotes words recalled as a response to cues, and the latter comprises words used spontaneously in a spoken or written context. If I chose to use these terms, the present study would examine how the controlled and free active vocabulary was used in two written compositions. Although several linguists use the passive and active distinction, it will not be used in the present thesis because it, in many ways, seems inadequate. When learners understand a lexical item in speech or text, they have to produce or retrieve its meaning from their long-term memory, and this is by no means a passive process. The receptive and productive distinction seems more exhaustive in describing vocabulary properties and will subsequently be used in the current study.

2.3.2 More Aspects of the Receptive and Productive Distinction

The receptive and productive distinction is not as clear cut as it may seem, as described in section 2.3. Still, there are a few general points that can be outlined, such as receptive knowledge being easier to acquire than productive knowledge, and the learners’ receptive vocabulary being larger than the productive one (Nation, 2013; Laufer, 1998; Lee & Muncie, 2006). Furthermore, it is widely assumed that reception precedes production (Melka, 1997, p. 84). This can be seen in children, who can understand a lot more than they can utter. This assumption was confirmed in Laufer and Paribakht's (1998) study. Why this is the case, however, is not clear. Nation (2013, pp. 50–52) points out four reasons that may affect the difficulty of learning new lexical items in a productive way. The first explanation is called the “amount of knowledge” explanation and says that it takes more specific knowledge to know a word productively than receptively. To know a word productively, one must know grammatical, contextual, and collocational patterns in detail, whereas these patterns are

already given when recognising the word receptively. In speech or writing, there are a lot of contextual cues that will help the learner infer a word's meaning. When producing the word, on the other hand, the learner has to have intimate knowledge of more aspects of meaning, e.g., synonyms, antonyms, and constraints of use (Nation, 2013, p. 51).

Another perspective on why recalling meaning seems less problematic than recalling form, is that there might be more shared meaning between L1 and L2 than shared form. The conceptual system might be approximately the same, whereas the form system is different. Developing contextual knowledge like collocation requires a lot of exposure to the word in various contexts. This is mandatory for productive use of language but not for receptive. Laufer (1997, pp. 150–151) observes that learners may know some lexical items because they know their meaning in specific contexts, but this partial knowledge is insufficient to use the words productively. The learner does not feel confident enough to use the words in spoken and written communication.

The second observation is called the “practice” explanation and states that in a typical L2 learning situation, learners will hear and read more than they speak or write, which means that the receptive practice of language is larger than the productive, especially when it comes to the size of the vocabulary. Because all types of learning generally require a certain amount of training or practice, the more considerable amount of practice of receptive learning produces a larger vocabulary store of receptive vocabulary (Nation, 2013, p. 51). According to Nation, a third explanation emphasises that the first link between the L2 and L1 is a simple one, establishing a translation from L2 into L1, e.g., in the word “purpose” – “mål”. Since there is only one link, it is easy to retrieve the word's meaning in a receptive way. When going in the opposite direction, however, from L1 into L2, there are many competing associations between the two words, containing knowledge of synonyms, antonyms and collocates. Consequently, this makes it a lot more challenging to produce the word. This explanation has been called the “access” explanation. Finally, the “motivation” explanation says that some learners are not motivated to use parts of their vocabulary because of their socio-cultural background, even though they are perfectly able to do so. In other words, it is not insufficient knowledge but a lack of motivation that keeps their potential productive vocabulary use receptive. Such an explanation requires degrees of motivation rather than knowledge to illustrate the receptive and productive distinction (Nation, 2013, pp 51–52).

2.3.3 The Reproduction Stage

From Schmitt's (2019, p. 263) perspective, the learning process goes from no knowledge to learning to master lexical items at a receptive level before converting this knowledge into a productive mastery level of vocabulary. The three levels could be illustrated as a continuum. Some researchers see this process as a gradual development where the intervals from no knowledge to receptive and further to productive knowledge are equally long. This view can be interpreted as the intervals between not knowing a word and going from receptive to productive knowledge are similar, indicating the learning burden is the same.

Figure 1

One View of the Vocabulary Learning Process

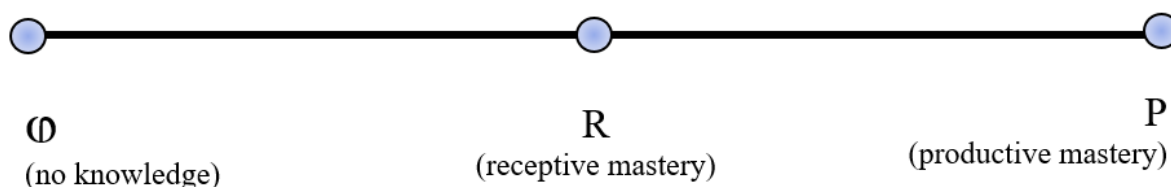


Figure 1. Adapted from "Understanding vocabulary acquisition, instruction, and assessment: A research agenda," by N. Schmitt, 2019, *Language Teaching*, 52, p. 263

Others claim that the heaviest effort lies in going from no knowledge to the receptive level, from which the productive mastery will be obtained more or less automatically (Schmitt, 2019, p. 264). In other words, the learning burden lies in the first interval, so going from no knowledge to receptive knowledge constitutes the most challenging part. Then productive knowledge will follow more or less without much effort. Thus, the illustration will change slightly:

Figure 2

A Second View on the Vocabulary Learning Process

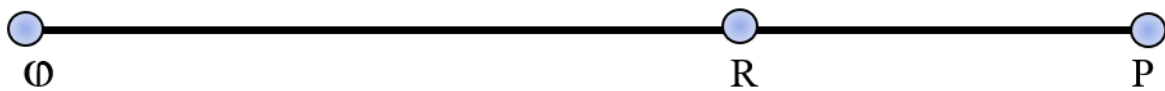


Figure 2. Adapted from “Understanding vocabulary acquisition, instruction, and assessment: A research agenda,” by N. Schmitt, 2019, *Language Teaching*, 52, p. 264

The third continuum illustrates Schmitt’s (2019, p. 264) viewpoint. He believes learning a word at the receptive level is relatively easy, whereas bringing this knowledge to a productive level of mastery takes much work. None of the two illustrations above is likely to be closest to what learners experience as reality. He holds that the real challenge is for learners to enhance their vocabulary from a receptive to a productive one, and this interval constitutes the heaviest learning burden. It is enough to recognise the form in writings or speech to comprehend a word. Moreover, reading a word in a co-text means that learners get helpful prompts from the context. However, when producing a word, one must know different word properties like derivation, syntax pattern, register, and collocation, which takes far more effort than just recognising the word. Thus, to use a lexical item productively requires deeper processing on the part of the learner. The third continuum can illustrate this situation:

Figure 3

A Third View on the Vocabulary Learning Process



Figure 3. Adapted from “Understanding vocabulary acquisition, instruction, and assessment: A research agenda,” by N. Schmitt, 2019, *Language Teaching*, 52, p. 264

However, finding a clear definition of reception and production is quite impossible, according to Melka (1997, p. 84). An essential issue would be to define at what point receptive knowledge is converted into productive knowledge and how the gap between the two should be described (Melka, 1997, p. 86). This view is supported by Read (2000, pp. 154 – 155), who asserts that the lack of a clear definition of the threshold between reception and production complicates the measurement of vocabulary. When the definition of the two language properties is insufficient, how can one possibly gauge it? Furthermore, Melka (1997, p. 89) suggests that if there is a continuum between the two constructs, it is far from smooth but consists of degrees of knowledge, starting with the visual recognition of the word and gradually growing into knowing various meanings, collocations, and the appropriateness of the word. Realising that knowing a word is not an all-or-nothing phenomenon, some aspects might be known productively, and other elements remain receptively known. Word recognition is possible even if the word is stored incompletely. Eventually, if a learner is familiar with some features of the word, production can be impossible in some contexts but possible in others. In this fuzzy landscape, we are approaching the threshold between receptive and productive knowledge.

Melka (1997, p. 89) explores the gap between the two notions of word knowledge in steps she calls *imitation*, *reproduction without assimilation*, *comprehension*, *reproduction with assimilation* and *production*. She elaborates that reproduction can occur in two forms, with or without assimilation of the word. If the continua above were to be visualised to include Melka’s stages, it would start with *imitation* and *reproduction without assimilation* as early

facilitate long-term retention and understanding of a word's register regarding collocations and restraints of use. Thus, the more frequent words are more easily remembered and produced in speech and writing because they are more often met in context. Frequency affects almost all the ways learners process and acquire lexical items and can be defined as: "the words most likely to be encountered in discourse" (Schmitt, 2010, p. 63). Consequently, frequency must be considered when selecting target items for a study (Schmitt, 2010, pp. 13–14). As described in section 1.5, research has shown that vocabulary size is a determining factor for language success (Schmitt, 2010, p. 4). How large does it have to be, and what kind of words should we spend time and energy teaching in the classroom? Nation is a prominent exponent of distinguishing frequency levels of vocabulary to make an analysis of the type of words taught in school (Nation, 2013, p. 9). He holds that the more frequent words are instrumental for learners and should be taught explicitly in the classroom.

Why should we be considering frequency in a vocabulary research study? According to Schmitt (2010, p. 63), it affects the three vital aspects of language learning: *acquisition*, *processing*, and *use*. Firstly, when lexical items are encountered often, they are more likely to be understood in terms of meaning. Studies have shown that every encounter one has with a word leaves a memory trace. This effect applies to formulaic sequences and individual words. Thus, the more frequent items are more easily *acquired* and remembered. More frequent words are also better *processed*. They are more often translated correctly, and learners make fewer errors when using them. Moreover, translation performance has shown that they are also retrieved faster than less frequent items (de Groot, 1992, p. 1015). Solid results sum up how frequency affects reading speed, spelling accuracy, and writing production. In auditory contexts, the more frequent words are better recognised, easier understood, and more often produced in speech (Ellis, N. C., 2002, p. 152).

The frequency variable also plays an essential role in explaining the *use* of lexical items. The more frequent words tend to have fewer constraints than the less frequent ones (Schmitt, 2010, p. 63; Laufer, 1997). The fewer constraints make them appropriate in various contexts and give them a broader range of use than low-frequency words. An example of this is the verb "to ask", which can be used when the subject is wondering about something and searching for an answer. The word's broad register allows it to be more frequent, (it appears in the list of the 1,000 most frequent words). However, if we consider the synonym "to interrogate" (appearing in the 5,000 most frequent word list), we see that the

word has more constraints on its use. In addition to the meaning of searching for an answer, it has the association that it is often used when the police search for information to solve crime cases. “To interrogate” can be said to have a more narrow register than “to ask”. Hence, two semantically-related lexical items can have a different formal register (Schmitt, 2010, p. 51).

Linguists have traditionally classified word frequency into two main categories: high- and low-frequency bands (Schmitt, 2010, p. 68). Typically, the high-frequency words have been conceptualised as the 2,000 most common headwords of word families. The function words are included among the high-frequency words. These words are estimated to cover around 90% of the language learners need to know (Nation, 2013, pp. 21-23). Both L1 and L2 learners will first acquire the most frequent words, as they are often encountered in speech and written contexts. However, as Nation (2013, p. 26) observes, if the students’ vocabulary consists of solely high-frequency words, it will be insufficient for reading unadapted texts without help from a dictionary. Still, he argues that high-frequency words are highly beneficial for learners and deserve much attention in the classroom. In contrast, low-frequency words are so rare that they should only be learned whenever necessary for a specific purpose. The teacher should provide learners with different strategies to teach themselves these words whenever needed.

2.4.1 Mid-frequency Vocabulary

Nation (2008, pp. 7-12) refers to the four categories of vocabulary: high-frequency, academic, technical, and low-frequency when he advises teachers regarding vocabulary instruction. This classification has provided a helpful priority list for which words to teach in the classroom. Most time should be used to teach high-frequency words, i.e., headwords from the 2,000 most frequent word families in English. Academic words should be taught to students intending to study English, and technical vocabulary would be helpful for students in particular fields like Physics or Economics. However, several studies have shown that to read an authentic book or magazine for pleasure, the reader would need more than the most frequent 2,000 headwords (Webb, 2018, p. 403). Nation (2006, p. 79) estimates that if readers were not to be hindered by unknown vocabulary, they would have to know 8,000-9,000 word families, far exceeding the number of high-frequency words. Learners who have acquired a vocabulary storage of this size, will, according to Nation (2008), understand 98% of an authentic text. In a spoken

context, learners must know 6,000-7,000 word families to comprehend 98% of what is said. Thus, learners have to acquire a lot more word families than previously assumed to enjoy authentic English language.

Since the low-frequency words appear more rarely than the 9,000 most frequent headwords, and the high-frequency words are the 2,000 most frequent words, we are left with a substantial gap between the two groups. This interval has not been not systematically looked into before it was labelled *mid-frequency* vocabulary by Schmitt and Schmitt (2012, pp. 495–498). They hold that there are inherent benefits in giving guidelines when it comes to the teaching of this vast group of word families. The most important one is engaging with authentic English literature, newspapers, and movies. For students, reading English textbooks is another essential purpose. Yet another reward pertains to the fluency learners will obtain by knowing more mid-frequency words. Despite these apparent benefits, there is a lack of a principled approach in textbooks to teaching mid-frequency vocabulary. Whereas high-frequency vocabulary has received much well-deserved attention, and low-frequency has been left to the learner to acquire individually using learner strategies, very little focus has been given to mid-frequency vocabulary in the classroom. The present study aims to explicitly teach target words from the mid-frequency band and do so following the Teaching and Learning Cycle’s approach as described in section 2.9, while concurrently applying some of the principles proposed by Thornbury (2005, Ch. 6). Thus, the production of the target words in the learners’ free writing composition will be investigated.

2.5 Explicit and Implicit Vocabulary Instruction

Above I have dealt with a number of factors relevant to an understanding of the requirement of an extensive productive lexicon and learners’ vocabulary development. These aspects include the learning burden, the definition of a word, and principles and strategies that guide the learning process. In addition, I have discussed the receptive/productive distinction and the significance of frequency of lexical items. In recognising the daunting task of acquiring a vocabulary of a considerable size, Schmitt (2008, p. 333) calls for more than just assuming that learners pick up adequate lexical items incidentally from a given text or grammatical and communicative tasks. Instead, he sees the need for a more principled and proactive approach, including both explicit teaching and incidental learning through massive exposure to the

language, primarily through reading. Other prominent linguists like Laufer (1994), Muncie (2003), Hinkel (2006, p. 122), and Nation (2008, pp. 97-123) also recommend explicit vocabulary instruction to facilitate vocabulary development and ultimately improve the lexical quality of students' writing.

Historically, the communicative approaches of the 1970s and 1980s called for implicit learning of vocabulary, encouraging learners to recognise clues in contexts, use monolingual dictionaries, and infer word meaning from context. Although massive exposure to words has its place in developing the contextualised knowledge of words, Søkmen (1997, pp. 237-238) argues that incidental learning is a “slow and error-prone process”: Firstly, it should be avoided because most learners have limited time to acquire a body of words. Secondly, guessing word meaning from context might give an incorrect answer, especially for learners with low proficiency in the target language. Moreover, when the wrong meaning is learned, it may be hard to unlearn. Thirdly, even though learners are trained to use different guessing techniques, they may still understand little due to an overall insufficient understanding of vocabulary.

Although implicit language acquisition has several disadvantages, Schmitt (2008, p. 333) holds that it should not be left out of a vocabulary programme. However, in the initial stage of a vocabulary development process, an explicit approach would be effective when the form-meaning link is established. In section 2.2, the depth of word knowledge was explored through Nation's table “What Is Involved In knowing a Word”, establishing that the form-meaning link is the first step of knowing a word, but one should not stop there. The learner must repeatedly meet the word in various contexts to enhance contextualised knowledge, e.g., through extensive reading. This long-term approach facilitates more profound knowledge, such as what grammatical patterns the word occurs in, what collocations go with the word, and in what discourse it should *not* be used (Schmitt, 2008, p. 334).

As is often the case in vocabulary instruction, these two approaches are not mutually exclusive. On the contrary, they are complementary (Moody et al., 2018, p. 2). Schmitt (2008,

p. 253) holds that both explicit and implicit approaches to vocabulary instruction “are not only complementary, but positively require each other”. As described above in section 2.2.4, consolidation strategies have their place to strengthen newly acquired vocabulary knowledge. Laufer (1994, p. 31) argues that explicit teaching is also needed at an advanced level. She does not dismiss incidental learning altogether but calls for explicit vocabulary teaching as an integral part, even in university courses, as the amount of exposure to L2 is insufficient for the desired growth of academic vocabulary. She believes such an approach would result in improvement in students’ writing. The present study aims at investigating if there is such a correspondence between explicit vocabulary teaching and proficiency in writing.

2.6 How Are Words Remembered?

To shed light on this crucial question, Barcroft (2002) studied English L2 learners of Spanish. He asked the participants to make pleasantness ratings about concrete L2 nouns (semantic elaboration), to count the letters in other L2 nouns (structural elaboration), and compared recall of these nouns in Spanish to target words that had not undergone any elaboration. He found overall higher recall of target words that were not elaborated on than those which had been so semantically. Barcroft (2002, pp. 353-354) argued that the working memory has limited capacity, so if a learner is too focused on, for instance, meaning by performing semantic elaboration, this might inhibit the learning of the form of the lexical item. In other words, if learners are too preoccupied with understanding the multiple meanings of a lexical item, this could prevent them from remembering the word. This somewhat unexpected phenomenon could be due to the mind’s limited capacity. When the student is engaged with one component of learning the word, there will be fewer cognitive resources to concentrate on other aspects of the lexical item.

2.6.1 Long-Term Retention

“To ensure long-term retention and recall, words need to be ‘put to work’.” (Thornbury, 2005, p. 93) What does Thornbury mean by “putting words to work”? He asserts that solely repeating newly learned items is not enough to move them from the short-term to the long-term memory store. Recently acquired knowledge has to be incorporated into what is already

known to facilitate storage in a learner's permanent memory. Every learner has a so-called mental lexicon, where associated words are stored adjacent to each other, following a logical pattern or network. This system implies that the more cognitively demanding decisions a learner makes when using a new word, the more likely the word is to be remembered long-term. These "deep" decisions will be made while the word is still in the working memory and include cognitive operations termed by Thornbury as *integration activities*. They all aim to integrate new knowledge into what is already known. The more brain work the tasks require, the more cognitively demanding they are. Examples of such tasks will be presented and discussed in section 3.3.3.

Long-term memory storage can be pictured as a filing system of links and associations between previously known and newly learned words. Experience has taught us that what we know in one lesson might be forgotten in the next one. Thus, the filing system does not retain and retrieve all lexical items equally well. Some words are more easily remembered than others, as discussed by Laufer (1997) and elaborated on in section 2.1. As learners, the pupils face the considerable challenge of moving words from "the quickly forgotten to the never forgotten" (Thornbury, 2005, p. 24). Long-term retention of L2 words is the desired effect of explicit vocabulary instruction and as such, is highly relevant for the present study when learners are asked to create texts at two different points in time: First, immediately after explicit vocabulary instruction, and second, two weeks after having received feedback on their first composition.

