Vocabulary Acquisition at Hartenlust Mavo
Lio Praktijk Onderzoek

Name: Denise Rossel
Student number: 500681189
Course: English Teacher Trainee Programme
Tutor: Louise Taylor
Placement school: Hartenlust Mavo
Date: January 2017
Version: 1
Samenvatting (Summary)

De samenvatting is het enige hoofdstuk van dit onderzoek dat in het Nederlands geschreven is. Het onderzoek is verder uitgevoerd in het Engels.

De reden voor dit onderzoek was dat de leerlingen op Hartenlust Mavo in Bloemendaal geleerde woorden later in de context niet herkennen. Dit is een probleem omdat de school de leerlingen wilt voorbereiden op de echte wereld. Momenteel zijn de leerlingen niet capabel om woorden die geleerd zijn in een op niveau aangepaste tekst te herkennen, laat staat in een authentieke tekst.

Dit onderzoek heeft zich gericht op wat er nodig is om veel voorkomende woorden in het lange termijn geheugen te krijgen en is specifiek gericht op herhalen en het terughalen van woorden. Dit onderzoek gaat ervanuit dat zeven keer herhalen en zeven keer terughalen genoeg is voor woorden om in het lange termijn geheugen terecht te komen (Hedge, 2002; Thornbury, 2002). In dit onderzoek wordt er onderscheid gemaakt tussen receptieve en productieve verwerving van woordenschat en wordt er onderscheidt gemaakt tussen input op niveau en authentieke input.

De hoofdvraag ‘In hoeverre zijn de eerste jaar vmbo-t leerlingen op de Hartenlust Mavo blootgesteld aan herhaling en terughalen van woorden voor optimale verwerving van woordenschat?’ wordt onderzocht door middel van vier deelvragen. Twee deelvragen richten zich op in hoeverre de lesmaterialen zich richten op herhaling en het terughalen van woorden en dit is onderzocht aan de hand van observatieformulieren. De derde deelvraag richt zich op hoe de leerlingen thuis met herhaling en het terughalen van woorden omgaan en dit is onderzocht door enquêtes met zes leerlingen. De leerlingen werden uitgekozen op basis van hun resultaat om te zien of hun herhaal- en terughaalproces invloed had op hun cijfer. De laatste vraag richt zich op hoe de docent omgaat met herhaling en het terughalen van woorden en is onderzocht aan de hand van een hardop denkprotocol.

De resultaten van dit onderzoek tonen aan dat het verwerven van woordenschat een complex proces is waarbij blootstelling aan herhaling en het terughalen van woorden van belang is. De eerstejaars vmbo-t leerlingen op de Hartenlust Mavo worden over het algemeen genoeg blootgesteld aan herhalen met de uitzondering van de leerlingen die woorden thuis minder dan vier keer herhalen. Dit betekent dat als de leerling thuis een woord meer dan vier keer herhaald, op school de input krijgt en de opdrachten in het boek maakt er genoeg blootstelling is. Desalniettemin, als één van deze drie wegvalt of er thuis minder dan vier keer herhaald wordt er niet genoeg blootstelling aan herhaling is. De blootstelling aan het terughalen van woorden is zowel op zichzelf als de input in de les, van het boek en thuis samen insufficiënt.

Doordat het onderzoek uitgevoerd is met één eerste klas en één hoofdstuk van het boek zou vervolg onderzoek in onder andere alle eerste klassen ingezet kunnen worden om een specifieker beeld te krijgen. Ook kan vervolg onderzoek zich meer verdiepen in de resultaten van de leerlingen en zich richten op alle vier de leerjaren.
# Content Page

Samenvatting (Summary) ........................................................................................................ 1

1. Problem statement ........................................................................................................ 4
   1.1 School context ........................................................................................................ 4
   1.2 Research Problem ................................................................................................ 4
   1.3 Aims and outcomes of the research ...................................................................... 5

2. Theoretical Framework ................................................................................................ 6
   2.1 Vocabulary ............................................................................................................ 6
   2.2 Vocabulary acquisition ......................................................................................... 7
   2.3 Receptive vs. productive vocabulary learning ...................................................... 8
   2.4 Restricted versus authentic input and output ....................................................... 8
   2.5 Conclusion ............................................................................................................. 9

3. Research Questions ..................................................................................................... 10

4. Methodology ................................................................................................................ 12
   4.1 Type of research ................................................................................................... 12
   4.2 Participants ........................................................................................................... 12
   4.3 Research instruments ......................................................................................... 13
   4.4 Data collection, data processing and analysis ....................................................... 14
   4.5 Validity and reliability ......................................................................................... 16