2.6.2 Short-Term Memory

The challenge of integrating lexical knowledge into long-term memory storage could be met by focusing on short-term memory for a moment. This component can be pictured as a "bottleneck" through which all new knowledge has to pass to enter the permanent memory storage (Juffs & Harrington, 2011, p. 139). From experience, we know that we can hold a telephone number in our memory long enough to dial it or remember a lexical item long enough to write it correctly in a vocabulary test. After we have used it, it slips from our memory. This phenomenon is described as short-term memory (Thornbury, 2005, p. 23; Juffs & Harrington, pp. 138-139). Gathercole (1999, pp. 410-412) shows that short-term memory capacity steadily increases during childhood and into early adolescence, reaching a peak in the early teenage years. Not surprisingly, the capacity to hold information in short-term

memory directly links to how pupils perform tasks involving both written and spoken language. Of particular interest for the current study was that, according to Gathercole (1999), vocabulary acquisition was strongly affected by the individuals' complex working-memory abilities.

2.6.3 Working Memory

The earlier construct of the short-term memory (STM) has been integrated into a multi-component model of the working memory (WM), according to Baddeley (2000). The original introduction by Baddeley and Hitch (1974) has proved to help shed light on the multiple cognitive processes in the human brain. In Thornbury's (2005, p. 23) words, WM is often described as a "mental work bench", where conscious processes involving the production and understanding of language can be investigated. In order to better describe the various components of the model, Figure 5 is included.

Figure 5

A Model of the Working Memory

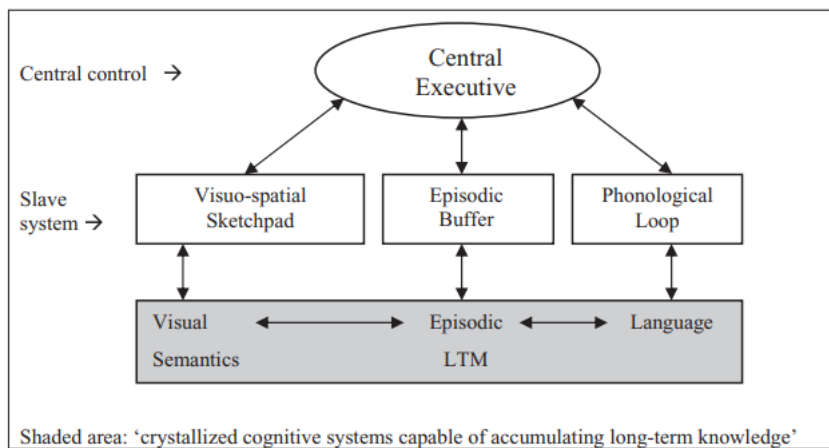


Figure 5. Retrieved from "Aspects of working memory in L2 learning," by A. Juffs, & M. Harrington, 2011, *Language teaching*, p. 139.

According to Baddeley (2000, pp. 418-419), the model above shows the constructs of both long-term memory (LTM) and working memory (WM). The shaded area represents components capable of retaining long-term knowledge, whereas the unshaded areas represent

“fluid” capacities such as attention and temporary storage. As mentioned above, all knowledge must pass through working memory to access LTM. The different components of WM have distinctive roles in this process. The central executive controls the medium of conscious awareness and thereby determines what items of information enter the so-called “slave-systems”, or passive components of WM, the visuospatial sketchpad and the phonological loop, along with a recently added component, the episodic buffer. The central executive is also assumed to be able to retrieve, modify, and manipulate information from temporary storage. The visuospatial sketchpad is assumed to be involved in storing visual images, e.g., mnemonics, whereas the phonological loop is thought to play a similar role in speech perception and production. The episodic buffer can store complex images and connect information from various sensory channels such as smell, movement, colour, and location of objects. Thus, it serves as an interface between the various human memory systems. The buffer has a limited capacity due to the demands of simultaneously accessing multiple sources. It is ‘episodic’ in that it holds episodes in temporary storage, where information is integrated across space and time. However, its most significant role is assumed to be feeding into and retrieving information from long-term memory.

The phonological loop comprises temporary storage where sounds are held over a few seconds unless rehearsed by subvocal repetition. It is involved in speech perception and production processes and is particularly useful for retaining sequential information (Baddeley, 2000, p. 418). Thornbury (2005, p. 23) sees this component in an L2 didactic context when he observes that the longer a learner can hold a word in the articulatory loop, the more likely the word is to be retained. The capacity of keeping a subvocal repetition going in the working memory for a certain period is a good predictor of language learning. Conversely, if this process is interrupted, the learning process is disrupted and hindered. Of significance for the current thesis is that the capacity to remember sounds, called phonological memory, has been shown to play an essential role in L2 vocabulary acquisition (Juffs & Harrington, 2011, pp. 139-140).

2.6.4 The Role of Consciousness in Second Language Learning

Is it possible to unconsciously learn a second language? It depends on the definition of consciousness. Schmidt (1990, pp. 131-132) proposes several explanations, among which the

following is the most crucial for the current thesis: He equals consciousness with awareness, in the sense of noticing (focal awareness). Baddeley's working memory model claims that information cannot proceed from an individual's sensory registers into working memory without conscious attention and thus cannot be incorporated into permanent storage. Therefore, noticing is a necessary condition for learning. Schmidt (1990, p. 139) discusses how second language *input* can become *intake*, i.e., become part of learners' L2 lexicon, and proposes the following hypothesis: Intake is the part of the input that the learner notices. "Noticing" is a prerequisite for taking in new knowledge. His data also support the following hypothesis: You cannot learn a foreign language through subliminal perception, because memory requires attention and awareness.

In other words, in the explicit teaching of new vocabulary, it is not enough that the teacher is instructing learners by providing *meaningful input* and *language-focused learning* (Nation, 2008, pp. 1-2); the content must be absorbed by learners who are paying attention to it. When the teachers have done their job, the learners' responsibility is first and foremost to use the language by following the three strands of *meaning-focused input* and *output* and *fluency development* (Nation, 2008, p. 6). Second, applying strategies for learning new lexis (section 2.2.4) can help put the *language-focused learning* strand into practice, and they can deliberately learn new words. Only then the *input* can transform into *intake*.

Similarly, Craik and Lockhart (1975, pp. 675-676) warned that non-attended verbal material would be lost within a few seconds and that mere repetition without the intention to learn would not facilitate learning. Memory improvement would depend on the level of processing undertaken by learners. The idea that the more engagement learners use when recycling words, the stronger the memory trace of the words left in the learners' memory, has been called the "Depth of Processing Hypothesis". Embedded in the hypothesis is the assumption that the more cognitive energy learners use in manipulating and thinking about a word, the more they speed up the vocabulary development process.

As it pertains to language production, Schmidt (1990, p. 140) brings an example from his own life when he stayed in Brazil for five months to learn Portuguese. He recorded himself speaking in Portuguese once a month and compared the language tape to his language notes to monitor his second language development. He found that he produced no language features unless they were first noticed, i.e., written in his notebook. It was not enough that a

grammatical trait was taught to appear in his output. However, he found a link between the input frequency and output occurrence. When somebody had said something that caught his attention, he would comment on this in his journal. Thus, it was possible to compare language output development with what he had given attention to in writing. He observed that so long as he did not notice a new word form, he did not use it. However, when he did notice it and had processed its meaning, he began to use it. The strong connection between paying conscious attention to new lexical items and their emergence in production is relevant for the present study. It aims to facilitate the acquisition of mid-frequency target words through explicit vocabulary instruction and investigate to what degree learners use the target words in immediate and delayed writings.

Schmidt's (1990) emphasis on the essential role of awareness adds an extra dimension to Nation's (2008, p.1) strand of meaning-focused input. He admits that the strength of learning depends on mental processing and that giving attention to various aspects of knowing a word strengthens that process. Addressing second language teachers, he urges them to primarily plan for opportunities for learning and give attention to vocabulary. This plan should follow the structure of the four strands (section 1.4), not unlike the Teaching and Learning Cycle described in section 2.9.

2.7 Theories Underpinning Vocabulary Instruction Strategies

Second language teachers are not always aware of what theories underpin the strategies used in their daily work when facilitating vocabulary development in their classrooms. The apparent reasons for this could be a stressful schedule and a growing feeling that the cognitive theories are so far from everyday life in schools that they are no longer relevant. According to Moody et al. (2018, p. 3), very few learning theories to date directly focus on vocabulary development and instruction. Research has shown that teachers are more prone to listening to their colleagues than theorists and teacher educators (Moody et al., 2018, p. 4). Above, in section 2.2.4, various learning strategies for new lexis have been described. In the following sections, however, the emphasis is on identifying the theories that guide the strategies.

2.7.1 Social Constructivism and Sociocultural Theories

The idea that knowledge is constructed through interaction with others during social activities is essential in social constructivism and sociocultural theories. These theories underscore that all individuals are active participants in their learning process. Meanings and knowledge items, e.g., vocabulary, are constructed rather than transmitted or absorbed (Unrau & Alverman, pp. 56-57). In collaboration with the “more knowledgeable other”, the teacher or a peer group member, existing knowledge is activated, and new knowledge is incorporated into the previous known elements (Vygotskij, 1978, p. 86). The social context facilitates creating new understanding, and the construction of reality develops. Without meaning-making discourse in the form of small groups or pairs of agents, knowledge-building through language cannot occur.

In Vygotskian theory, the Zone of Proximal Development (ZPD) defines the ground where learners, in collaboration with someone more capable than themselves, can learn considerably more than what would be the case if they were alone (Vygotsky, 1978, 86-89). Learning must be structured to activate their language to control their mental processes in this zone. At the beginning of the interaction with adults, students may depend heavily on them, but as learners gradually mature, they will become more independent in their thinking, skills, and knowledge. Vygotsky holds that learners can only imitate that which is within their proximal developmental level (p. 88), and as such, the item of knowledge has the potential to be mastered independently. Within ZPD, high learning goals should be set, according to Vygotsky. It is ineffective to teach on a level where learners can already manage independently. He claims that the only “good learning” sets its goals ahead of learners’ development (p. 89) because they can “go well beyond the limits of their own capabilities” (p. 88).

From a social constructivist perspective, vocabulary instruction can be understood as a social dialogue through which new knowledge is constructed via scaffolding and teamwork. Consequently, tasks requiring learners to build definitions of words or discuss the meaning and use of new vocabulary can be grounded in social constructivism and sociocultural theory (Moody et al., 2018, p. 5). In the current study, the Teaching and Learning Cycle (TLC) is

built on the fundamental idea that learning occurs in cooperation and negotiation with others. Students go from a position of dependence upon the more capable other to a large degree, to one of growing self-mastery. In section 2.9, I will describe the structure of the TLC in further detail. Before I proceed to do so, I will elaborate briefly on motivation theory, as it has proved to shed light on the learning process.

2.7.2 Motivation Theory

Several motivation theories have explored different sides of learners' motivation. It is beyond the scope of the present thesis to provide a comprehensive picture of these; thus, I will confine myself to describing two primary forms of motivation, intrinsic and extrinsic. The former, intrinsic motivation, will show itself when learners become engaged with a text because it addresses their genuine interests, goals, and subjects they are curious about. To activate this motivation, students must believe in their reading ability or be responsible for choosing their reading material. Research has shown that three basic human needs are closely connected to intrinsic motivation, according to Moody et al. (2018, p. 6): the need to feel *autonomous*, *competent*, and *related* to other human beings. When teachers support and create a classroom environment where learners can make their own decisions, develop their self-efficacy, and feel part of inspiring learning groups, this may positively affect their intrinsic motivation.

However, the average teacher will not be unfamiliar with using extrinsic means to motivate pupils, e.g., setting up a game-like activity or competition or praising learners' efforts. Motivation theory includes word-learning games and technology-based activities (Moody et al., 2018, p. 6). Knowing that the teacher will grade their text might also be an extrinsic motivational factor for students (Laufer & Nation, 1995, pp. 314-315). Regardless of the type of motivation learners may have, there is little doubt that it comprises a component that strongly affects the vocabulary learning process (Schmitt, 2008, p. 338). The scope of the present thesis does not allow further elaboration on the construct of motivation. Rather, to understand the assessment of productive lexical knowledge, more insight into the methods and theories of measuring vocabulary use in free written production is needed and will be presented in the following section.

2.8 Measuring Productive Vocabulary Knowledge

The definition of productive and receptive vocabulary knowledge has been discussed above in section 2.3. There is no consensus on whether this distinction is dichotomous, and elements from one category may be found in the other. One example of this is the receptive knowledge of a word, which enables a learner to understand the word's meaning in speech and writing. One could argue that to understand the meaning of a word, the learner must produce its meaning. This process involves a productive skill. Conversely, to create a word either in speech or writing requires a certain amount of comprehension. It is safe to assume that one cannot use a word correctly without understanding its meaning. Receptive lexical knowledge is generally easier to gain and usually develops before productive lexical knowledge. Still, there are no tests designed that can measure the size of somebody's productive vocabulary.

In the current study, the researcher will assess what the learners can do with target words in free written production. To know a word receptively would include learning it well enough to extract its meaning in speech and writing in a communicative sense. However, when it comes to productive knowledge, the learner has to know the word well enough to produce it for communicative purposes when required in speech or writing. These skills and usage-based abilities should ideally be measured in a communicative context (Schmitt, 2019, p. 269). This is hardly ever done. One of the reasons for the little research on productive vocabulary knowledge in compositions is that it is hard to measure. While most tests to measure the size of learners' L2 lexicon have been designed to measure receptive vocabulary, very few have set out to develop reliable and valid methods to measure the productive lexicon of learners (Schmitt, 2019, p. 270). This priority can partly be explained by the assumption that receptive knowledge precedes productive knowledge because, logically, some receptive knowledge is required to produce a word. For instance, learners need to understand the meaning of a word before production can occur (Lee & Muncie, 2006, p. 297). Nevertheless, several attempts have been made to measure the productive level of L2 learners accurately, and I will discuss a few of these below.

2.8.1 Different Measures of Productive Vocabulary Knowledge

The lack of studies on lexical development in free production is far from surprising because of its complexity (Laufer, 1994, p. 22; Schmitt, 2019, p. 270). To measure productive

vocabulary knowledge in free writing is entirely different from filling in a cloze test or writing responses to a stimulus word, which is often used to estimate learners' productive vocabulary size (Lee & Muncie, 2006, 297). In a written context, the target words will naturally interact with other words in semantic and grammatical ways, so measuring knowledge of a single target word in context is not possible without considering the whole textual picture. Thus, a "change of topic could result in a marked change in lexical richness" (Laufer & Nation, 1995, p. 308).

Assessing the *quality* of the vocabulary used in free composition is more relevant for the current study. This has proved to be particularly difficult because the context-specific language students naturally would use depends mainly on the topic they address in their essays. In section 1.5, the term "lexical richness" was used in relation to "lexical variation" and the use of low-frequency words. In the present section, lexical richness will be expanded further to include "lexical sophistication", "lexical originality", and "lexical density", as all contribute to what may constitute the quality of vocabulary produced in a text. As elaborated on below, these methods have been described by Laufer & Nation (1995, pp. 309-310) and Lee & Muncie (2006, pp. 297-298), as measures of vocabulary in written production.

Lexical quality in essays has been defined partly as *lexical variation* (LV). The different word types used are divided by the total number of words to calculate the type/token ratio. The larger number of different words used, the better the quality of the text is considered. However, this method has a significant disadvantage because it does not distinguish between high- and low-frequency words. A learner who is good at using a range of high-frequency words will obtain a high score on this test, whereas a learner who uses a limited number of low-frequency words will obtain a lower score. Another drawback is that it does not consider how to assess errors like misspelt words, derivational errors and collocational mistakes. A human interrater is needed to judge such mistakes, and consequently, the reliability of the test will depend on this person's accountability.

Another way of determining a composition's quality is to measure *lexical sophistication* (LS) by comparing the number of advanced words in a text with the total number of words. The apparent weakness of this method is that the definition of *advanced* will depend on the researcher and the level of education of the learner. What is advanced for a secondary school pupil is naturally not the same as what is advanced for a university student. Thus, it will be

impossible to compare groups across levels and countries, as the results will vary in correlation with which words are categorised as *advanced*. A third way of measuring productive vocabulary in written language is called *lexical originality* (LO), which provides information about learners' vocabulary use compared to their peer group. To calculate this ratio, the total number of tokens unique to one writer is divided by the total number of tokens used in a group. This tells something about the learner compared to the others in a group, but the ratio will also change if the group changes. Consequently, the result cannot stand alone as a comparative assessment of the learner. A fourth measure is called *lexical density* (LD), in which the number of content words, i.e., nouns, verbs, adjectives and adverbs, is divided by the total number of words in a text. One drawback of this approach is that the relationship between lexical content words and function words often depends on the topic addressed in the text. Fewer function words could imply more subordinate clauses and participle phrases, which are structural features more than representing lexical knowledge.

2.8.2 The Lexical Frequency Profile

To meet the challenge of measuring lexical richness in written production, Laufer and Nation (1995) have developed their own measure of vocabulary size based on the different frequency levels of words in the language in general and academic use. Their method is rooted in the assumption that there is a close relationship between the vocabulary size of intermediate learners in their writings and the size of their actual productive lexicon. In other words, it is based on the idea that as learners become more proficient in the language, they will use more lower frequency words in their writing (Nation, 2008, p. 84). For learners of English as a second language, the researchers found that “the Lexical Frequency Profile correlated well with an independent measure of vocabulary size” (Laufer & Nation, 1995, p. 319). This method consists of a computer program called The Lexical Frequency Profile (LFP) that measures the learners' texts on two different levels, either intermediate or advanced. As observed by Webb (2018, p. 402), there are no established definitions of beginner, middle, and advanced levels of learners in terms of linguistic development. For the current study, with participants from a Norwegian secondary school, the intermediate level seemed appropriate to choose. These pupils cannot be expected to have yet acquired an advanced level of proficiency in their L2.

The LFP shows the proportion of words at different vocabulary frequency levels learners use in their writing. This ratio is calculated by dividing the number of headwords found at one frequency level by the total number of words produced in a text. The program compares the students' compositions against lists of the first 1,000 most frequent headwords of English, the 1,000 - 2,000 most frequent headwords, and the above 2,000 most frequent headwords. In addition, the text is compared to the University Word List (UWL) to assess to what extent the learners use academic language. In a text consisting of 200 words, for instance, where 150 words belonged to the 1,000 most frequent headwords, 30 words belonged to the 1,000-2,000-frequency band, 15 words to the above 2,000 frequency band and five words belonged to the UWL, the ratios would be 75%, 15%, 7.5%, and 2.5%, respectively.

The idea is that the less frequent a word is in a language, the less likely it is used by learners with a small productive lexicon. Put differently, the more words learners use from the less frequent levels of headwords, the larger their productive vocabulary is estimated to be, and the better the lexical quality of the composition is. An improvement of one's lexical frequency profile occurs when the proportion of the above 2,000 most frequent words increases, according to Nation (2008, p. 85). In addition, the program calculates the total number of word families used in a text. The larger this number, the more varied the lexis of the text would be. In section 2.8.1 above, lexical variation was discussed as a measure of lexical quality in essays.

The program allows manually to add a list of target words that the researcher is especially interested in measuring. After a period of explicit target word instruction, it could be the case to see if these particular words had reached a productive level in a learners' mental lexicon. In the current study, this was done to measure to what extent the learners used target words encountered in reading and explicitly taught at two different points in time, as reflected in the first research question (section 2.10). Laufer and Nation (1995, p. 307) claim that one of the most crucial factors of lexical richness in written production is the learner's vocabulary size, especially if the student is a second language learner with a relatively limited vocabulary compared to a native speaker. The researchers admit that other factors could affect the lexical richness in writing, e.g., topics requiring very infrequent words, writing skills, and communicative purpose. Nevertheless, their goal is to prove "that it is possible to obtain reliable measures of lexical richness from different pieces of writing by the same learner" (Laufer & Nation, 1995, p. 307).

The Lexical Frequency Profile is, as presented above, a computer program that shows the relative proportion of words a learner uses at various vocabulary frequency levels in their writing. This brings us back to the question of what constitutes a word. As described above in section 2.2.1, the frequency levels consist of headwords from various word families. Words like “learn”, “learns”, “learned”, “learning”, “learner” and “learnable” would belong to the same word family. In the LFP, the same base form of a lexical item with its inflected and derived forms are counted as a single word family and registered as one word. Therefore, by presenting the number of word families rather than word tokens, the final result provides a more sophisticated indication of lexical knowledge (Lee & Muncie, 2006, p. 298). An intermediate learner would be expected to use more basic language than an advanced learner, i.e., more frequent vocabulary. In the current study, LFP will measure how many words of a written piece are words from the 1,000 most frequent words and how many words belong to the interval between the 1,000 - 2,000-word level and all other words. The last category would then consist of words rarer than the 2,000 most frequent words. Moreover, the LFP will compute the percentage of academic words produced, measuring the text against the University Word List, together with a manually added list of target words selected from the model text. Laufer and Nation (1995) found this program to be a valid measure of vocabulary size in writing because the LFP correlated well with another independent measure of vocabulary size, the active version of the Vocabulary Levels Test (Nation, 1983). Furthermore, they found the program to be reliable because it remained stable in different texts written by the same learner.

Are there any advantages of the LFP over the other measures of lexical richness described above? There are several, according to Laufer and Nation (1995). Firstly, it is a more objective tool than Lexical Originality since it is independent of the learner's peer group. Secondly, LFP is more independent of syntax and text cohesion than Lexical Density. Thirdly, Lexical Sophistication is perhaps the most similar to the LFP because it measures the learner's advanced vocabulary, but there are two main differences. The LFP provides a more detailed picture of a learner's vocabulary based on three categories of frequency and the UWL. In contrast, Lexical Sophistication only distinguishes between two different word groups, frequent and advanced. More importantly, the LFP does not depend on a subjective or syllable-based definition of *advanced* but is based on various frequency levels and the University Word List (UWL). Because of this, the LFP can be used to compare groups across

different school systems and countries. Finally, the LFP can have advantages over Lexical Variation since it identifies who uses the more or less frequent words and not only those who are skilful in using their somewhat limited and basic vocabulary, in addition to giving a separate measure of how many word families that are represented in the text.

In general, LFP's main advantage over other measures is that there is no need for subjective decisions. Spelling mistakes are corrected manually before the text is typed into the program, and proper nouns are removed. The rest of the words are counted as part of the learners' productive vocabulary. However, there are questionable properties of the LFP to consider. The most conspicuous one is that the percentages it produces of the different groups are not independent of each other. That implies that the ratio of headwords above 2,000-level can increase in two ways: Either because a word is added to this group or if a word from the below 2,000-level group is removed. In other words, a learner's LFP could improve either by producing more advanced lexis or by deleting high-frequency words from the text. Another weakness is that the program does not distinguish between homonyms (Laufer & Nation, 1995, p. 315), but this might constitute only a minor problem in the current study. Another apprehension is discussed by Muncie (2002, p. 232), who holds that the measurement of individual words represents “a rather dated conception of vocabulary”. He argues that learners who use idioms are not credited for these, even though such use of language definitely can be called advanced.

In the following section, I will present the language-pedagogical process implemented in the current study. It aims to draw on the benefits of explicit vocabulary teaching. The learners' preknowledge of the topic will be elicited to contextualise the target words. Subsequently, these words will be encountered in reading, explicitly taught, and used in various task activities. Finally, the learners will create an immediate composition and a delayed composition, which will be analysed by the LFP.

2.9 The Teaching and Learning Cycle

The Teaching and Learning Cycle, hence TLC, originated in Australia and introduced a principled pedagogic approach to learning that allows the pupils to develop independence when making choices during their learning process. The approach seemed promising, as “The purpose of the cycle is to scaffold students as they move from high support to the need for

less support and as they develop control of subject matter and language choices in the written mode” (Rossbridge & Rushton, 2015, p. 9). It involves explicit teaching about language choices regarding text type and vocabulary use. Teaching pupils how to take responsibility for their learning has been pointed out as the main focus of a learning programme by Thornbury (2005, p. iv).

The TLC was initially designed to be part of a teacher’s literacy toolkit to help enhance learners’ genre writing. However, in the current study, it is used as a framework for facilitating vocabulary development. Realising that vocabulary acquisition is incremental, the TLC appeared to constitute a practical framework for explicit vocabulary instruction. In sections 2.9.1 through 2.9.4 below, I will describe its scaffolding about genre writing and vocabulary development. It includes four key stages, each of which will be elaborated on concerning the two fields. In sections 3.3.1 through 3.3.4, I will describe the implementation of the TLC in the present study. The overarching principle behind the structure is that learners move from much social support and interaction with their teacher and peers to more individual and independent work. This involves a “gradual release of responsibility from teacher to student” (Education and Training Department, Victoria State Government, Australia, 2019).

2.9.1 Building the Context or Field

In the first stage, the focus is on building a meaningful context for learning to write in a genre or, in the present study, learning to use more advanced vocabulary. This section is comparable with the initial part of the four strands of learning introduced by Nation and called “meaning-focused input” (Nation, 2008, p. 1). According to him, all vocabulary teachers are responsible for planning a well-balanced vocabulary learning program to facilitate learning opportunities. Like the TLC, he presents a programme consisting of four equally sized parts. In the first one, learners encounter new vocabulary mainly through reading and listening, i.e., contextualised new knowledge. Similarly, the first lesson of the TLC provides a context or background knowledge for further learning. The teacher can elicit the pupils' previous knowledge of the subject by brainstorming on the chosen topic and subsequently sum it up through a guided discussion in class. Through teacher-lead negotiation and class interaction, the pupils can

draw on each other's background knowledge and expand it. Furthermore, the learners can systematise their knowledge by grouping arguments into pros and cons or sorting new lexical items into categories associated with various topics. They might also find synonyms and antonyms to words or detect more word family members. In selecting words that they think could be useful for the actual topic and including them in a memo card library, they have to decide what words to prioritise. Throughout this initial stage, the teacher will be hands-on in leading classroom activities.

2.9.2 Modelling and Deconstruction of a Text

At this stage, the focus shifts from the background knowledge of the field to exploring the particular genre by close reading and deconstructing a model text. The idea is to identify the purpose of the text and how the build-up helps bring across this purpose. In the current study, the main focus is on topic-specific vocabulary rather than genre. This section corresponds to the phase called *language-focused learning* by Nation (2008, p. 2), where learners deliberately take on learning new lexical items and study previously met words more closely.

In the TLC, the introduction of a model text to the class takes place in this section. The criteria for selecting a model text involve finding a text beyond the level learners usually meet in the classroom and, at the same time, engagingly exemplifying the topic. In addition, it should be rich in content and relevant to young people's lives, in the sense that they should be able to identify with the topic or main character and become interested. It should provide a model of good writing in the focus area and contain illustrations of grammatical and vocabulary choices and how these choices shape the text's message. These activities are both teacher-guided and peer-involving, requiring noticing and focal attention, which is detailed in section 2.6.4. The model text can be studied by pupils reading it in pairs or the teacher reading paragraph by paragraph, negotiating the various features of the text. This process is called the deconstruction phase, and in so doing, the learners will be provided with a metalanguage they can use in future discussions about texts. In addition, they will be able to apply a more analytical approach when editing their writings.

2.9.3 Guided Practise and Joint Construction

The third stage of the TLC involves bringing together and learning the elements of the previous stages. This section is a critical stage, as some of the teacher's responsibility is handed over to the students. The two preceding lessons are reviewed to ensure that everyone possesses some degree of field knowledge, text structure and vocabulary features. The learners are expected to work more independently but still have access to "the expert other" (Vygotsky, 1978, p. 86), which would mean the teacher or a more knowledgeable peer. This phase is characterised by the pupils and the teacher jointly constructing a text or a part of a text. There is room for interactive discussion and negotiation of the various choices that the learners face. This requires that the teacher still takes a leading role in the classroom to help learners make informed decisions on different levels, such as text structure, spelling and vocabulary. In the current study, the negotiation is centred around the choice of vocabulary. Schmitt (2008, p. 346) suggests that "adding tasks that force students to engage with target words is an important supplement to meaning-focused input" because many students hesitate to start using new vocabulary productively. As the focus in the present study is on deliberately teaching and learning new vocabulary items, this section resembles Nation's (2008, p. 2) strand of *language-focused learning*. Critical processes at this stage are directed by the teacher, who aims to shape the students' responses by asking questions through prompts, elaborating on responses, paraphrasing the meaning of new vocabulary or reflecting aloud (Rossbridge & Rushton, 2015, pp. 10-11).

2.9.4 Individual Text Construction

At the fourth and final stage of the TLC, the students are assigned to construct a text independently, applying both the field knowledge and understanding of the previously deconstructed and analysed genre. Developing a text similar to the model text allows them to draw on all three preceding stages and simultaneously use their creativity. Some pupils will also need a certain degree of support in this process, whereas others will enjoy this creative turn and feel more confident and proficient in planning, drafting, and editing their writing. Again, there are clear links between this stage and Nation's (2008, p. 2) *meaning-focused output*. This strand provides opportunities for learners to use and consolidate knowledge of new vocabulary items in a meaningful context through speaking or creating various writings.

Nation suggests that about one-quarter of the learning time should consist of this type of activity. The parallel to the TLC is not hard to see.

The abovementioned theories induce me to question how I can facilitate and measure vocabulary development in Norwegian secondary school pupils. This brings me to specify my research questions.

2.10 Research Questions

The purpose of this study is twofold: (a) to investigate to what extent learners use mid-frequency lexical items encountered in reading in their free writing production at two different points in time, and (b) to explore how learners' productive vocabulary differs in terms of lexical sophistication and lexical variety in free writing at two different points in time. My research questions can be formulated as follows:

1. To what extent do learners use target vocabulary that they have encountered in reading under two conditions:
 - a. in writing immediately after explicit target vocabulary instruction and multimode exposure (i.e., read the words in context, see the words, hear the words, say the words, write the words)?
 - b. in delayed writing two weeks after receiving feedback on their first composition?

2. To what extent does the learners' Lexical Frequency Profile in writing change in delayed writing compared to immediate writing after explicit target vocabulary instruction and multimode exposure to target vocabulary?

To examine these questions, the current study implemented the Teaching and Learning Cycle, which provided a structure for eliciting preknowledge on the topic of *Democracy and Citizenship* and the explicit vocabulary instruction. In sections 3.2 and 3.3s, a rich description of participants, materials, and the procedure will be presented.

Chapter 3: Method

3.1 Study Design

The study undertaken has the design of a panel study, which means that the same group of participants are measured at two different points in time (Nardi, 2018, p. 144). A panel study is usually conducted as a longitudinal study; however, in the current study, the period lasted only four weeks, entailing two class sessions per week. The first two weeks were devoted to implementing the Teaching and Learning Cycle as described below in sections 3.3.1-3.3.4. In the two subsequent weeks, the target words were recycled once by means of a computer learning program called quizlet.com, as detailed in section 3.3.5. Both two-week periods were wrapped up by the pupils writing a composition, the first immediately after having received explicit vocabulary instruction and the delayed composition after having recycled the target words by engaging in quizlet.com. As reflected in the research questions, the present study investigates to what degree learners use target words encountered in reading in immediate writing after having received explicit target word instruction and multimode exposure. Second, the present study also aims to explore to what degree learners use the target words encountered in reading in a delayed writing two weeks after receiving feedback on their first composition.

The quantitative approach was chosen for the analysis, as the learners' compositions were typed into the Lexical Frequency Profile and the ratios of headwords belonging to three different frequency bands, target words, and words from the University Word List were computed. In addition, the total number of word families produced in each text was gauged. To determine if the changes in ratios were statistically significant in the two compositions, the results of the LFP were typed into IBM SPSS Statistics (Version 28) to calculate the means of the three frequency bands, target words, words from the UWL, and the total number of headwords produced in the immediate and the delayed compositions. Subsequently, by comparing the means using paired *t*-tests in the SPSS, I could determine if the mean differences were statistically significant. This procedure will be described in further detail in Chapter 4.

All activities described below were presented to the learners as part of their regular classwork. All results and analyses of findings were made at the group level and could not be traced back to individuals. The period started with the pupils completing a two-section vocabulary test, where target words were tested first receptively and then productively. The lexical items were shuffled in the productive test to avoid ordinal memory. The receptive test consisted of 39 lexical items encountered in an article retrieved from *Time Magazine* and were selected because they belonged to frequency bands rarer than the 2,000 most frequent word families in English, thus being part of the mid-frequency group as described in section 2.4.1.

The receptive vocabulary test had a design of *meaning recall format* (see Appendix 2). The participants were given the L2 forms of the target lexical items and had to supply their L1 meanings. Multiple-choice tests are more commonly used to measure receptive vocabulary knowledge. However, Schmitt (2019, p. 264) suggests the meaning recall format over multiple-choice because guessing may almost certainly inflate the correct scores. In addition to eliminating guessing, he points out that this test format better matches the receptive skills (listening, reading). By contrast, a *form recall format* (Appendix 1) was used in the productive test, asking the learners to translate the same target lexical items (though in an altered order) from L1 into L2. Again, Schmitt (2019, p. 264) holds that this format better corresponds with the skills in which productive knowledge is used, namely speaking and writing. Learning word pairs has been shown to be a fast and efficient way of establishing the meaning-form link by Webb (2009, p. 370), especially when students face the lexical item in the L1 and have to recall the L2 form, i.e., when words are learned productively.

Subsequently, during four class lessons, the learners worked on the target words in a multi-mode way by following the Teaching and Learning Cycle structure. The last of these classes was used for the immediate writing assignment. Two weeks after the pupils received comments on their first composition, they wrote a delayed composition. Both compositions were typed into and analysed by the computer program called the Lexical Frequency Profile developed by Laufer and Nation (1995).

3.2 Participants

This study was conducted at the end of the first semester of the 10th school year at a Norwegian secondary school. The age of the students was between 14 and 15, and their level of proficiency in English was roughly intermediate to high intermediate, meaning that in the Norwegian grading systems, their grades would range from 3 to 6, which locates them in the middle to the upper part of the grading scale. Webb (2018, p. 402) observed no established definitions of beginner, intermediate, and advanced vocabulary development. The construct of lexical proficiency is too multifaceted for a single explanation to be sufficient. For this reason, the Norwegian grading system seemed to be appropriate in placing the learners on an intermediate to high intermediate level as assessed by the competence aims for Norwegian 10th-grade students. Low grades like 1 and 2 were not used in the group of participants due to their level of proficiency. The sample was not randomised because it was a classroom study project. The total number of students was 54. 13 students were withdrawn from the study because they fell short of the requirement to write a composition of at least 200 words. The cut-off was set at 200 words since the Lexical Frequency Profile (LFP) has proved unstable on texts shorter than that. This makes the total number of participants 41 ($n = 41$). The pupils were enrolled on two classes, and the researcher was their regular English teacher.

All the learners participated in the project-related activities. The intervention that involved the Teaching and Learning Cycle (section 2.9) lasted two weeks and entailed four class sessions, each of 60 minutes. Although the structure of the lessons is taken from the TLC, the main emphasis of this study has been on productive vocabulary in free writing and not genre writing. How the TLC was implemented in the present study will be further elaborated on in sections 3.3.1–3.3.4. The participants were all fluent in Norwegian, although a few had different ethnical backgrounds. The majority of the students were born in Norway and spoke Norwegian at home. Those with other home languages were asked how they would prefer the design of the target vocabulary test to be before it was conducted. All learners were sufficiently fluent in Norwegian to prefer to write in Norwegian on the receptive test of the target words. Likewise, in the productive test, all pupils wished to read the target words in Norwegian before translating the lexical items into English.

3.3 Materials and Procedure

The study undertaken is a panel study, with a two-section vocabulary pretest - intervention - immediate composition and delayed composition as the main elements. The same group of learners' productive vocabulary in free writing was measured at two different points in time. The Lexical Frequency Profile was used to measure productive vocabulary. Means of the lexical items ranged from the 1,000 most frequent headwords and those from the frequency band from 1,000 to 2,000 words, the words above the 2,000 most frequent headwords, the number of academic words from the University Word List, and the means of the list of target words. The means of these five groups in the immediate composition were compared to the means of the identical groups of words in a delayed composition two weeks after the learners received feedback on their first writing. The purpose of the comparison between the two writings was partly to measure to what extent the mid-frequency target words were used and partly to explore if there were further noticeable changes in the Lexical Frequency Profile in the group of learners.

In the intervention and data collection period, which lasted two weeks, the procedure followed the frame of the Teaching and Learning Cycle. The TLC was implemented to create a structure for the explicit vocabulary instruction, which took place in the interim between the two-section vocabulary test and the first writing. Below, I will describe the application of the TLC to facilitate productive vocabulary development in further detail. In the four separate stages of sixty minutes, the fundamental idea was to go from what was previously known to new knowledge (Thornbury, 2005, p. 93).

3.3.1 Preparing the Ground

The students were first given a two-section vocabulary (Appendices 1 & 2) test to measure their receptive and productive knowledge of the target words in the first class session. The test had a meaning recall format, where the lexical items were given in English, and the students were asked to translate them into their L1. Immediately after this test, the same target words were given as a productive test to measure if the students knew the words productively. This

test was designed as a form recall test, where the words were presented in Norwegian, and the students were to translate them into English. The target words (Appendix 3) were picked from an authentic text retrieved from *Time Magazine* (Appendix 4), which the students would study later on, and selected because they belonged to the mid-frequency band and thus assumed to represent a challenge to the participants, not necessarily receptively but rather productively. The teacher-researcher had not come across these words earlier in the students' writings. The tests aimed to measure the extent to which the target words were understood receptively and productively to see if the result had any correspondence to how the target words were used in free writing. In the form recall test, the order of the lexical items was altered to prevent participants from remembering words because of their placement in the test.

When scoring the two tests, I gave each correct answer one point. Partly correct answers in the form recall test were not credited with any point because I wanted to measure productive vocabulary knowledge in written texts. Because the total number of items in the tests was 39, this was the maximum score for each test.

After the two tests were completed, the learners were asked to brainstorm and write down all the words associated with *human rights* and *democracy and citizenship*. The topic "democracy and citizenship" was picked because it constitutes one out of three interdisciplinary topics that are to be integrated into all school subjects and explicitly pointed out as a central element of the English national curriculum. The topic of "human rights" is closely related to the understanding of being a citizen in a democracy, as clearly stated in the core curriculum: "The teaching and training shall give the pupils an understanding of the relationship between democracy and key human rights, such as freedom of speech, the right to vote and freedom of association" (Kunnskapsdepartementet, 2017). Due to their significance in the English subject, and because the current research project took place as part of the regular class work, it seemed sensible for me to select the two topics.

The participants brainstormed on the two topics individually and then compared the words with their learning partner's list. Eventually, they were invited to take part in a brainstorming session in the entire class. I noted the different words on the whiteboard and talked about each word, asking why they thought of that word and what connection it had to the two themes on the board. This was done to elicit prior knowledge about the topic and incorporate new

knowledge into what was previously known. Some pupils participated in this session with eagerness, whereas others were more silent. To activate the latter, the class was asked to brainstorm in pairs what human rights we enjoyed as citizens in a democracy. In this way, the learners engaged with vocabulary in multimode ways: by listening, by elaborating on meaning, and by saying the words connected to the topics.