5. Results .......................................................................................................................... 17
   5.1 Course book analysis (1) ..................................................................................... 17
   5.2 Course book analysis (2) ..................................................................................... 17
   5.3 The Interview ...................................................................................................... 18
       The think-aloud protocol ...................................................................................... 19

6. Discussion and conclusion .......................................................................................... 20
   Sub-question 1 .......................................................................................................... 20
   Sub-question 2 .......................................................................................................... 20
   Sub-question 3 .......................................................................................................... 21
   Sub-question 4 .......................................................................................................... 22
       The main question ................................................................................................ 22

7. Recommendations ...................................................................................................... 24

8. Reflection ...................................................................................................................... 25

Bibliography .................................................................................................................... 26

Appendixes ....................................................................................................................... 28
Appendix 1 – Course book analysis (1).................................................................................................................. 28
Appendix 2 – Course book analysis (2).................................................................................................................. 34
Appendix 3 – Interview questions (learners) ......................................................................................................... 40
Appendix 4.1 – Think-aloud protocol (instruction) ................................................................................................. 44
Appendix 4.2 – Think-aloud protocol (observation) ............................................................................................... 45
1. Problem statement
This chapter provides the context in which the research will be executed. It entails a description of the problem and how this is relevant to the placement school and the English department. Furthermore, the aims and the outcomes of the research are discussed.

1.1 School context
The research will be carried out at Hartenlust Mavo in Bloemendaal. Hartenlust Mavo is a small-scale secondary school for learners with a vmbo-t' advice. The school counts approximately 300 learners divided over 12 groups. The group that has been selected for this research is a first-year group. The vast majority of learners have a Dutch nationality and their parents belong to the middle or working class. The school puts the well-being of the learners in the first place as well as their future prospects. According to the vision of the school, IQ and EQ are equally important
(Hartenlustmavo, 2016). For teachers this means that the focus is on teaching the subject as well as helping learners develop social skills to prepare them for society.

The English department of Hartenlust Mavo consists of three teachers and the focus is on providing the learners with the basics of English, which belong to an A2 level for each skill set by the government (Council of Europe, 2014). The level of reading varies for each student as some enjoy reading more difficult text, while others might even have problems with reading comprehension in their first language.

1.2 Research Problem
Hartenlust Mavo uses the 5th edition of Stepping Stones 1 vmbo KGT as course book material. The learners study the vocabulary lists in order to pass tests and reach the core goals and end terms set by the Common European Framework of Reference (CEFR) (Council of Europe, 2014). When the learners encounter a word from the vocabulary list in a different context the learners seem to have forgotten its meaning. This is regarded as problematic because the school wants to prepare the learners for the 'real world' and at this moment the learners are unable to recognise the words they learnt in a restricted text, let alone in an authentic text.

The amount of words a second language learners need, varies for each language purpose. Thornbury (2002) however, states that there is a threshold level called a core vocabulary. A core vocabulary consists of simple words that are used on a frequent basis and in a variety of contexts (Cross, Baker, Klotz & Badman, 1997). The English department encountered the vocabulary problem while reflecting on the tests that were made last year. The book covers a specific vocabulary list for each chapter and the words return in the following chapters either in texts, exercises or

---

1 The Dutch secondary school system makes a distinction between three educational levels: mavo / havo / vwo. Mavo can be divided in three sub-levels basisberoepsdoenerwijs, kaderberoepsdoenerwijs and theoretische leerweg. Theoretische leerweg prepares the students for vocational education.
2 Kerndoelen and eindtermen in Dutch.
3 The words in bold are explained in the theoretical framework.
listening fragments. The test results demonstrated that the vast majority of learners did not remember the words that were dealt with in a previous chapter.

During a class discussion the learners indicated they have difficulties with the tests and complain in class that they have a hard time memorising the vocabulary lists. Other learners indicated that they forget the words the moment they hand in their tests. According to Thornbury (2002) the process of repetition of the vocabulary takes place in the articulatory loop, which refreshes the short-term store. Ideally the vocabulary ends up in the long-term memory and this is not the case for each learner at this moment.