At the end of this lesson, when the whiteboard was filled with relevant words connected to “human rights” and “democracy and citizenship”, the students were handed out five blank blue cards intended to be part of a personal “card library”. They were encouraged to note the words they considered helpful in future writings, English on one side and Norwegian on the other. Then they were shown a card game where they should show one card at a time to each other and try to incorporate the word into a sentence. They were asked to do this in pairs and create sentences with the two words that popped up. They could proceed to the next couple of words if it were too hard. At the end of the class, I explained that the card library should be brought to every English class and that they were also allowed to use it in future writing sessions. Ideally, each student’s library would consist of 20 - 30 cards. When words were thoroughly learned, the cards would be removed from the library, and new cards would be added. This strategy was thought to equip the students with a new tool they could use when struggling with learning new words.

3.3.2 Modelling the Text - Deconstruction

In the next lesson, I presented the text retrieved from *Time Magazine*, called “Malala Youzafzai Wins Nobel Peace Prize Two Years After Shooting”, and the list of the 39 target words, both on paper (Appendices 3 & 4). The text was selected partly because it was an authentic text not adapted for Norwegian pupils while contained a personal story that illustrated the interdisciplinary topic of “Democracy and Citizenship” well. Malala was a teenager deprived of basic human rights, thus living under very different conditions from Norwegian pupils, but I assumed that the story was universally appealing to teenagers anywhere. The text was relatively demanding because the vocabulary consisted of more low-frequency words than the texts commonly studied at school. This complexity was one of the criteria of the Teacher and Learning Cycle. To facilitate deep learning, the students would

now examine the text in detail in cooperation with their teacher-researcher by closely focusing on vocabulary, “human rights”, and “Democracy and Citizenship”.

Since the last class, I had assessed the tests so the learners could see their results and know which words they needed to practise. The learners then read the text in pairs, underlining words they did not understand and steadily expanding their card library by adding new cards with new words to it. By selecting words to include in their collection, they had to decide which words would be more beneficial to them in future writings. According to Thornbury (2005), making choices about lexical items is cognitively demanding. It makes the words stay in the phonological loop of the working memory for an extended period, thus making it more likely that the words would be stored in the long-term memory.

The participants answered eleven comprehension questions handed out together with the text to ensure understanding (Appendix 5). Naturally, the students read at very different paces, and the fastest readers were encouraged to work on their card library and practise the game they had learnt in the last lesson to make use of the extra time they had due to the pace of their reading. The text was fairly long, about four pages, and reading it, noting new words, and answering questions took a considerable amount of time. The class ended with the teacher going through all the comprehension questions to ensure that everybody understood the content of the text. In this process, the emphasis was on the meaning of the target words, as the questions were asked so that pupils were encouraged to use the target words.

3.3.3 Guided Practice

In the third lesson, to integrate new knowledge into old, the students should “put the new words to work”, in Thornbury's (2005, pp. 93-100) words, by working on tasks that challenged them to make decisions about the words. This activity aimed to help learners move words into their long-term memory and thus facilitate deeper learning. The purpose of the lesson was placing the newly learned lexical items in the phonological loop by integrating them into tasks that required cognitive work. The learners kept the items going in the loop by subjecting them to various operations like identifying, selecting, matching, comparing, sorting, and repeatedly recalling them. Thus, they would be more likely to be filed in the long-

term memory and become part of the learners' mental lexicon. The tasks could be ranged on a scale where the less cognitively demanding ones came first and those which required more brainwork to go later on. The first six tasks were solved receptively, and the last one was productive. (See Appendices 5-12) However, in most tasks, the learners were asked to reflect on their choices; thus, a productive element was added. Repeating new knowledge is generally not enough to ensure deep learning; the students have to be cognitively engaged to develop a more extensive productive vocabulary. I created all the tasks following Thornbury's theory (Thornbury, 2008, pp. 93-100) of “putting words to work”.

As mentioned above, the tasks the learners were asked to do, ranged from cognitively simple to more demanding tasks. Altogether, there were seven tasks: The first one asked the students to identify words hidden in a word square (Appendix 6). The students were challenged to find nineteen of the target words hidden in a word square in five minutes. This was the least cognitively demanding of the tasks and resembled game-like activities the pupils had engaged in earlier in their leisure time. There was a clock counting down the five minutes on the digital board in the classroom. The countdown was partly to ensure that the students had the slight pressure of a time limit on them and partly to do the task as a shared experience, thus preventing the slow starters from lagging. Otherwise, in my experience, some pupils may have finished the job before others have found their pencils and started. The pupils responded that this was fun.

The second task was constructed to make the learners select the “odd one out” in ten different word clusters and make sure they could justify and argue for their choices (Appendix 7). There might be more than one correct answer, so the primary purpose was for the participants to find arguments to support their decision. The target words were hidden in the groups, either as distractors or as the term that had different properties or meanings from the others. Thus, the learners were compelled to take a stance on the target words and make decisions about them that ran a bit deeper than just identifying them in a word square. Now they had to compare the words to others, and they needed to know more details about their meanings and use. This task generated a lot more questions on the part of the students than the identifying task. The students were allowed to collaborate with their learning partners, and they also had many questions for me. Each time an unknown word was brought up, I wrote it on the board and asked if anyone knew its meaning. Thus, it became clear that some words had two meanings, like the word “execute”, for instance. It could mean both “to carry out

something” and “to kill”. Subsequently, the L1 translation was written on the board for all to see.

As in the previous task, the five-minute countdown was on, and when the time was out, the pupils were asked to say out loud which lexical item they considered “the odd one out”. Whenever they gave their answer, they had to provide arguments to support their choice. This was challenging for the students, as the words were often selected based on a feeling rather than a conscious decision. The summing up of their arguments forced them to reflect upon the properties of the words: Was it a living thing, or was it inanimate? Was it an action or was it a concrete noun? Was it a narrow definition of something, or was it a word of multiple meanings? Was the actual word an opposite to the other words, or was it very close in meaning to the others so that you had to know several nuances of meaning to make an informed decision? These differences and similarities between words were highlighted in a guided discussion to make the pupils more aware that lexical items can have several shades of meaning. By elaborating on the meanings, there was a greater likelihood that they would be stored in the permanent memory of the learners.

The assumed slightly more cognitively demanding tasks were designed as matching tasks (Appendices 8 & 9). These were two separate activities, where the first one consisted of all the nouns and verbs of the target words that had verb and noun equivalents. For instance, “assassination” was one of the target words. The pupils were asked to match it with the verb “to assassinate” by linking them with a simple line on paper. The task was designed to demonstrate to the pupils that if they knew one word, they probably would know at least one more. Thus, it could be an eye-opener because one headword might have a whole word family that could be easily understood and accessible to them as soon as they knew the headword. Another example from the task is the word “to reattach”, which should be matched with the noun “reattachment”. Most pupils quickly understood that they simultaneously had also learned “to attach” and “attachment”, as these are identical in spelling apart from the prefix “re-“. Once again, the countdown was on, and the overall impression was that this task seemed to be easy to solve. Nevertheless, a few questions were raised regarding the different equivalents. The words “to endure” and “endurance” were unfamiliar and not intuitively understood. The same was true with “relief” and “to relieve”. However, with some guidance, the pupils rapidly saw the connection between the above-mentioned lexical items.

The second matching task consisted of two word clouds, where the first consisted of verbs and verb phrases taken from the list of target words, and the second word cloud consisted of various nouns that would be compatible with the verbs. The instruction asked the pupils to combine as many verb phrases and nouns as possible in five minutes. They were also encouraged to collaborate with their learning partner if they felt that this was useful. Thus, many pupils productively used the newly learned verbs in the discussions that arose. This task caused a lot more questions and bewilderment, while also engagement. Seeing that there was more than one option was inspiring to some students and confusing to others. However, at the end of the allotted time, the teacher-researcher asked which combinations of verbs and nouns they had found and elaborated on the presented suggestions. In the guided discussion, the pupils recalled and used several of the target words.

In the subsequent task, the adjectives of the target word list were put to work (Appendix 10). The pupils were presented with a table of thirty personality characteristics to make them aware that the next time they created characters in a story, they could use a wider variety of adjectives to describe them. Some of the adjectives were picked from the list of target words, but most of them were not. The participants were instructed to classify the adjectives as either positive or negative, and they should think of arguments to support their choice. Again, the fact that some adjectives could have both positive and negative connotations was confusing for many students. Examples of these are “sensitive”, “emotional”, and “ambitious”. In the following discussion, some students held that these are positive adjectives, while others objected. I elaborated by asking: “In what situations could it be positive to be *sensitive*? Moreover, in what situations could it be a negative feature?” Thus, I pointed to nuances in meaning and helped the learners see that there might be different ways of using adjectives and that the main point is that the writer is conscious of the context in which it is used.

Ranking items according to specific intrinsic properties is a way of getting students to make judgements about words. The learners were required to put the words into some kind of order. To do so, they have to know the whole meaning of the item compared to other items with similar meanings. In the following task, they were asked to rank adverbs of frequency in terms of how often something occurs, starting with “never” and ending with “always” (Appendix 11). Several adverbs and adverb phrases in between these extremes expressed various degrees of frequency. Again, the purpose of the task was to help the learners make decisions about words and thus facilitate deeper learning and storage in long-term memory.

This task generated a lot of discussions, which was also the intention. For example, what is more often of “once in a while” and “every now and then”? The main objective was not to find the correct answer but the discussion itself. The students used the actual expression to justify their choices by retrieving it from their memory.

The final task of this class was a gap-filling task, where students were asked to fill in target words in sentences that were partly composed based on the Malala text and partly generic sentences (Appendix 12). The tasks described above have all been principally receptive, although some took a productive turn when the learners were invited to use the words in discussions. However, the last task was productive in its design. The learners were instructed to incorporate newly learned target items into a writing activity, a completion task, more commonly known as a closed gap-fill, in which there is only one correct option. The main objective is to decide which word fills in which gap. There were more words given than the learners needed to complete the task, so again, they were required to make judgements about the lexical items.

3.3.4 Independent Construction

The topic of the first composition was identical for all learners and required some prior knowledge discussed throughout the first two stages of the Teaching and Learning Cycle (Appendix 13). It was provided with a writing frame to help the learners worry less about content and focus more on vocabulary. The topic aimed at actualising the text they had just read about Malala fighting for girls' right to education, inviting them to produce in their writing the words they had encountered in their initial reading. Thus, the reciprocity between reading and writing would be highlighted, and with it, the compound role of the learners as readers and creators of texts. When they were asked to imagine that they were the ones fighting for human rights, hopefully, they would identify with Malala, which could ignite an emotional response. Thornbury (2005, pp. 25-26) listed the ideas of personalising and imaging as elements that can help learners retain words. The idea underpinning the task was that in seeing themselves in Malala's place, the learners would experience increased affective depth and attention, which would help them retrieve the target words. The compositions were not corrected in terms of spelling and grammar mistakes, but the learners received comments on their use of vocabulary. Most pupils had made an effort to use “more advanced words”, which was mentioned in the feedback together with encouragement to continue doing so.

The second composition was part of the pupils' regular mock exam at the end of the semester. Two weeks after receiving feedback on the vocabulary used in their first paper, the learners could choose between three topics that did not require any particular pre-knowledge. (The topics are listed in Appendix 14). So, when setting out to write their second composition, they were under the instruction to not necessarily use the target words but to use more advanced words in general. Naturally, the lexical items they selected had to be appropriate to the new topics, so a broader variation in vocabulary was to be expected. The list of target words provided numerous examples of what was meant by “advanced” words. It functioned as a resource together with an online dictionary (ordbok.no), the text about Malala, the personal “blue card library”, and the vocabulary tasks completed in the third stage of the TLC. The learners were also encouraged to use a dictionary of synonyms called thesaurus.com. The feedback on their second compositions comprised comments on standard features like appropriateness to the topics, sentence structure, grammar, spelling mistakes, and vocabulary. In addition, their papers were graded and incorporated into their term assessment. Both compositions were entered into the LFP for analysis, which is described in section 3.4.1.

3.3.5 Quizlet

In the interim of the two writing sessions, the target words were recycled only once in a 20-minute session using a computer program called quizlet.com. It consists of multiple vocabulary learning tasks. First, learners might use digital flashcards with the word in L1 written on one side and the L2 equivalent written on the other, which can be flipped by tapping on them (the learners operate on touch screens). Furthermore, there is a learning mode in which the word in L2 is given, and the learner can opt to listen to the word and choose between four different translations into L1. This resembles a traditional way of testing receptive knowledge using a multiple-choice test (Schmitt, 2019, p. 264). Third, there is a writing mode, where the word is given in L1, and the learner is asked to type its equivalent in the L2. Again, this way of rehearsing vocabulary is readily identified as a productive way of learning and requires repeated retrieval of the target words, “oiling the path” for future recall (Thornbury, 2005, p. 24).

Fourth, the program includes a multimode task in which the L1 word is given, whereas the L2 equivalent can be heard by clicking on a loudspeaker symbol. Thus, the learners can audibly recognise the item and attempt to retrieve the form of the L2 word. Fifth, there is a true/false test that the learner can take where pairs of L1 and L2 words are given, and the learner has to decide whether they belong together. Sixth, a matching game where L1 and L2 pairs can be dragged to match each other and then disappear comprises another learning mode. The game is timed, and a scoreboard shows who in the group has performed this task the fastest. This activity is particularly favoured among the learners as it appeals to their competitive side.

The final individual activity is another game called “Gravity”, where the learner sees L2 words descending as meteors from space and has to type the L1 word before the rock hits the earth's surface. A session where Quizlet is used culminates typically in a competition where the class is grouped into teams by the program. Each team gets a nickname from the program, and this name shows along with the team's progress on a big screen as the competition proceeds. The fastest and most cooperative team wins. Only when one round of the game is over are the winners revealed by their real names. If desired, the program can then randomly shuffle the teams, so everybody gets the chance to end up with different and perhaps more capable team members in the next round. In my experience, the pupils love this activity and wish to go on with it indefinitely. To sum up, it gives the learners the opportunity of multimode exposure only digitally and is usually very popular in use. When Schmitt (2008, pp. 338-339) points out that the overall principle for maximising vocabulary learning is to increase learners' engagement with vocabulary learning, this program seemed appropriate.

3.4 Analysis

3.4.1 How the Lexical Frequency Profile Was Used

The data analysed were based on texts produced by 41 learners whose two compositions met the length requirement of at least 200 words each. The LFP has proved to be unstable if the text is shorter than this (Laufer & Nation, 1995, p. 314). I prepared the learners' compositions for analysis by removing all proper nouns, as these were not counted as part of their vocabulary knowledge. Another preparation was to correct obvious spelling mistakes to make

the words look recognisable to the computer program. Otherwise, the words would have been counted as rarer than the 2,000 most frequent words, i.e., as advanced words. The error was corrected if a word was used correctly but misspelt, as the term was considered a part of the learner's productive lexicon. However, if a word were used in the wrong context, it would be removed from the composition. Inaccurate derivatives that belonged to the same frequency level as the headword were included in the analysis. Other errors like verb tense, subject-verb agreement, and grammatical errors that did not alter the sentence's meaning were not counted as errors. After these measures were taken, the compositions were typed up into the LFP, and the proportions of headwords belonging to the various frequency levels were calculated.

The following lists were produced for each composition: the first 1,000 most frequent headwords, the second 1,000 most frequent headwords, the University Word List, the above 2,000 most frequent headwords, and the target word list. The LFP showed the proportion of word families in each of these five levels for every composition. The computer program is called VocabProfile and is available free of charge with its accompanying word lists on Paul Nation's webpage (Laufer & Nation, 1995, p. 315).

3.4.2 Reliability and validity

The Lexical Frequency Profile has been shown to be a reliable and valid tool to measure lexical richness in writing by Laufer and Nation (1995, p. 319). For learners of English as an additional language, the LFP is seen to reflect the productive vocabulary size by measuring it. Laufer and Nation (1995, p. 313) have tested learners in the Vocabulary Levels Test, which measures headwords at five frequency levels in sentences: the second 1,000 words, the third 1,000, the fifth 1,000, the University Word List, and the tenth 1,000. It correlated well with the Lexical Frequency Profile. Thus, their study showed that the vocabulary test results of vocabulary size were reflected in the learners' productive use of the language (Laufer & Nation, 1995, p. 317). The findings of Laufer and Nation could easily be disputed on the grounds that they are the ones who invented the LFP. However, several studies have used the program and found it to be helpful for the analysis of productive vocabulary in writing (Muncie, 2002; Lee, 2003; Lee & Muncie, 2006). It has minor weaknesses, which have been discussed in section 2.8.2. Ten years after the invention of the LFP, Laufer (2005, p. 584)

holds that Nation and herself found the LFP to be topic independent, which means that it was stable for texts composed by the same individuals on different issues, as long as the issues were of a general nature. This motivated the present research study in presenting different topics to the learners at two different points in time.

Chapter 4: Findings

This chapter will shortly present findings calculated by the LFP and further processed by IBM SPSS Statistics (Version 28). Discussions on the results will take place in Chapter 5. The starting point for reflections on the findings will be the means of the five levels of vocabulary in the two compositions: the 1,000 most frequent words, the 1,000–2,000 most frequent words, the above 2,000 most frequent words, the target words, and words from the University Word List, calculated by the LFP. In addition, the total number of headwords used in the two compositions will be elaborated on. The comparison of the means by the SPSS is identified as a quantitative element, as detailed in section 3.1. All results will be displayed in tables below.

4.1 The Two-section Vocabulary Test

The 41 participants completed the two-section target vocabulary test at the beginning of the first lesson of the two-week period they engaged in the Teaching and Learning Cycle. Only words correctly spelt in the form recall test were scored as correct, whereas partially known words were scored as incorrect. The results of the tests were all computed into IBM SPSS Statistics (Version 28), and the means of the scores were calculated. Table 2 shows that the learners' overall average score on the receptive test was 50.44% (SD = 30.26), whereas their score on the productive test was 33.71% (SD = 22.74). To determine whether this difference was significant, a paired sample *t*-test was used. The IBM SPSS Statistics (Version 28) also calculated all *t*-tests in this study.

Table 2

Receptive and Productive Target Words Test

Test	Receptive Knowledge		Productive Knowledge	
	%	SD	%	SD
Mean	50.44	30.26	33.71	22.74

Table 3 shows that the mean difference of 16.72 was statistically significant at a $p < .001$. This result indicates that the receptive vocabulary storage in the group of learners was significantly larger than the productive vocabulary storage. This finding is consistent with several theorists' assumptions and will be explored further in section 5.1.1.

Table 3

Difference between Receptive and Productive knowledge of Target Words

A. Comparison	B. Mean difference	C. p level
Receptive and Productive Tests	16.72	.001*

Note. * = statistically significant

4.2 Word Families, Words From the UWL and Target Word Lists

The data on the total number of word families produced, the words produced from the university word list (UWL) list, and the target word families in the two composition versions were also analysed using the LFP. The results of this analysis are shown below in Table 4. In the initial composition, following immediately after explicit teaching of the target words, the average number of word families produced was 135.76 ($SD = 30.10$), whereas, in the delayed composition two weeks after the first one, there has been a rather dramatic increase in the average number of word families produced to 171.07 ($SD = 34.03$). The proportion of academic words from the University Word List (UWL) shows an average of 1.55% ($SD = .94$) of academic words used in the first composition. In the second version, there has been an increase in the proportion of academic words produced to 2.18% ($SD = 1.19$). The target word families' ratio amounted to an average of 1.22% ($SD = 1.01$) in the initial composition. In the delayed composition, the mean of target word families produced was reduced to .08% ($SD = .23$).

Table 4*Mean Number of Word Families and LFP Ratios for UWL and Target Word Lists*

A. Composition Version	B. Mean total number of word families produced		C. UWL words produced		D. Target word families produced	
	Number	SD	%	SD	%	SD
1	135.76	30.10	1.55	.94	1.22	1.01
2	171.07	34.03	2.18	1.19	.08	.23

The data on the total number of word families, the UWL words, and the target word families produced in the two composition versions were also analysed using paired *t*-tests to determine if the differences were significant. The result of the *t*-tests is presented in Table 5 and shows that the mean difference of the total number of word families used between the initial and the delayed writing was -35.32 at a *p* level of $p < .001$. The increase in the total number of word families produced was statistically significant. The increase in the mean difference of the proportion of UWL words seemed to be tiny, only - .63; however, the *t*-test showed that the difference was significant at a *p* level of $p < .05$. Thus, there had been a substantial increase in the production of academic words in the learner group. In the delayed composition, it was clear from Table 4 that learners rarely used the target vocabulary. In Table 5, the decrease of target word families produced, with a mean difference of 1.14, was significant at a *p* level of $p < .001$. There was a substantial reduction in the production of target words in the learner group after two weeks' delay.

Table 5*Results on Word Families and UWL and Target Word Families from Table 3*

A. Word level	B. Comparison	C. Mean difference	D. p level
Number of word families produced	Version 1 with Version 2	-35.32	< .001*
UWL words produced	Version 1 with Version 2	- .63	.01**
Target word families produced	Version 1 with Version 2	1.14	< .001*

Note. * = statistically significant on $p < .001$

** = statistically significant on $p < .01$

4.3 Words from the Three Frequency Bands

Looking at Table 6 below and comparing the two composition versions, the LFP ratios show differences at all three frequency levels. A reduction of word families from the below 1,000 frequency band from a proportion of 89.62% (SD = 2.76) in the first version to 87.61% (SD = 2.98) in the second one is noticeable, whereas, in the 1,000-2,000-frequency band, there was an increase in the proportion of words used in the first version from 4.42% (SD = 1.84) to a ratio of 6.51% (SD = 2.17) in the second one. Table 6 also shows a slight increase in the proportion of words used in the above 2,000-word level group, from 3.20% (SD = 1.75) to 3.64% (SD = 1.74).

Table 6

Mean Total Number of Word Families at three Levels and the LFPs for the Two Compositions

A. Composition Version	B. Below 1,000 Word Level		C. 1,000-2,000 Word Level		D. Above 2,000 Word Level	
	%	SD	%	SD	%	SD
1	89.62	2.76	4.42	1.84	3.20	1.75
2	87.61	2.98	6.51	2.17	3.64	1.74

Again, paired *t*-tests were carried out on the complete data set. Table 7 shows that the differences between the two compositions were significant for both the below-1,000 level and the 1,000-2,000 level. For the above-2,000 level, however, the difference was not statistically significant. To summarise these *t*-test results, in Version 2, the learners used significantly less basic vocabulary than in Version 1 and substantially more advanced vocabulary from the 1,000-2,000-frequency band. In contrast, the increase in the vocabulary used from the above 2,000 frequency band was not significant. These results will be further elaborated on in the discussion chapter.

Table 7*Results in the LFP*

A. Word level	B. Comparison	C. Mean difference	D. <i>p</i> level
Below 1,000	Version 1 with Version 2	2.01	.002*
1,000-2,000	Version 1 with Version 2	-2.08	< .001*
Above 2,000	Version 1 with Version 2	- .44	.256

Note. * = statistically significant

The LFP ratios given in Table 6 refer to the compositions' whole vocabulary. As such, they indicate that the level of the students' vocabulary improved significantly between Versions 1 and 2 because the learners used less high-frequency vocabulary and more low-frequency vocabulary. A similar development is found in Table 5, which shows a significant increase in the total number of word families and academic vocabulary produced, implying that the learners used a more varied and advanced vocabulary. At the same time, a significant decrease in the production of the mid-frequency target words was shown. If lexical richness in writing can be described as to what extent a learner uses a varied and large vocabulary (Laufer & Nation, 1995, pp. 307–308), the learners in the current study might have produced a richer vocabulary in their second composition than in their initial writing.

Out of curiosity, I wanted to see if the increase in the 1,000 to the 2,000-word group, the above 2,000-word group, and the words from the UWL combined outweighed the drop in target words produced. If these four categories represent non-basic vocabulary, would they, taken together, represent the more advanced vocabulary produced by the learners (Lee, 2003, p. 542)? Was there a significant increase in the production of more advanced vocabulary in Version 2 compared with Version 1 when I included the drop in target words in the equation? The four categories were summed together in the SPSS, and the means were calculated. The mean of non-basic words produced in Version 1 was 10.39% (SD = 2.74). The corresponding figure for Version 2 was 12.41% (SD = 2.97). To verify if this difference was statistically significant, a paired *t*-test was run by the SPSS. This test showed significance on the level of *p*

< .001. In other words, there was a significant increase in the production of non-basic vocabulary even though the use of target words dropped.

Chapter 5: Discussion

In the present study, I investigated the vocabulary produced in two compositions following explicit vocabulary instructions to look more closely at five categories of words. Before the teaching began, I wanted to measure to what extent the target vocabulary items were familiar to the learners in terms of receptive and productive knowledge. The participants completed a two-section vocabulary test before the period of instruction began and before they wrote their compositions. The data confirmed that the learners' receptive vocabulary storage was significantly larger than their productive storage. Second, I investigated how large the production of the 39 target vocabulary items was in Version 1 compared to Version 2, and found that the use of target words in Version 2 decreased significantly. Third, I looked at how the proportions of the below 1,000 frequency words, the 1,000-2,000 frequency words, and the above 2,000 frequency words changed in the two compositions, and found that the use of words in the first group significantly decreased, the use of words from the middle group significantly increased, and in the third group there was a tendency to increased production, but this was not large enough to be statistically significant. In addition, the use of academic words from the University Word List was measured and compared in the two compositions. The data showed that there was a significant increase in the production of this category of words. Finally, the total number of word families produced in the two compositions was calculated and compared to measure lexical diversity. The total number of word families increased significantly in Version 2.

5.1 The Two-section Target Vocabulary test

One of the assumptions underpinning this study and discussed in section 1.1 is that the learners' receptive lexicon is substantially larger than their productive one. The assumption stems from my experience that pupils understand more vocabulary in the L2 than they use in their writings and is consistent with research studies by linguists like Lee (2003), Laufer and Nation (1995), Laufer and Paribakht (1998), Thornbury (2005, p. 20), Nation (2013, p. 55), and Schmitt (2019), who all argue that the receptive vocabulary storage of learners exceeds that of the productive storage. To further nuance the phenomenon, Laufer and Paribakht

(1998, pp. 384–385), in comparing groups of EFL and ESL students, found that the receptive vocabulary of EFL students was not as large as that of ESL students but closer in size to their productive vocabulary. They suggest that this reflects the deliberate learning of new words by the EFL students, giving them a more robust knowledge of words than ESL students with generally larger vocabularies. Moreover, they found that in the high-frequency word group, the difference between the two lexicons was smaller. They argue that high-frequency words are more often encountered in context; they are helpful in communication and, therefore, more practised. This enhances long-time retention. The opposite is true about the low-frequency words, which are seldom met in written form and speech. Both limited exposure and lack of practice are seen as obstacles for these words to move along the continuum to reach a productive level of knowledge (Laufer & Paribakht, 1998). Laufer and Paribakht’s findings align with deGroot (1992), who showed that variables like frequency, cognate status, and context availability affected how fast bilinguals managed to translate words from their L1 into L2.

5.1.1 The size of the Receptive and Productive Storage

The data in Table 2 above confirm that the situation in the group of learners participating in the current study was that they knew more vocabulary receptively than productively. More than half of the target words were known receptively, 50.44% (SD 30.26), whereas around one third, 33.71% (SD 22.74), were known productively. The large standard deviations signify substantial individual differences within the group of learners. Although the difference in scores was not as large as I expected, it was statistically significant at a level of $p < .001$. If the same two-section test had been conducted among ESL students, one could have expected a more considerable difference between the two lexicons, according to Laufer and Paribakht (1998, pp. 384–385). The scholars hold that because the ESL learners are more exposed to the language, they will develop their receptive vocabulary more like children, who clearly understand more than they can produce. This shows when they understand longer words like, e.g., “spaghetti”, long before they are able to pronounce the word correctly. Still, data from the two-section test confirmed the assumption I made in section 1.1 that the receptive vocabulary of the learners was larger than the productive one. The challenge remained to

facilitate moving this receptive vocabulary knowledge “along the continuum” (Schmitt, 2019, p. 264) toward productive vocabulary knowledge in free writing.

When scoring the productive vocabulary tests, I noticed that some vocabulary was partially known, i.e., the word would in all likelihood be recalled correctly in speech, whereas the spelling was only incompletely known. The words were misspelt, but the spelling was close to the pronunciation of the words. These lexical items were scored as “not known”. If they had been counted in the score, the gap between receptive and productive knowledge would have diminished further. This would have been consistent with Laufer and Paribakht's (1998, pp. 384–385) findings, as discussed above, that EFL learners have a smaller disparity between their receptive and productive lexicons. One could also argue that the learners would probably be able to produce the words in speech, but they still did not have sufficient knowledge to write the words correctly. According to Schmitt (2010), however, the acquirement of every new element of knowledge of a word has an incremental nature. He points out that the learner might go from no knowledge via partial knowledge to complete mastery of spelling. From his point of view, the scoring as “not known” of the partly correctly spelt lexical items would be too unnuanced. In the same vein, Henriksen (1999, pp. 304–305) sees the central processes of vocabulary learning in terms of three dimensions, one of which is called “partial-precise knowledge”. She criticises translation tests for not distinguishing between partially known items versus fully known items. Still, in the present study, I chose to score the partially correctly spelt items as “not known” because they, in all likelihood, would not have been recalled correctly in a productive written context.

5.1.2 Elements of Word Knowledge Tested by the Vocabulary Test

In section 2.2, where I elaborated on what is involved in “knowing a word”, I referred to Nation (2013, pp. 49–50), who divided word knowledge into three main categories: *form*, *meaning* and *use*. Considering the nine subgroups he pointed out as elements of knowing a word, the two-section vocabulary test mainly measured the form-meaning link. More specifically, the receptive test gauged the *form* of the words because the learners had to recognise the form of the word to denote its meaning in their L1. To a certain extent, they could identify word parts and use this to understand the word's meaning. This could apply to the target words “extraordinary”, “retrospect”, “reattach”, and “relocate”. Knowing the

prefixes “extra-“, “retro-“, and “re-“ could help them understand the word's meaning if they also knew its stem.

The second main element of knowing a word receptively is understanding its *meaning*. The current test measured what meaning the words signalled but not what was included in the concept, which was the second subgroup of knowledge listed under *meaning*. When it comes to the third subgroup, associations, one could argue that the test, to a certain extent, measured what other words the participants thought of when seeing the target word. This became clear when some participants wrote two meanings when translating words from L2 to L1. Examples of such words are “traumatic”, translated into “traumatisk” or “sjokkerende”, “courage” into “mot” or “tapperhet”, and “to endure” into “å holde ut” or “å klare”.

The productive part of the test measured if the learners were familiar with the word's spelling, as they were asked to write it in English. On the other hand, what was not tested was if they knew what word parts the target words consisted of and how these could be used to express meaning. Considering the second main category of word knowledge, namely *meaning*, the participants had to know productively what word forms could be used to represent the meaning given in their L1. The subgroup *concept* would refer to whether the learners knew what other items could be used to express the same idea. The test did not aim to measure this part of the learners' word knowledge. Still, by giving up words like “belly” and “stomach” as a translation for the word “mage” instead of the intended “abdomen”, the learners showed that they knew more than one lexical item to represent the concept of “mage”. The same phenomenon was observed with words like “mål”, translated into “goal” or “purpose” instead of “target”, and “å oppnå”, translated into “to achieve” or “to reach” instead of “to accomplish”. That the learners selected more high-frequency words instead of the mid-frequency target words in the initial test, was expected. I have observed the learners' preference for general terms with a broad register in writing over many years of assessing pupils' papers (see section 1.1), and this very experience prompted me to initiate the present study. Research conducted by Lee (2003, p. 550), Hinkel (2006, p. 123), and Laufer (1997, pp. 150–151) also underscore that learners often go for the safe option when choosing between high-frequency and low-frequency words, as the high-frequency words typically can be used appropriately in a wider variety of contexts and thus are less problematic in written production.

The part of word knowledge characterised as *use* in Nation's (2013, pp. 49–50) taxonomy was the part that was tested the least. The subgroups *grammatical function*, *collocation*, and *constraints of use* can hardly be said to have been measured, neither receptively nor productively, by the two-section vocabulary test. Perhaps collocation was closest to being tested in the phrases “to curb her ambition” and “to hasten my pace”. To a certain extent, the phrases showed what words occurred with “ambition” and “pace”, but only in a minimal way, as these are only two out of innumerable examples that could have been made with the two words.

The fact that learners go from partial knowledge to precise knowledge of a word is suggested by Henriksen (1999, pp. 304–305) as one of three dimensions that can give a balanced description of the construct of lexical competence. She describes a weakness of operationalising knowledge of a lexical item as the ability to translate it into the L1. Although learners can give the word equivalent in the L1, it is impossible to know whether they have partial or precise knowledge of the item. Further, she argues that in an ideal world, the researcher should use a combination of tests to tap various levels of understanding, e.g., pronunciation of the word, explaining other meanings, describing the level of formality, and giving associations and derivatives. In the same line, Schmitt (2019, p. 262) advocates that a test battery that could measure both receptive and productive knowledge simultaneously would be the best procedure. However, using a test battery in the present study would be impractical due to the time learners would use to complete the tests. Despite the present apparent weaknesses of the tests in showing too one-sided word knowledge, time was a limiting factor in the current study. The two-section vocabulary test was chosen because it was feasible within the time available. As Schmitt (2019, p. 264) suggested, I used the meaning recall and form recall format (see section 3.3). The benefits of the design of the tests in the present study were that they were doable in a relatively short amount of time, they did not allow for guessing, and they served the purpose of giving an impression of the size of the learners’ receptive and productive storage of the mid-frequency target words.

5.2 The Compositions

In this section, I wish to discuss the elements of the LFP analysis of the two compositions, fully aware that I might only see parts of the picture. As I have explained above in section

3.3.4, the first composition followed immediately after explicit instruction and multimode exposure to the target vocabulary. The second was a delayed composition two weeks after the learners received feedback on their first paper. The vocabulary used in the two versions was significantly different on more than one level. The use of target vocabulary and lexical items below the 1,000-word level dropped significantly. In contrast, the production of lexical items in the 1,000-2,000-word group and academic words *increased* significantly from the first to the second composition. Lexical items from the above 2,000-word level tended to increase in Version 2, but this change was not statistically significant. For the present study, basic vocabulary was considered lexical items among the first 1,000 most frequent headwords, and words beyond this level were counted as non-basic vocabulary (Lee, 2003, p. 542). When the four groups of non-basic vocabulary were summed together in the two Versions and compared to the basic vocabulary used, the data showed a significant increase in the production of non-basic vocabulary. Furthermore, the significant increase in the total number of word families used was noteworthy because it strongly indicated that the learners used a more varied language in their second composition. Below, the individual elements of the LFP will be discussed as a response to the research questions.

5.2.1 Use of Target Lexical Items in the Two Compositions

At this point, I would like to repeat what was my first research question:

1. To what extent do learners use target vocabulary that they have encountered in reading under two conditions:
 - a. in writing immediately after explicit target vocabulary instruction and multimode exposure (i.e., read the words in context, see the words, hear the words, say the words, write the words)?
 - b. in delayed writing two weeks after receiving feedback on their first composition?

Data from Tables 4 and 5 suggest that, to a certain extent, learners successfully incorporated target vocabulary in their writing immediately after explicit teaching and multimode exposure to the target words. On a superficial level, this result could be expected. The learners had recently been occupied with learning the target words in various ways by encountering and

reading the words in context and answering comprehension questions related to the model text. Thus, they had heard the words when the teacher explained the meaning. Furthermore, they wrote and made decisions about the lexical items when completing the tasks, described in section 3.3.3, and voiced the words in a communicative context when justifying their choices in discussions with their learning partners.

In light of Thornbury's theory (2005, p. 22), the sum of these activities should all contribute to the articulatory loop going on and on in the working memory and eventually facilitate storage in the long-term filing system called the mental lexicon. If we pursue the image of the working memory as a workbench, the target words were placed on it, explored, and subjected to various forms of operations in the form of cognitive decision-making tasks (Thornbury, 2005, pp. 22–25). Making decisions about words in the present study included identifying words in the model text or a word square, selecting “the odd one out” in word clusters and arguing for one’s choice, and matching verbs with nouns in word pairs like “accomplish – accomplishment” or verb phrases with nouns. Other operations involved sorting adjectives in “positive” and “negative” categories, ranking adverbs of frequency on a cline from “never” to “always”, and completing gap-fills. Thus, the gradually more cognitively demanding decision-making design of the tasks aimed to create a deeper level of exposure and engagement in the learners. If we consider another image of the working memory, the words were expected to pass through the “bottle-neck” of the working memory and filed away in the long-term memory (Juffs & Harrington, 2011, p. 139). Retrieval was thought to be easier as the words were recycled over increasingly larger time intervals, first in the classroom as both encountered in reading, used in the answers to the comprehension questions and various tasks, then as homework, and finally in the time interval between the two writings.

The idea that the more cognitive energy learners used in manipulating and thinking about a word, the more they would speed up the acquisition process was formulated in the Depth of Processing Hypothesis by Craik and Lockhart (1975, pp. 675–676). It suggests that the more engagement learners use when recycling words, the stronger the memory trace the word leaves in their memory. This agrees with Schmitt (2008, p. 338), who holds that the overriding principle in vocabulary teaching is to help students develop engagement when facing the task of acquiring new lexis. He claims this to be a key term that might impact every part of vocabulary development. On a superficial level, the participants in this study seemed to engage in the tasks with enthusiasm. They appeared interested in completing the tasks, and

some also expressed that this was fun, which implies an affective dimension. Taking a more explicitly emotional approach to vocabulary development has been done in research, but was not the main focus of the present study.

By following the strongly scaffolded structure of the Teaching and Learning Cycle, the learners went through the three stages of engagement Hulstijn and Laufer (2001, p. 543) termed *need*, *search*, and *evaluation*. While reading about Malala, they initially experienced a *need* to understand words to comprehend the article. To understand it, they had to *search* for vocabulary knowledge, either in a dictionary or ask each other. This process occurred mainly in the second stage of the TLC, in the modelling and deconstruction of the text and required the learners' involvement. The *evaluation* took place both in the third and fourth stages of the TLC, where the learners had to make judgements about the target items and determine if the words fitted correctly in the various contexts. Hulstijn and Laufer (2001, p. 552), when testing the assumption that tasks with a higher degree of involvement would be more effective for vocabulary retention, found that target words used in a writing composition were more likely to be remembered than those used solely in comprehension tasks.