1.3 Aims and outcomes of the research
The outcome of the research is to gain an insight into how vocabulary is learnt and taught within the placement school at this moment. Furthermore it will explore findings of theorists regarding vocabulary acquisition. A thorough exploration of the problem will be based on observations of the materials, the think aloud protocol and the interviews with the learners. The result of this research could be helpful to the English department as it can be used as a basis for diagnostic research and eventually complete the intervention cycle. This research is identified as problem analytical research in the intervention cycles (Enthoven & Oostdam, 2014). Problem analytical research is based on already existing materials in a school such as documents and results of the learners. In this research the problem was found in the test results from last year. Problem analytical research also entails observations based on existing practise and interviews with the people who the problem concerns in order to depict a desirable situation.
2. Theoretical Framework
First of all, this chapter will provide an introduction to the types of vocabulary that exist and eliminate the types that are irrelevant for this research. Secondly, two very common ways to acquire vocabulary and store them in an effective way are explored. Thirdly, the distinction between receptive and productive vocabulary learning is explained. Finally, restricted and authentic input will be investigated, as these are the context learners in secondary schools encounter.

2.1 Vocabulary
Swan and Walter (1984) consider the acquisition of vocabulary the greatest and most difficult task for language learners. Hedge (2002) acknowledges that vocabulary acquisition is made difficult because of the ‘phenomenon of forgetting’ (p.117). Even when a word is stored it could still get lost due to a lack of usage and revision. This means that teachers have to teach in a way that learners can easily recall vocabulary by knowing how and when to use a specific word (Lajooee & Barimani, 2013). Without vocabulary one is unable to convey or understand a message, which makes vocabulary an essential part of language acquisition (Beukelman, McGinnis, & Morrow, 2009). Thornbury (2002) defines knowing a word by knowing its form, meaning and usage, which correlates with the idea of teachers helping learners on how and when to use a word.

As established earlier, a core vocabulary entails frequently used simple words that occur in several contexts (Cross, Baker, Klotz & Badman, 1997). Vocabulary lists in course book materials mostly entail core vocabulary (Thornbury, 2002). Furthermore, vocabulary can be divided into two types of words: high frequency and low frequency words. Nation (1990) states that in the process of vocabulary learning and teaching, high frequency words have to be learnt first. High frequency words are words which one comes across on a regular basis. Although the words have little meaning on their own, in a (part of a) sentence these words are crucial for the meaning of the sentence (Ibid.). Regarding low frequency words Nation argues that it is more effective to provide the learners with comprehension/memorisation strategies than to spend class time on low frequency words. As most course books entail core vocabulary, which means the books tend to cover high frequency words over low frequency words, this research will only focus on high frequency words.

Thornbury (2002) claims that in the process of vocabulary acquisition ‘learning is remembering’ (p. 23). Studies have established that 80% of the input received is lost ‘within twenty-four hours of initial learning’ (p. 26). In order to store new words or items in the long-term memory, specific processes have to take place in the brain. The long-term memory essentially differs from the short-term memory in duration and capacity (Cowan, 2008). The short-term memory holds information for a short period of time and has a very limited capacity. As this defines the opposite of what this research aims at, it will only focus on the long-term memory.
2.2 Vocabulary acquisition

According to Kihlstrom (2011) learners need to notice language that they encounter for the first time by paying extra attention to the form, use and meaning. This process is called noticing. Noticing is one of the many ways to store words. However, this concept will be disregarded in this research, as it is more difficult to measure. Hedge (2002) points out that teacher’s need awareness regarding the different ways and strategies on how learners deal with words. Although there are many ways to store words into the long-term memory, this research will focus on repetition and retrieval, as these are the most common concepts.

- Repetition

Kihlstrom (2013) states that mere repetition of information is insufficient for the information to end up in the long-term memory. He states that one learns while repeating if learners are ‘building new knowledge on old knowledge’ (p.3). This means that while repeating an item, learners have to connect the new knowledge to already existing knowledge. Thornbury (2002) agrees that simply repeating a word will not ensure that a word is stored in the long-term memory. However, he never mentions that the already existing knowledge has to link up with the new information. Thornbury’s view on repetition is that a word that goes from the short-term memory into the working memory, has to be repeatedly rehearsed in order to move on to the long-term memory. The working memory is the place in between the short and long-term memory and is also regarded to be a working bench for the memory. One way of repetition is to make use of the articulatory loop, which refreshes the short-term store through repetition (Ibid.). Baddeley (1986) came up with the system of the articulatory loop in his research concerning the working memory. When a word is repeated over and over again in the loop it is very likely that it will end up in the long-term memory. As the repetition takes place by lip movement or mentioning the word over and over in the mind without making a sound, using the articulatory loop is a process of subvocal repetition (Thornbury, 2002). In order to make repetition effective, learners have to encounter a word seven times over different intervals while reading (Ibid.; Hedge, 2002). However, Webb (2007) carried out a study amongst Japanese students and found that a learner had to encounter a word over ten times in order to learn all aspects of a word. As Webb’s research was broader and focused on more aspects of vocabulary, this research will use Hedge and Thornbury’s theory of seven times over several intervals. This means that a word is not merely repeated on its own, but different contexts are also of significance in the storage process.