However, the rate of target vocabulary used in the first composition was not as high as expected by the author, given the amount of time and attention devoted to those specific words over two weeks and the nature of the topic of the writing task, which was very close to the model text. Nevertheless, a similar result was found in a study by Lee and Muncie (2006, p. 310), where they observed that: "...encountering new or advanced vocabulary in reading and teacher explanation of vocabulary was not sufficient for it to become productive". In a similar vein, Laufer and Paribakht (1998, p. 384) found that the development of the "free active" vocabulary, meaning the vocabulary learners voluntarily and creatively used in writing, was slower and less predictable than the growth of the receptive lexicon. In the present study, a similar observation was made. Even if the learners were explicitly taught the words and engaged in task-learning activities, the use of the target words was somewhat limited in the first composition, indicating that they perhaps did not reach a productive level in the learners' lexicon.

Two reactions from the pupils were: "Why do we have to use those particular words?" and "What does the figure next to the word mean?" I explained that the words were added to the list because of their relative rareness, and the frequency band they belong to was denoted by

the figure included in parenthesis next to the word. The fundamental purpose of the explicit vocabulary study was not to use identical words to the target lexical items but rather to raise awareness in learners when it comes to selecting more advanced words to improve their overall text quality. The type of words mattered, and the teacher would look for those words in their following composition and comment on their use. This question from the learners could indicate that they were trying to find the motivation to learn the words. If the effort put into learning the words were perceived as not worth it in terms of usefulness, they would probably be less motivated to go through the learning process.

Of relevance here is the topic given in the writing tasks. In the first task, which was the same for all, the learners were asked to imagine that they lived in a country where human rights were violated. In these circumstances, they decided to stand up against the oppression. Then they were asked to describe their struggle for human rights and the eventual risks they ran by doing so. They were provided with a writing frame to give them ideas for content. Since the topic was so close to the article from *Time Magazine*, it invited the use of the target words. However, in the second composition, which was part of their mock exam, the learners could choose between three different writing tasks: one that asked them to describe the relationship between animals and humans, a second that asked about the advantages or disadvantages of growing up with a pet, and a third that asked to discuss implications of the climate changes. These tasks were very different from the first one, also in levels of formality. Naturally, the choice of words is reflected in the topic.

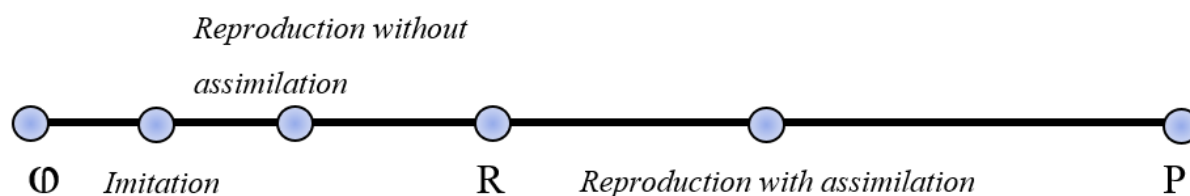
In research question number 1 b), I sought to investigate to what extent learners used explicitly taught target vocabulary in delayed writing two weeks after receiving feedback on their first composition. Table 4 showed a large drop in the mean production of target words from 1.22% in the first composition to 0.08% in the second. In Table 5, this reduction was shown to be statistically significant at a level of $p < .001$. The data indicate that the target words did not reach a productive stage in the learners of the present study. However, the distinction between receptive and productive vocabulary knowledge is disputed among linguists (section 2.3). Read (2000, p. 154), in recognising that the main problem of the receptive and productive distinction lies in locating the exact threshold where vocabulary passes from receptive to productive status, raises the question if there is a minimum amount of knowledge necessary to move a word from the receptive store into the productive store. This is a question to which no linguist has a satisfactory answer. Considering Nation's (2013,

p. 49) nine levels of what is involved in knowing a word, the amount of knowledge might play a role in developing productive mastery. When the initial form-meaning link is established, the learner needs to learn the grammatical functions of the word to use it correctly in a sentence and know what words typically go with it to understand its collocational constraints. Finally, it is necessary to become aware of use restrictions, such as the degree of formality, to decide when it is appropriate to use the word. Webb (2018, p. 413) observes that not only is it essential to know many words, but there are also many things to know about each word. One can argue that the participants in the present study did not acquire enough knowledge about the target words to enter them into their productive lexicon.

In the discussion of the receptive and the productive status of vocabulary, Melka (1997, p. 89) introduces more finely grained stages on the continuum illustrating vocabulary development, the *imitation*, the *reproduction without assimilation*, and the *reproduction with assimilation* stages (section 2.3.3). In the learners of the present study, the target words might only have reached an *imitation* or *reproductive without assimilation* level, which is placed in between no knowledge and complete receptive mastery. This might have been the case when the learners wrote the correct lexical item in the receptive vocabulary test. However, in comparing the two compositions, I saw that several target words were used in the first but not in the delayed writing. The new points to the continuum presented in section 2.3.3 might contribute to understanding the decrease in the use of target words in the second composition. Assuming that the newly learned target vocabulary reached the *reproductive with assimilation* stage in the learners' lexicon, this knowledge might not be solid enough to last for an extended time period.

Figure 4

The Third View on the Vocabulary Learning Process Including Melka's Stages



Schmitt (2019, p. 264) agrees that lexical development from receptive to productive mastery involves a real challenge. He asserts that developing comprehension of new lexis is relatively easy, as the learners only need to remember the spelling or pronunciation of the words. When hearing and reading the word, they will get many cues from the context that will help them retrieve its meaning. This argument aligns with Melka's (1997, p. 88), who holds that it is possible to recognise a word even if it is incompletely stored. When writing, however, the learners must have acquired all the other word components, i.e., *form*, *meaning*, and *use* (see section 2.2), to produce them independently without prompts. Particularly the subgroups under *use*, namely *grammatical functions*, *collocations*, and *constraints on use*, might constitute a challenge for non-native speakers of English. For the participants in the present study, familiarising themselves with those aspects of word knowledge would require repeated exposure to the lexical items in different contexts over an extended period of time. As Melka (1997, p.100) points out, some parts of word knowledge may have reached a productive stage, whereas others remain receptive. Hence, it might be fruitful to perceive the threshold between receptive and productive knowledge as a fuzzy rather than a clear-cut one. Exploring possible new steps between comprehension and production in further detail would probably be a topic for another research study.

Judging from the target vocabulary tests the learners completed, around one-third of the target words were already known productively, in the sense that learners managed to recall the form of the English words. Still, there seems to be a significant step towards using the words in free writing. This observation is reflected in Laufer and Paribakht's (1998, pp. 370–371) division of productive vocabulary into “controlled active” and “free active”, signifying two levels.

Controlled active vocabulary denotes words that can be used when learners are given specific cues, which can be said about the first written composition, where they were provided a writing frame and the topic given was very close to the text from *Time Magazine*. The subject of fighting for human rights may have prompted the learners to use target words found in the text like “to be campaigning”, “exploitation”, “to accomplish”, “assassination”, “target”, “ominous”, “publicly”, “to endure”, “to confront”, and others. To a certain extent, one can argue that this is the case in the first written composition. In the delayed composition, however, it became clear that the target words had not reached the stage of free active vocabulary, which would have allowed the learners to use them freely, without any cues. As the topics changed, so did the vocabulary used. Although it may be argued that this could be a natural thing, it was also possible to use many of the target words in any composition, e.g., words like “extraordinary”, “in retrospect”, “publicly”, “to endure”, “temporary”, “extensive”, “courage” might be applicable in more than one context.

Furthermore, Webb (2018, p. 409) holds that embedded in the *meaning-focused output strand* is the teacher's responsibility to create opportunities for learners to use newly learned vocabulary *outside* the classroom. Due to the limited time available during school hours, becoming as autonomous as possible is required to develop into a successful learner of L2. By making the pupils familiar with activities such as creating blogs, tweets, journals, and singing songs, the teacher can facilitate learning outside the classroom. The current study instructed the learners to use their newly created blue card library as much as possible and frequently rehearse the words. As most of the forgetting takes place in the first 24 hours, according to Thornbury (2005, p. 26), they were told that it was essential to rehearse the words in that period. This homework aimed to inspire the pupils to take an independent approach to study the target vocabulary.

In the delayed writing two weeks after they received comments on their first paper, the proportion of target words dropped significantly, as shown in Tables 4 and 5. In these two weeks, the target words were recycled only once. Schmitt (2008, p. 243) recommends “using an interactive online database” for vocabulary learning activities as a means of creating engagement with learning new lexis. In the present study, the learners engaged in activities in the computer program named Quizlet, which offers multimode activities as described in section 3.3.5. The spaced recycling was carried out according to the principles described by

Thornbury (2005, pp. 24–25), where new lexical items should be recycled often at the beginning of a learning program and gradually more seldom. He claims that mere repetition is not enough to have any long-term effect; however, meeting new words in reading at least seven times over increasingly spaced intervals enhances permanent memory (Thornbury, 2005, pp. 24–25). Recycling the words up to seven times in school lessons was impossible for practical reasons, and this was another of the study's limitations. Some recycling took place at school, and the rest was left to the learners to do as homework. As is often the case with homework, it usually magnifies individual differences due to pupils taking their assignments seriously to various degrees.

The recycling of the target lexical items is consistent with the theory presenting the working memory (WM) as a three-element storage domain by Baddeley (2000, p. 421). It has the function of a workbench, where operations on vocabulary items are performed to integrate them into the long-term memory. The other image of the working memory is a “bottle-neck”, as all new information must pass through WM to access more permanent storage (Juffs & Harrington, 2011, p. 139). In the current study, the target words initially encountered in reading were recycled in the following lesson when the learners were asked to perform increasingly more cognitively demanding tasks. The words were “put to work” (Thornbury, S., 2005, pp. 931–00). Thus, the first spaced encounter took place within a couple of days from the first meeting. In addition, the pupils were encouraged to include the words they found helpful in their physical flashcard collection, the blue card library, and rehearse the dishes at home as often as possible. Furthermore, the learners were instructed to use the new words in sentences, which is an operation that requires retrieval of the words from long-term memory. Each of these retrievals would ideally make the subsequent production of the word easier. This was undoubtedly a part of the vocabulary learning course beyond the teacher's control, as these first took place in discussions and conversations in the classroom and then at independent rehearsals at home. These recyclings were clearly insufficient for the target words to enter the productive lexicon of the learners and develop into genuinely productive storage. Indeed, one could argue that inadequate recycling of the target words prevented them from entering the productive lexicon of the learners. Given the emphasis prominent linguists and teaching professionals like Nation (2008, p.113), Thornbury (2005, p. 24), and Schmitt (2008, p. 343) give to recycling newly learned vocabulary, this is a part of the present study that could have been improved by being more teacher-controlled.

Thus, the answer to my first research question is that learners, to a certain extent, used target vocabulary that they encountered in reading in writing immediately after explicit target vocabulary instruction and multimode exposure. Somewhat disappointingly, in delayed writing two weeks after receiving feedback on their first composition, the proportion of target words produced in writing had dropped significantly. The target items seemingly did not enter the productive vocabulary storage for most learners. To sum up, newly learned productive vocabulary was, to a certain extent, used in an immediate writing task after explicit instruction, but this did not hinder a significant loss in a delayed writing task two weeks later. However, it must be pointed out that there were considerable individual differences within the group of learners when it came to using the target words.

The question remains *why* the words did not reach a productive level in most learners' lexicon. After all, the result of the productive test in Table 1 showed that a mean of 33.71% (SD = 22.74) of the target items was known productively in the group of learners before the vocabulary training even began. However, it is worth noticing the large standard deviation of this figure which showed a correspondingly large degree of variation within the group. Another noteworthy aspect is that Schmitt's (2019, p. 264) continuum of acquisition of new lexical items in section 2.3.3 shows the process as one going from no knowledge of a lexical item to receptive knowledge and ultimately developing into productive knowledge. He claims that the last interval was the one that was the most demanding for learners, meaning that the process of going from receptive to productive knowledge of words is, to date, little researched in the sense that nobody can tell precisely *how* knowledge develops into actual productive mastery of words.

Another explanation could be that the target items were too difficult to learn. Nation (2013, pp. 50–52) holds that productive learning generally seems more complicated than receptive learning for several reasons. As pointed out in the theory chapter section 2.3, the first of these reasons is called “the amount of knowledge” explanation. It takes more than solely knowing the form-meaning link to use a word productively. Contextual knowledge like collocation, grammatical functions, and constraints of use are elements that take many exposures to the lexical item to learn. More precise knowledge is required to facilitate productive learning. Laufer (1997, pp. 150–151) sees a lack of contextual knowledge as limiting when learners attempt to use words productively. Although they know the word's meaning in some contexts, they are uncertain of the meaning in others. Thus, the words that are only partially learned are

more challenging to use productively. In section 5.1.2, I discussed what elements of vocabulary knowledge were tested in the meaning and form recall formats. In light of Nation's (2013, pp. 49–50) nine categories of word knowledge, very few were measured in the two-section vocabulary test. Therefore, my knowledge about the learners' productive lexicon is insufficient to conclude what factors prevented them from producing the target words to a greater extent.

As part of the answer to the question of why the target words did not become a part of the learners' productive lexicon, it is noteworthy to take a second glance at the advice given by Nation (2008, p. 1), where he holds that in the meaningful input strand of a language course, unknown words should not amount to more than one in every fifty running words. The reading or listening material should not be too difficult, as the primary purpose of this part of the course was for learners to enjoy themselves by enriching and consolidating vocabulary they already knew and, at the same time giving attention to new lexical items. One could argue that for some of the young learners of English as an additional language, the target words were too difficult to be part of the meaningful input section of a language course, or that they appeared too often in the model text, i.e., more often than one in every fifty running words. On the other hand, the Teaching and Learning Cycle set as one of the requirements that the model text should typically be at a more advanced level than what the learners would generally read. Based on previous experience with the learner group, I assumed that an authentic text from *Time Magazine* would have an appropriate level of complexity for the project undertaken. The model text told a story partly known to the learners. Another advantage of the text was the link to Norway because Malala was awarded the Nobel Peace Prize in Oslo and was close to the learners in age. As the topic was familiar, I reasoned that the essence of the text was not too hard to grasp. The text was also selected because of its relevance to the interdisciplinary topic of “democracy and citizenship” promoted by LK20 (Utdanningsdepartementet, 2019).

Vygotsky's (1978, pp. 86–89) conceptualisation of the Zone of Proximal Development supports the choice of a model text which exceeds the learners' present level of vocabulary knowledge. He claims that in the ZPD, we find “functions that are in the process of maturing”, which are “buds” or “flowers” but not yet “fruits” of development (p. 86). This image of growth from nature is comparable to Henriksen's (1999) and Schmitt's (2019) illustrations of how vocabulary development can be pictured on a cline. In their view,

receptive mastery of vocabulary represents only one step of development towards complete mastery of the lexical item. Thus, understanding lexical items might be pictured as “buds” of vocabulary mastery, whereas free production of words might be perceived as ripe “fruit” of vocabulary mastery. Since a prerequisite for fruit is the existence of flowers, one can argue that for some learners in the present study, the flowers had not yet emerged and that productive mastery was not yet within reach.

Nation (2013, p. 51) presents the “practice explanation” as a second explanation of why productive mastery is hard to reach. Learners usually listen to and read more than they produce in their L2, and consequently, their receptive knowledge gets more practice than their productive one. A reasonable assumption is that developing a learner's lexicon takes a certain amount of practice. This theory can account for some difficulties the learners experience in acquiring a more extensive productive vocabulary (Nation, 2013, p. 51). In the present study, most tasks had a receptive design. When the learners were asked to use the words productively after completing the tasks on paper, some might have hesitated to do so and thus received less practice. Moreover, in the two weeks of the intervention, their homework consisted partly of productively recycling the new words written on the blue cards by including the words in sentences. Experience has taught me that not all learners engage in their homework with equal eagerness. Naturally, the individuals who did recycle their new lexical items at home would learn more new items through a greater amount of practice than their more sedentary peers.

The time component is another factor that plays a fundamental role in vocabulary acquisition. Schmitt (2019, p. 265) points out that ideally, receptive and productive mastery of vocabulary should be facilitated and measured by a combination of activities and that longitudinal studies are necessary to measure real growth in productive vocabulary in particular. He estimates that the treatment period should last no less than six months. Then the learners would have time to meet the words repeatedly in various contexts and thus develop a more profound knowledge of the words. Because vocabulary learning is a gradual and complex process, it takes not only one but several strategies to build truly productive knowledge. However, in the current study, the time used for explicit vocabulary instruction and practice has been a limiting factor. It should have been possible to follow up more explicitly on recycling the target words. It is not unreasonable to assume that the short period of the intervention has affected the learning outcome of the pupils.

Finally, the “motivation” explanation could be an explanatory factor, according to Nation (2013, p. 52). Although learners know a word well enough, they may still not use it because they are not motivated to do so for various reasons. Corson (1996, p. 17) holds that one of the reasons for motivation to use words could be learners' sociocultural background. If they have little opportunity to become familiar with the rules of using academic words, for instance, they may take longer to process and thus remain unused. In other words, it is not a lack of knowledge that prevents learners from using the word; it is a lack of motivation. Some vocabulary may be well known but hardly ever used. This applies to swear words, for example. Thus, we no longer see the receptive-productive distinction only on a continuum of knowledge but a continuum of motivation. In education, Corson (1996) asserts that a student's success largely depends on knowing the words, wanting to use the words, and being able to use the words necessary to “put meanings together in thought and to communicate them” (p. 14). The term “word” here refers to words of Greek or Latin origin, which constitute the language that the educational system praises and rewards. When language teachers ask their students to use more sophisticated language, they will look for the longer words with a Latin or Greek origin. However, not all learners are “motivated” to use the more sophisticated vocabulary, not because of lack of knowledge but because they feel it is unnatural. This has been called meeting a “lexical bar” by Corson (1996, pp. 180–181). This bar represents a gap between everyday language and the high-status language of academic vocabulary. To be successful students in the traditional educational system, everyone has to cross this barrier. Some learners might have felt unfamiliar with the target words in the present study, even in their L1. This could have contributed to meeting a “lexical bar” when attempting to use them.

Laufer (1997, pp.150–151) observes a tendency to use general terms instead of more specific ones in writings by foreign learners. She found that neutral words applicable in many contexts constitute fewer difficulties for productive use than words that belong to a more specific register. One example from the target items is the word “toddler”, which is more specific than “child”. Another example is “ominous”, which has a more narrow register than “bad”. The latter examples might be used with many meanings and contexts. In contrast, the first ones might require more specific register knowledge, i.e., when they would be appropriately used. In light of her findings, the production of the mid-frequency target words in the current study might have been too challenging for some of the learners.

5.2.2 The LFP Profile and the Second Research Question

The overall purpose of this vocabulary learning course, and probably any vocabulary course, is to improve the lexical richness of learners' writings. The present thesis operationalises “lexical richness” as “more advanced vocabulary” and “more lexical variation”. These elements are measured by the LFP and reflected in the research questions. In the current section, the discussion will focus on research question number 2:

2. To what extent does the learners' LFP (Lexical Frequency Profile) change in delayed writing compared to immediate writing after explicit target vocabulary instruction and multimode exposure to target vocabulary?

Put differently, is there any evidence that the focus on using more sophisticated language as reflected in the target words, all members of the mid-frequency band from 3,000 to 10,000, led to learners producing more of these in their delayed writing? As pointed out above, the overarching intention of the vocabulary course was to raise awareness in learners when it comes to what type of vocabulary they selected in their writing. They could use the target words, or they could use similar words. They were instructed to use resources like thesaurus.com to find synonyms for the words they usually used to vary and stretch their existing productive vocabulary. In their immediate composition, I gave feedback only on the use of more sophisticated words instead of traditional comments on what type of errors they had to correct to improve their texts; they were now encouraged to continue using words that sounded a bit more “grown-up” and advanced. Since the topics of the delayed writing consisted of three tasks from which the learners could choose freely, it was expected that the wording would differ more from the language in the model text to be more appropriate to the tasks. Two of the tasks asked for elaboration on the relationship between pets and their owners, which perhaps did not invite advanced vocabulary but rather a more simplistic one. Still, the results of the LFP showed some encouraging tendencies.

Table 4 shows, as discussed in section 5.2.1, a significant drop in the proportion of the target words produced from Version 1 to Version 2. However, it should be noted that this drop was accompanied by an increase in the production of academic words, as presented in the University Word List (UWL), from a mean of 1.55% of words produced to a mean of 2.18% of words produced. The paired *t*-test showed that this raise was significant (Table 5). In other

words, while the proportion of the target words decreased in Version 2, a category of equally low-frequency words increased. A similar tendency is seen in Table 6, which shows that the proportion of basic vocabulary is smaller in Version 2 compared to Version 1. Again, the difference in ratio between the two versions was statistically significant, as the *t*-test shows in Table 7. In addition to the reduction of high-frequency vocabulary used in Version 2, there was a significant increase in the mean production of lexical items from the 1,000 – 2,000 frequency band, from 4.42% to 6.51%. Moreover, a growth tendency was found in the above 2,000 frequency band, from 3.20% in Version 1 to 3.64% in Version 2. However, this increase was not large enough to be statistically significant.

How did the LFPs of the learners change from the immediate writing to the delayed writing in terms of more advanced vocabulary? If we look at the findings above, there are no clear answers. One can argue that the increase in UWL vocabulary may compensate for the drop in target words, so the amount of advanced vocabulary was the same in both versions. However, the decrease in the use of basic vocabulary combined with the increase in the production of more low-frequency words, as shown in Table 6, indicate that the learners used a more advanced vocabulary in their delayed writing. If we look at Table 4 and Table 6 combined, we find that although the ratio of the target words dropped, both the proportion of academic words and the words from the frequency band of 1,000 to 2,000 increased significantly. In addition, there was a tendency for an increase in the above 2,000-word group. In other words, although the learners seemed to have forgotten to use the target words, they had not forgotten the teacher's admonitions to use a more advanced vocabulary. Put differently, even if the target words did not enter the productive lexicon of the learners, they still remembered the concept of "using more advanced vocabulary" in Version 2. They seemed to have understood the construct of "more advanced vocabulary" better, perhaps partly because they had been provided with numerous examples through the target words and partly due to the feedback they received from their teacher on their first composition.

Out of curiosity, the categories that could be labelled "non-basic vocabulary" were summed together in the SPSS to see if the drop in production of target words was counterbalanced by the increase in the three other groups that denoted more sophisticated words:

- the group between the 1,000 to 2,000 most frequent words
- the group of the above 2,000 most frequent words
- words from the UWL

The data confirmed that there was indeed an increase from Version 1 with a mean of 10.39% (SD = 2.74) to Version 2 with a mean of 12.41% (SD = 2.97) of these three groups taken together. The paired *t*-test showed that the difference in means was significant at a level of $p < .001$. In other words, the overall production of more sophisticated language in the delayed writing showed that the learners had attempted to select lexical items that were more advanced, i.e., less frequent than before. This could indicate a better understanding of vocabulary in writing. This finding is similar to that of Lee (2003, p. 550), who investigated vocabulary used in the writing of secondary school ESL learners in Canada. His study showed that learners do not automatically put their receptive vocabulary to productive use. However, after explicit vocabulary instruction, they can expand their productive vocabulary. More importantly, improved LFP results indicated that learners had developed a higher awareness of vocabulary production in writing.

As the target vocabulary sample of this study is small, the findings can only be interpreted as indicative rather than conclusive. A general indication is that the learners developed a higher awareness of vocabulary used in writing. In section 2.6.4, the role of consciousness in second language learning was discussed and seen to be vital. According to Schmidt (1990), to learn new vocabulary, learners have to pay some degree of conscious attention. The more attention they pay, the more they will remember. The highest degree of attention has been called arousal, and this seems to be connected to improved recall. Furthermore, Schmidt (1990, p. 131) holds that subliminal language learning is impossible and that conscious awareness is necessary for second language learning. In his view, the concept of consciousness is necessary to explain and bind together elements like attention and short-term memory. He argues against the popular belief that language learning is essentially unconscious, although he admits that conscious and unconscious processes are involved in second language learning. Of relevance for the present study is his analysis of two aspects of consciousness. Firstly, he sees a close link between consciousness and awareness. Second, there are different levels of attention, but for this thesis, noticing as *focal awareness* is crucial (p. 132). This denotes the distinction between merely perceiving information in new vocabulary and noticing the same words. Figure 5 below illustrates the connection between attention and memory:

Figure 5

Consciousness in a Multistore Model of Memory

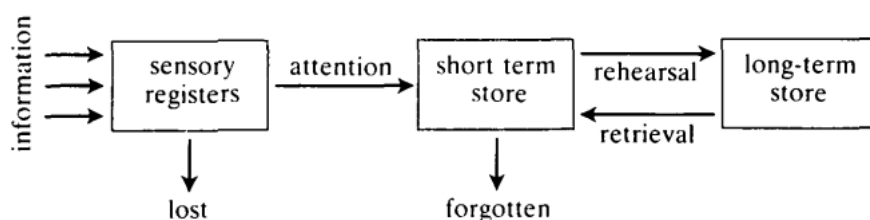


Figure 5: Consciousness in a multistore model of memory (after Kihlstrom, 1984). Retrieved from: The role of consciousness in second language learning1, by Schmidt, R. W. (1990). Applied linguistics, 11(2), p. 135.

There are close connections between consciousness, focal awareness and memory storage, according to Schmidt (1990, p. 136). By paying attention when reading a text, learners may give new information access to their short-term memory. In Figure 5 above, we can see a link between the short term store and attention, without which new information is lost. It needs to be accessed into the short term store by the door opener of conscious attention. The processing that takes place in the short term store constitutes a prerequisite for more permanent storage again. In the present study, the various degrees of attention that learners paid to the new target words may account for some of the significant individual differences in the group.

Section 1.5 in the present thesis elaborated on the constructs of “advanced vocabulary” and “writing quality”. These were operationalised as the vocabulary’s frequency levels and to what extent vocabulary in writing is diverse. How learners made a selection of words is discussed above in light of the second research question. Table 4 showed that the mean number of word families produced increased from the immediate writing to the delayed writing. Although the standard deviation illustrated the substantial individual differences, the paired *t*-test showed that the increase was statistically significant. In light of this result, one can perceive that one of the tokens of lexical richness, lexical variation, was improved in the delayed writing. Seemingly, the learners remembered that the quality of their text would be assessed as better if the vocabulary they used was more diverse. As vocabulary diversity is a marker of lexical richness, according to Laufer and Nation (1995), it is possible to argue that

in Version 2, the learners displayed a more diverse vocabulary and thereby improved the quality of their writing. Seen from Laufer's (1994) perspective, the marked increase in the production of word families in Version 2, signifies a heightened awareness and ability on the part of the learners to vary their vocabulary. Thus, they enhanced the lexical quality of their texts.

5.2.3 Limitations of the Present Study

Why did the learners not use a larger proportion of the target words in their first composition? Part of the answer may be found in the limitations of the present study. Webb (2018, p. 409) holds that productive knowledge is more effectively gained through productive learning. In the third section of the Teaching and Learning Cycle, where the learners engaged in tasks, six out of seven tasks had a receptive design and might not have been ideal for enhancing productive learning. The task design rationale was Thornbury's (2005, pp. 93–100) principled approach of “putting words to work” (section 3.3.3), based on the idea to integrate new knowledge into what was previously known. Step by step, the learners were challenged to make more cognitively demanding decisions about the target words.

The learners who completed the studies relatively quickly had time for a productive turn in which they explained and argued their choices to their learning partners. They repeatedly retrieved the target items and thus harvested the advantages of having produced the words in various ways. According to Thornbury (2005, p. 24), the more often a word is retrieved, e.g., used in a sentence, the more likely it is to be retained. One could argue that the design of the majority of tasks was receptive and that this favoured the most efficient learners who had time for discussion when they could retrieve the target words from their memory and receive what is called the “retrieval practice effect” (Thornbury, 2005, p. 24). In contrast, the slower learners only got comprehension practice, enhancing receptive vocabulary storage. Ideally, all learners should have had time to participate in discussions around the use of target words to have the same amount of productive practice. However, there were large individual differences in how fast the participants worked with the tasks in the present study. The limited amount of time played a role in impacting the vocabulary development process.

Therefore, a limitation of the current study was the restriction of classroom time, only four sessions of sixty minutes each. Schmitt (2019, p. 263) holds that to truly investigate the process of lexis moving from receptive to productive mastery, one needs to undertake longitudinal studies. There is no simple answer as to how long these studies should last. Still, he estimates that no less than half a year is necessary to examine how real productive knowledge develops through various activities. Similarly, Webb (2018, p. 412) calls for more longitudinal studies of L2 lexical growth, as he finds that to date those are “surprisingly rare”. He proposes that the duration of these studies ideally should be years, given the amount of time it takes to learn new lexis in a productive way.

Furthermore, Webb (2018, p. 409) argues that meaningful output in the classroom is more challenging because it is more time consuming than learning in the other three strands, meaningful input, language-focused learning, and fluency development. The teacher’s role in this strand is to give opportunities to learners to produce both previously known and new lexis (section 1.3). In the same vein, Craik and Lockhart (1972, p. 681) suggest that researchers examine variables such as study time and effort separately, as an extended period is assumed to be a necessary precondition for deeper level processing. Craik and Tulving (1975, p. 278) found that deeper encodings generally took more time to accomplish and led to higher performance levels on a memory test. Among “deeper encodings” were semantic elaboration, and placing the lexical item in a given category or sentence listed. The two last encodings I would categorise as productive vocabulary mastery. The task where the learners were asked to sort adjectives into categories of either “positive” or “negative” characteristics of a person and the completion task where they should fill in the gaps with words from the target list are examples from the present study.

Why did I undertake this study when the time was a limiting factor? The present thesis has a strong resemblance with a research study by Lee (2003), who investigated the effects of explicit vocabulary instruction and productive use of target vocabulary encountered in reading within the timeframe of three weeks. The four main differences between the present study and Lee’s work (2003) are that the topic in his research was the same in both compositions. Second, a native speaker teacher trained in teaching English as a Second Language assessed the learners’ papers. He found that the delayed essays had a higher proportion of low-frequent

vocabulary and that the learners varied their language to a more considerable extent. Third, the target words of his study ranged from the 1,000 most frequent words to the unlisted, meaning the more low-frequent than the 2,000 most frequent ones. Four, the learners created three texts, pre-instruction writing, post-instruction writing, and delayed writing. Lee found that solely recognising vocabulary in reading was not enough to make it productive. After explicit vocabulary instruction, a significantly larger number of the target words were used productively. In the delayed writing, the proportion was reduced, but not to the level of the pre-instruction writing. These findings were so encouraging that they ignited a spark of motivation to undertake the present study, only with mid-frequency target words within the structure of the TLC.

However, one never has any guarantee that learners will *use* the new target vocabulary (Lee, 2003, p. 550; Laufer, 2005, p. 584). Even though learners have gained another 100 words to their productive lexicon and are able to produce them correctly in a productive vocabulary test, it does not mean that they necessarily *use* the newly acquired words in their writings. Out of fear of making mistakes, they may choose the safer option of using more high-frequency words, of which they know the grammatical and conversational patterns, together with restrictions of use. In section 2.1, I looked into Nation's (2013) and Laufer's (1997) analysis of what makes a word difficult to learn. Frequency is pointed out as a factor that strongly affects the learnability of a word. Because all the target words in the present study were mid-frequency words from the 3,000-frequency band and rarer, one can safely assume that they are seldom encountered in the adapted texts pupils in Norwegian secondary school usually read.

Thus, most of the target lexical items represent a heavier learning burden (section 2.1) because they are very different from the learners' L1. According to Nation (2013, pp. 44–45), the more word parts are similar to the learners' L1, the lighter the learning burden. In the list of target words, “to transform”, “ambition”, “anonymous”, “terrace”, “extraordinary”, “traumatic”, “rehabilitation”, “to confront” can be said to have Norwegian equivalents in “å transformere”, “ambisjon”, “anonym”, “terrasse”, “ekstraordinær”, “traumatisk”, “rehabilitering”, “å konfrontere”. Proof that the difficulty level was a bit daunting came when several of the learners did not understand the meaning of “ambition” in their L1. One could

argue that if the young teenagers did not know the meaning of the words in their L1, this would significantly affect their use of the words in their L2, even though they could map the form and meaning in the two-section vocabulary test. The remaining 31 items in the target vocabulary list did not resemble any words in the learners' L1 and represented a heavy learning burden.

As Laufer and Paribakht (1998) observed, limited exposure means less practice and makes it more challenging to learn collocations, restrictions of use, and the grammatical patterns in which a word occurs. These are aspects of word knowledge connected to the use of words or, put differently, the production of words, as shown in Nation's (2013, p. 49) taxonomy of what it entails to "know a word". Knowing a word involves *form*, *meaning* and *use*, and these aspects can be understood both receptively and productively. In the present study, the learners may have shown productive knowledge of the target words at the level of mapping form and meaning in the target vocabulary test. Still, they may not have developed sufficient knowledge about using the words to become confident enough to produce them in their writing. Laufer (2005, p. 584) argues that the knowledge to fill in words correctly in a vocabulary test "may come long before developing the confidence to use these words in free writing. Therefore, a small increase in using infrequent vocabulary may reflect a large increase in vocabulary knowledge." From this perspective, the rate of low-frequency target words produced in Version 1 is more encouraging.

Chapter 6: Conclusion

One of the assumptions underpinning this thesis is that learners' receptive vocabulary is substantially larger than their productive one. A motivation force behind the current study is an ambition to facilitate the development of this store of receptively known words into productive lexical competence. The results of the two-section vocabulary test at the outset of this study confirmed expectations of a substantially larger storage of receptively known words than productively known words in the of group participants. This thesis aims to explore, as expressed in the first research question (section 2.10), to what extent learners in a secondary school in Norway use L2 target words encountered in reading in their written production at two different points in time: first, immediately after explicit vocabulary instruction and then two weeks after having received feedback on their first composition. As reflected in the second research question, the second purpose is to investigate to what extent the learners' Lexical Frequency Profile changes in terms of the production of words from the different frequency bands and the total number of word families in the delayed compared to the initial writing.

6.1 Summary of Findings

This study has shown that although learners attempt to use newly learned vocabulary in an immediate writing task after receiving explicit teaching of target words, the vocabulary does not automatically become a part of their productive lexicon. In the immediate writing, the learners made use of the newly learned vocabulary to a certain extent, yet not as much as I expected. In the discussion chapter, I have explored various reasons for their hesitation to produce the target words in their free writing. In the delayed composition, the proportion of the target words produced dropped even further. Clearly, the target words had not entered the productive lexicon of the learners. This result made me explore the receptive-productive gap further, and I found that researchers like Read (2000), Melka (1997), and Vincy (2020) had described this distinction as a fuzzy landscape and a dynamic rather than a fixed threshold.

The attempts to produce the target words indicate partial learning of the lexical items, an imitation stage rather than a true expansion of the productive lexicon of the learners. The acquisition process appears to have started, and a form and meaning link is established. Read (2000) asked if a certain amount of knowledge is required to develop productive mastery of vocabulary, and Schmitt (2008) holds that explicit and implicit approaches to vocabulary learning are complementary when it comes to developing a productive level of mastery. The data indicate that learners did not have time enough to develop a deeper and more complete knowledge of all vocabulary components necessary to confidently use the target items, as repeated exposure to the target lexical items is a precondition for strengthening the learning process.

The production of vocabulary belonging to various frequency bands was also explored by the Lexical Frequency Profile and showed that the proportion of basic vocabulary decreased in the delayed composition along with an increase in non-basic vocabulary. Moreover, there was a significant raise in the total number of word families produced, which signified a more varied vocabulary in the second version. As lexical richness in writing was operationalised as more use of sophisticated vocabulary and lexical variation (section 1.5), this thesis argues that the learners produced texts of improved lexical richness in their second composition. As the number of target words and participants in the current study are few, all results can only be interpreted as indicative rather than conclusive. Although the target words clearly did not enter the productive lexicon of the learners, the current study indicates that when learners are instructed to vary their language and use more sophisticated vocabulary in their written work, they actually do so. This signifies that a principled approach on the part of the teacher, by giving learners opportunities to engage in vocabulary tasks when implementing the four strands of language learning, is helpful in facilitating productive vocabulary development. The results of the LFP of the two versions showed improved profiles in the use of more sophisticated words and increased linguistic variation. This might indicate that the learners became more sensitive when selecting words in their writings, suggesting that they developed a higher degree of language awareness.

6.2 Suggestions for Further Research

When considering suggestions for further research, I will look at the limitations of the present research study to find new areas to investigate. Firstly, the design of the tasks was mainly integrative, enhancing receptive mastery of vocabulary. Only the most efficient learners had time to discuss their solutions with their learning partners. In this productive turn, they would have to retrieve the lexical items from their memory and thus receive productive practice. The design of the tasks favoured the fastest learners. In another research study, I would have wished to have sufficient time for all learners to practise retrieval of all the target words to a larger extent. In addition, more of the tasks would have a productive design, in which the participants had to actively produce the target words in controlled contexts and thus enhance retention. In general, time was a limiting factor. Both classroom time was restricted to four times sixty minutes, and the duration of the intervention was only two weeks. Due to the scope of this thesis, there was no room for longitudinal studies of more than six months, as suggested by Schmitt (2019), but this would have been immensely interesting to conduct in another research study.

Another possible limitation could have been the frequency band of the target words, ranging from the 3,000 most frequent words and rarer. These may have been too difficult for learners at the secondary school level in Norway, despite my experience of the learners as competent enough to enjoy films and documentaries in authentic English without subtitles. When some pupils asked for the meaning of the target words even in their L1, it signified that the difficulty level was a bit too high for their age. In Vygotskian theory, the target words should ideally be found in the ZPD as buds or flowers, i.e., already receptively known, to be included in the study. Only then could one expect the lexical items to be developed further into true productive mastery within the framework of an intervention. Further research might replicate the present study with less advanced target words to explore how these would be produced in a subsequent writing task, or only include receptively known words. To do so, one would have to ensure that the target words were indeed fully receptively known by implementing extensive test batteries. Then, one could investigate what specific strategies would enhance the productive development of the target words more.

Laufer (1994) proposed that studies that produced evidence of a possible relationship between explicit vocabulary instruction and improved lexical quality of writing would be of vital importance to language researchers and teachers. As a practitioner, I have wished to show that this relationship does exist and that there is a strong connection between the two elements. The present study did not establish such a relationship between the explicit teaching of the target words and their use in written production, so there is still a need to conduct further research to shed light on the connection between explicit vocabulary instruction and improved lexical quality of writing.