- Retrieval

Although retrieval is a form of repetition, it is different from the one mentioned above. Instead of repeating words without much context subvocally, retrieval gets information from the memory and puts it to practice (Lancaster, 1986). An example of retrieval is, one that is used quite often in activity books, creating a sentence with a new word. Using a new word in a sentence is called the Retrieval Practice Effect (Kihlstrom, 2013). By constructing their own sentence the learners “oil the path” for
future recall’ (Thornbury, 2002 p.24). The more a learner retrieves a word from the memory, greater the likelihood that the word ends up in the long-term memory. Kihlstrom (2013) states that retrieval is a principle of ‘use it or lose it’ (p.4). Webb (2007) states that retrieval is one of the ways to create a greater gain in knowledge. This is also because the words are written in sentences and therefore the learners have to create their own context. Within retrieval there is a distinction between receptive and productive exercises and therefore vocabulary learning.

2.3 Receptive vs. productive vocabulary learning
With receptive input the learners ‘receive’ a message whereas with productive input the learners should (re)produce a certain item. Receptive and productive activities are impossible to carry out without a certain amount of vocabulary. Therefore the input as well as the course book activities are significantly important in order to reproduce (retrieve) and recognise vocabulary. The main skills that are covered in a course book can be categorised in receptive or productive activities (Copland and Mann, 2012). Although reading is regarded as being a receptive activity, this does not mean that a learner operates these activities effortlessly and passively (Saville-Troike, 2012). While reading, learners need a specific amount of vocabulary in order to understand a text (Beukelman, Mcginnis, & Morrow, 2009). The learners will have to engage with the materials which ensures that a passive teaching approach will not enable learning. Reading is ‘the primary channel for L2 input’ and without vocabulary the messages will not come across (Saville-Troike, 2012, p.164). Reading texts in the course book is also regarded as receptive input. However, the course book provides learners with exercises to turn the receptive input into productive output (for information on input and output see 2.4). Productive skills entail writing and speaking activities (Scrivener, 2011). During the course book analysis the distinction in types of exercise will be based on the type of activity: receptive or productive.

In addition to the distinction between receptive and productive input and activities, there is also a substantial difference between the knowledge of a word (Thornbury, 2002). Vocabulary is not an ‘all-or-nothing phenomenon’ because there are two kinds or knowledge (p.22). On one hand there is receptive knowledge which determines whether one can understand the word. On the other hand there is productive knowledge which determines whether one can use the word. One could know only one of the types of knowledge or both, there is no either or in this case.

2.4 Restricted versus authentic input and output
While discussing repetition, retrieval or skills one speaks about input and output. On one hand there is input, everything the learners receive and is considered to be information that they take in (Scrivener, 2011). According to Krashen (1985) input is a crucial feature in second language acquisition. There is little language acquisition without a considerable amount of input (Wessel, 2003). Learners have to compare their output to the target language input in order to notice language differences and make fewer mistakes (Schmidt, 2010). Reading a text or listening to a fragment are
examples of input (exposure) in a classroom. On the other hand there is output, everything learners produce, such as writing sentences or speaking in the target language. Scrivener (2011) claims that input (restricted and authentic exposure) is necessary in order to have learners use the acquired knowledge (restricted and authentic output). When exposure or output is restricted it means that the materials are adapted to the level of the learners and the learners practise an item without other language: i.e. course book materials/exercises (Ibid.). When exposure or output is authentic it means that learners use the item along with the other language they know (p.160). Restricted consists of mere practice of a specific item, whereas authentic means that it correlates more with a real-life situation. Restricted texts are the ones found in course book materials, as the texts are adapted to the language level of the learners. Authentic texts are texts that are the same as in the real world, without any adjustments.