6.3 Contributions to the Field of Practice in Norway

In my readings, I have learned that the construct of lexical competence is complex and that there is no consensus when it comes to defining it. Still, it has been most enlightening to explore the distinction between receptive and productive vocabulary mastery and the relation to the four language skills listening, reading, speaking, and writing. In addition to these four skills, Laufer (1994, p. 32) argues that lexical variation should be taught “as a skill in its own right”. This thesis agrees with her suggestion because even though learners may acquire new advanced vocabulary, they do not automatically vary their language. The same is true about vocabulary growth, as a large extension of learners’ vocabulary does not always materialise in their writings. On the contrary, a slight increase in low-frequency words in writing might indicate a considerable growth in this group of words in a person’s lexicon. As teachers in the English classroom, we are responsible for motivating and inspiring learners to stretch and vary their lexis in both written and oral contexts. Considering the extent of extramural influence of the English language in Norwegian society today, the production of both oral and written English becomes more and more critical in the English classroom. There is hardly a lack of exposure to English that limits the vocabulary development of young Norwegians, but rather a lack of productive practice. The competence aim of mastering a vocabulary appropriate to every situation and recipient has never been more imperative than in our increasingly globalised world. To induce engagement in producing English is a goal of vital importance that I will pursue in my vocation. To bring about engagement in learners, teachers themselves have to be inspired. A prerequisite for cultivating inspiration is to receive guidance from relevant research. In my work on this thesis, I have received a lot of input from

language researchers to whom I am now indebted, as I feel more inspired than ever in my teaching practice.

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Appendices

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Appendix 1: The Productive Vocabulary Test

Form recall test

Name: _____

Please translate the following words into English:

1	kjendis	
2	å lansere	
3	grunnlagt av	
4	å forvandle	
5	å bli tildelt	
6	å oppnå	
7	attentat, snikmord	
8	å holde en kampanje	
9	å kue hennes ambisjon	
10	smårolling	
11	utnyttelse	
12	anonym	
13	mål	
14	hasseltre	
15	sement blokk	
16	ekstraordinær	

17	terrasse	
18	skjønnhetssalong	
19	mage	
20	illevarslende	
21	midlertidig	
22	å øke farten min	
23	en fullstendig lettelse	
24	å holde ut	
25	den ombygde lastebilen	
26	offentlig	
27	traumatisk, sjokkerende	
28	å varsle	
29	droneangrep	
30	å sette på igjen	
31	i ettertid	
32	å fremme	
33	mot, tapperhet	
34	minnepris	
35	omfattende	
36	å konfrontere	
37	rehabilitering	

38	å komme på prioritert liste	
39	omplassere	

Appendix 2: The Receptive Vocabulary Test

Meaning recall test

Name: _____

Please translate the following words into Norwegian:

1	to be awarded (3)	
2	to be campaigning (3)	
3	exploitation (3) (A)	
4	to transform (3) (A)	
5	celebrity (3)	
6	to accomplish (3) (A)	
7	assassination (4)	
8	to launch (3)	
9	to curb (5) her ambition (4)	
10	toddler (5)	
11	founded by (3) (A)	
12	hazel (8)	
13	target (3) (A)	

14	anonymous (4)	
15	concrete-block (3)	
16	terrace (4)	
17	extraordinary (3)	
18	beauty (1) parlour (6)	
19	in retrospect (5)	
20	ominous (6)	
21	to foreshadow (10)	
22	to hasten (4) my pace (3)	
23	an utter (4) relief (2)	
24	publicly (4) (A)	
25	the converted (3) (A) truck (2)	
26	to endure (3)	
27	traumatic (4)	
28	temporary (3) (A)	
29	abdomen (5)	
30	to reattach * (A)	
31	rehabilitation (4)	
32	extensive (3)	
33	courage (3)	
34	relocate * (A)	

35	to promote (3) (A)	
36	to confront (3)	
37	drone (7) strikes (1)	
38	to be shortlisted*	
39	memorial (5) award (3)	

Appendix 3: The Target Words

Target words week 46 and 47

Name: _____

These are the prioritized words to be learned:

1	to be awarded (3)	å bli tildelt
2	to be campaigning (3)	å holde en kampanje
3	exploitation (3)	utnyttelse
4	to transform (3)	å forvandle
5	celebrity (3)	kjendis
6	to accomplish (3)	å oppnå
7	assassination (4)	attentat, snikmord
8	to launch (3)	å lansere
9	to curb (5) her ambition (4)	å kue hennes ambisjon
10	toddler (5)	smårolling


11	founded by (3)	grunnlagt av
12	hazel (8)	hasseltre
13	target (3)	mål
14	anonymous (4)	anonym
15	concrete block (3)	sement blokk
16	terrace (4)	terrasse
17	extraordinary (3)	ekstraordinær
18	beauty (1) parlour (6)	skjønnhetssalong
19	in retrospect (5)	i ettertid
20	ominous (6)	illeværslende
21	to foreshadow (10)	å varsle
22	to hasten (4) my pace (3)	å øke farten min
23	an utter (4) relief (2)	en fullstendig lettelse
24	publicly (4)	offentlig
25	the converted (3) truck (2)	den ombygde lastebilen
26	to endure (3)	å holde ut
27	traumatic (4)	traumatisk, sjokkerende
28	temporary (3)	midlertidig
29	abdomen (5)	mage
30	to reattach *	å sette på igjen
31	rehabilitation (4)	rehabilitering

32	extensive (3)	omfattende
33	courage (3)	mot, tapperhet
34	to relocate *	å omplassere
35	to promote (3)	å fremme
36	to confront (3)	å konfrontere
37	drone (7) strikes (1)	droneangrep
38	to be shortlisted*	å komme på prioritert liste
39	memorial (5) award (3)	minnepris

Appendix 4: The Text About Malala

Malala Yousafzai Wins Nobel Peace Prize 2 Years After Shooting

"I want every girl in Pakistan to go to school."
- Malala



Pakistani youth activist Malala Yousafzai was awarded the 2014 Nobel Peace Prize on Friday, an honour she shares with Kailash Satyarthi, who has long been campaigning against child exploitation in neighbouring India. But until about two years ago, Malala was just a 15-year old blogger on a school bus with her friends. It was Oct. 9, 2012, when armed Taliban men boarded Malala's bus and shot her in the head, transforming her from a minor Internet celebrity into an international symbol.

It's hard to believe that she's accomplished so much — including recovery from her injuries — in only two years, but Malala's story actually started long before the assassination attempt that launched her to worldwide fame. She was born in the Swat valley in Pakistan, in 1997, to parents who encouraged her love for education from a young age. Her father, Ziauddin, opened a private school for boys and girls, partly to fight against gender discrimination in Pakistan. "My father educated my brother and me, but he didn't send my sisters to school," he told [The Guardian](#). "I thought it was an injustice." When Malala was born, he named her after a Pashtun heroine and never curbed her ambition. "Don't ask me what I did, ask me what I did not do," Ziauddin said in a [TEDtalk](#) about his daughter that quickly went viral, "I did not clip her wings."

As a toddler, Malala would sit in classrooms in her father's school and follow lessons for 10-year olds. Aryn Baker wrote in her [2012 profile](#) of Malala for TIME:

"By the time she was 2½, she was sitting in class with 10-year-olds, according to a close family friend and teacher at the school founded by Malala's father. The little girl with the huge hazel eyes didn't say much, but "she could follow, and she never got bored," says the teacher, who asked to remain anonymous for fear that she too might become a Taliban target. Malala loved the school, a rundown concrete-block building with a large rooftop terrace open to views of the snowcapped mountains that surround the Swat Valley. As she grew older, she was always first in her class. "She was an ordinary girl with extraordinary abilities," says the teacher, "but she never had a feeling of being special."

In 2008, everything changed. The Taliban gained control of the Swat region, banning DVDs, dancing, and beauty parlours. By the end of the year, over 400 schools were [closed](#). Ziauddin took Malala to Peshawar, where she made a famous speech in front of the national press titled "How Dare the Taliban Take Away My Basic Right to Education?" She was only 11.

In early 2009, Malala started blogging anonymously for the [BBC](#) about what it was like to live under the Taliban. Just a few days after she started, all girls schools were closed.

In retrospect, some parts of Malala's blog seem like ominous foreshadowing: "On my way from school to home, I heard a man saying 'I will kill you,'" she wrote on Jan. 3, 2009. "I hastened my pace and after a while, I looked back if the man was still coming behind me. But to my utter relief, he was talking on his mobile and must have been threatening someone else over the phone." But there are also humorous parts that remind us that, at the time, she was only 11: "My mother liked my pen name 'Gul Makai' and said to my father 'why not

change her name to Gul Makai?’ I also like the name because my real name means ‘grief stricken’.”

In December 2009, Ziauddin publicly identified his daughter, even though her real name has been widely suspected for months.

That proved to be a dangerous move. “We did not want to kill her, as we knew it would cause us a bad name in the media,” Sirajuddin Ahmad, a senior commander and spokesman for the Swat Taliban, told TIME for the 2012 magazine profile. “But there was no other option.”

In 2012, armed men boarded the converted truck that Malala and her classmates used as a makeshift school bus. “Which one is Malala?” one of them asked. “I think we must have looked at her,” Malala’s classmate Shazia Ramzan told TIME’s Aryn Baker. “We didn’t say anything, but we must have looked, because then he shot her.” Malala took a bullet to the head. She endured a traumatic operation in Pakistan that left her with a (temporary) metal plate in her head while they stored a piece of her skull in her abdomen, to reattach when she’s healed enough. She was then airlifted to a hospital in Birmingham, England, where she had more medical treatment and extensive rehabilitation.



The rest of her story has played out in the public eye. Nine months after she was shot, Malala gave a now-famous speech at the UN. “They thought that the bullets would silence us. But they failed,” she said. “And then, out of that silence came thousands of voices. ... Weakness, fear and hopelessness died. Strength, power and courage was born.”

Now relocated to England, Malala goes to Edgbaston School for Girls. She’s continued her high-profile campaign for girls’ education with The Malala

Fund, which raises money to promote girls' education. She's used the fund as a platform to confront Barack Obama about drone strikes, help Syrian refugee children and demand the return of the Nigerian girls kidnapped by Boko Haram. And this September, she announced a \$3 million multi-year commitment to partner with Echidna Giving to support girls education in developing countries.

Malala won Pakistan's National Youth Peace Prize in 2011, before she was shot, but the prize has since been renamed in her honour; it's now the National Malala Peace Prize. She was shortlisted for TIME's Person of the Year in 2012, and was one of the TIME 100 in 2013. She won a Mother Teresa Memorial Award for Social Justice in 2012 and the 2013 Simone de Beauvoir Prize for international human rights work on behalf of women's equality.

Reference:

<https://time.com/3482434/malala-yousafzai-wins-nobel-peace-prize/>

Appendix 5: Comprehension Questions

Comprehension Questions to the Malala Text

Answer the following questions using as many of the target words as possible. Write in full sentences.

1. What happened to Malala in 2014?

2. Why was Malala attacked on the school bus?

3. What did Malala's father think about girls' education?

4. Explain how Malala received education from an early age.

5. Did she have any special talents at school?

Describe! _____

6. What move did Malala's father do, that proved to be dangerous? _____

7. Did the Taliban want to kill her from the outset? Why/why not? _____

8. What kind of vehicle was used as a school bus? _____

9. Tell the story of the medical treatment Malala received. _____

10. What other prizes and honours has she received? _____

11. What kind of projects is she involved in today? _____

Appendix 6: Identifying Words in a Wordsquare

Identifying Words in a Wordsquare

Find and circle as many of the target words as possible: *exploitation, celebrity, assassination, ambition, anonymous, target, toddler, founded by, terrace, concrete block, target, extraordinary, beauty, in retrospect, pace, abdomen, courage, memorial award, endure*, in the “word soup” below.

P	A	C	E	A	D	A	F	O	U	N	D	E	D	B	Y
Q	C	E	L	E	B	R	I	T	Y	Q	W	N	D	E	E
A	M	B	I	T	I	O	N	A	W	U	P	D	S	A	X
S	A	I	K	P	M	Y	G	R	T	L	K	U	L	U	P
S	I	R	P	Y	L	U	S	G	I	V	E	R	O	T	L
A	B	D	O	M	E	N	E	E	W	E	F	E	I	Y	O
S	O	C	I	A	L	U	A	T	O	D	D	L	E	R	I
S	W	i	N	G	S	A	T	E	A	T	A	R	G	E	T
I	M	E	M	O	R	I	A	L	A	W	A	R	D	S	A
N	O	E	X	T	R	A	O	R	D	I	N	A	R	Y	T
A	N	O	N	Y	M	O	U	S	I	S	T	U	Y	S	I
T	E	R	R	A	C	E	I	C	O	U	R	A	G	E	O
I	N	R	E	T	R	O	S	P	E	C	T	S	I	Y	N
O	C	O	N	C	R	E	T	E	B	L	O	C	K	S	T
N	O	B	O	D	Y	H	A	S	T	H	E	C	L	U	E

Appendix 7: Selecting Words

Selecting Words

1. *Choose the odd one out in each group. There may be more than one correct answer. Make sure that you can justify your choice.*

1	school	education	classroom	teacher
2	public	anonymous	celebrity	renown
3	girl	kid	baby	toddler
4	transform	change	remodel	preserve
5	attack	strike	execute	assassinate
6	extensive	broad	wide	limited
7	degrade	advance	promote	raise
8	bravery	courage	weakness	boldness
9	quickness	motion	slowness	pace
10	amazing	extraordinary	average	incredible

2. Choose ten words from this lesson to learn. Use paper cards and write the English word on one side and the Norwegian one on the other. Think of how you will demonstrate - in the next class - that you have learned them.

Appendix 8: Matching Task 1

Matching Task 1

Please match the following verbs with the nouns that are made from the same root:

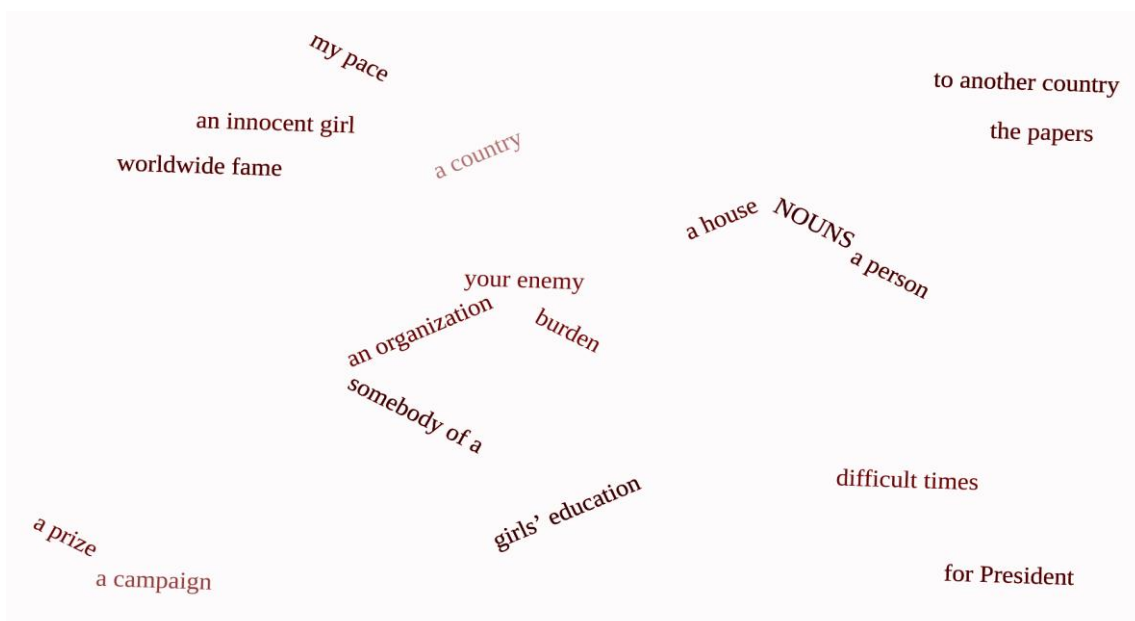
VERBS
To be awarded (something)
To be campaigning
To transform
To launch
To found
To hasten
To endure
To reattach
To relocate
To promote
To confront
To assassinate
To accomplish
To relieve
To rehabilitate

NOUNS
A launch
A foundation
An award
Relocation
Promotion
A campaign
A relief
Assassination
Haste
Endurance
Accomplishment
A transformation
A rehabilitation
A confrontation
A reattachment

Appendix 9: Matching Task 2

Matching Task 2

In five minutes, write as many correct pairs of verbs + noun or noun phrases as possible.



Appendix 10: Sorting Activity – Characteristics

Sorting Activity - characteristics

Put these adjectives into two groups - positive and negative. Make sure you can argue for your choice. Then use 5 adjectives to describe yourself. Ex: *I am usually...*

careful	intelligent	extraordinary	selfish	outgoing
confident	emotional	polite	anonymous	quiet
offensive	optimistic	calm	cold	tidy
nervous	clever	serious	lazy	ambitious
self-centred	interesting	imaginative	kind	pessimistic
friendly	sensitive	rude	nice	patient

Positive

Negative

Appendix 11: Ranking Words

Ranking Words

1. How would you rank these adverbs, in terms of how often something happens:
 - *always, sometimes, never, occasionally, often, hardly, seldom, once in a while, every now and then, frequently*

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

2. Now, after you have ranked the words, compare your list to the one of your classmates. Make sure you can argue for your choice.

Appendix 12: Gap-fills

Gap-fills - Complete the Sentences 1

campaigning, curbed, launch, recovery, activist, converted, extraordinary, gender discrimination, exploitation, assassinate, celebrity, awarded, concrete block, accomplished, anonymous, in retrospect, founded, ambition, hazel, terrace, publicly, beauty parlour

- Select words from the list to complete these sentences without looking at the Malala text. Note that there are more words than sentences.

- a. Youth _____ Malala Yousafzai was _____ the Nobel Peace Prize in 2014.
- b. Kim Kardashian is a _____.
- c. Are you ill? I wish you a speedy _____.
- d. When the Taliban entered the _____ truck, they tried to _____ her.
- e. Her father fought against _____ .
- f. He never _____ her _____.
- g. The school was _____ by Malala's father.
- h. Malala had big _____ eyes.
- i. Her teacher wanted to remain _____ because she was afraid of the Taliban.
- j. She was an ordinary girl with _____ abilities.
- k. Her father _____ identified her.
- l. He had been _____ against child _____ in India.
- m. It is hard to believe that she has _____ so much.

Appendix 13: Writing Task with a Writing Frame for the First Composition

Writing Task

Main task	You live in a country where human rights are violated, and you decide to protest against this. Describe your experience.
------------------	--

WRITING FRAME

Introduction	Main body		Ending
Who are you? Describe your family. In what country do you live? What time period are you living in?	What human rights are violated in your country? How does this affect your daily life? Describe your feelings when faced with injustice. (urettferdighet). Do you see any concrete examples of how human rights are violated?	Describe the way you protest against the violation of human rights. Do you risk anything by protesting? Describe! How do you feel when working for justice? How do other people around you feel?	Do you see any results of your struggle for human rights? How do you feel now? Why? What happens in the end?

Appendix 14: Writing Tasks for the Second Composition

Choose one of the following tasks:

4A

Reflect on the relationship between humans and animals

4B

67% of U.S. households own a pet, and children raised with pets benefit in many ways. Discuss the advantages and disadvantages of growing up with pets – for children, their families and the pets themselves.

4C

What do the quotes say about climate change? What have you seen, read or experienced that supports this view? What can you as an individual do to combat climate change? What can politicians and state leaders do to fight climate change?

Quotes

“Climate change is no longer some far-off problem. It is happening here, it is happening now.”
- *Barak Obama*

“We believe climate change is the biggest threat we face. But it is also a historic opportunity. It is our chance to save the world.” - *Greenpeace*