2.5 Conclusion
Vocabulary acquisition is a difficult, nevertheless important, process (Hedge, 2002). The main two concepts that are commonly used are repetition and retrieval. On one hand there is repetition which entails repeating words. According to Thornbury (2002) and Hedge (2002) a word has to be repeated at least seven times before it is stored in the long-term memory. Repetition of vocabulary should also happen over several intervals and repetition with context is better than repeating a word on its own. On the other hand, retrieval entails reproducing an earlier encountered word. The more a learner retrieves a word, the more chance there is that the word gets stored in the long-term memory (Kihlstrom, 2011). Scrivener (2011) claims listening and reading exercises in the course book are receptive skills as the learner receives information. Speaking and writing exercises are considered productive exercises, as the learner has to produce language (Ibid.). The course books at secondary schools mostly provide restricted input and encourage restricted output. Authentic input is everything that is not adjusted to the learners’ levels and could come straight out of the real world.
3. Research Questions
At this moment the teachers at Hartenlust Mavo notice that the learners have a problem with remembering the definitions of earlier studied words in different contexts. Theory has shown that this problem concerns vocabulary acquisition and the storage of vocabulary in the long-term memory. In order to examine whether the problem lies within the current teaching method and materials, research questions had to be created. This research has one main question with four sub-questions. The sub questions have been created to help and provide an answer to the main question. The research will be carried out in a first –year vmbo-t class at Hartenlust Mavo.

Main research question
To what extent are the first-year vmbo-t learners at Hartenlust Mavo exposed to repetition and retrieval for optimum vocabulary storage?

Sub questions

1. To what extent do the course book materials provide the first-year mavo learners with the necessary input for the process of repetition?

The theoretical framework provided this research with the theory that a learner has to encounter a word seven times (repetition). By counting how many times a word reoccurs in a chapter, the degree the course book meets the necessary seven encounters will be measured. As we only measure the encounters, hence the amount of times a learner receives a word without reproducing it, this part measures the receptive input.

2. To what extent do the course book materials make use of retrieval of new words?

Besides repetition, the theoretical framework also explored retrieval. By counting how many and what kind of exercises the course book provides the learners, one can see if the course book makes the learners retrieve words. In this research retrieving a word more than seven times will be repetition, considered enough. As this research measures what the learners have to produce with the words, this part measures the productive input.

3. To what extent do the learners make use of repetition and retrieval at home?

The course book provides the learners with a number of encounters with a word (through repetition and retrieval). However, what does the learner do with this at home? Through an interview the learners will be asked to portray whether they use repetition and retrieval or not. The interview will also give an insight into how the learners repeat and retrieve words at home.
4. To what extent does the teacher pay specific attention to repetition and retrieval in the lessons?

Beside the course book materials and the learners’ own effort to acquire vocabulary, the teacher also has a tremendous influence on the vocabulary acquisition of the learners. By holding a think-aloud protocol with the teacher I aim to gain insight into whether the teacher practises repetition and retrieval in the lessons apart from the exercises in the course book. Beside the course book materials.

*A distinction will be made between receptive and productive tasks.*
4. Methodology
This chapter will describe how this research was executed and the rationale behind the participants, instruments and data processing. First of all, it will describe labels that belong to this type of research. Secondly, this chapter will elaborately describe the participants of this research. Thirdly, it will provide an explanation of the research instruments and why these instruments were selected. Lastly, an insight is gained into how the data processing took place. The methodological triangle that has been used is that of the course book materials, teacher and learners. This was done in order to take into account the different perspectives and sides of the potential problem.

4.1 Type of research
According to the intervention cycle this research is the starting point: a problem analytical research (Enthoven & Oostdam, 2014). This problem analytical research aimed at finding the cause for the problem described in the Problem Statement (1.2). One of the characteristics of this type of research is that it is based on tangible data and information. This research used the vocabulary tests of the learners as input for the problem analysis. Furthermore, this research used course book materials, questionnaires filled out by learners and input from the teacher to discover the cause of the problem and create an ideal situation. This research was executed at one vmbo-t school only. Therefore, the results are helpful to this school, and even more specifically, to first-year learners at this school. As this research dealt with human beings, which is a characteristic of a qualitative research, quantitative research is neglected in this report (Bell, 2014).

4.2 Participants
The learners
The participants were six learners from a first-year vmbo-t class: 1A. 1A consists of twenty-six learners, twelve of them are boys and the other fourteen are girls. For the interviews six learners were selected. The learners are between twelve and fourteen years old and all have a Dutch nationality. First-year learners are the most convenient group for the execution of this research, as the learners will benefit from it for another three years. 1A was selected because another teacher provides their English classes and therefore we do not know one another. This ensured that both of us remained unbiased and therefore the research is more reliable.

The participants were selected based on their grades. Two learners with a high (8 or higher), average (around 6/7) and low grade (4 or lower) for the previous vocabulary test were chosen. After the selection process, the interviews with the learners were planned because this ensured that they would be available and if one or two were unable to make it, there would still be enough input for the research. The distinction in grades was made, as this gained more insight into how different learning methods result in a specific grade.

The information the learners gave during the interviews is confidential. According to Sapsford and Abbott (1996) confidentiality means that the information cannot be
identified. Therefore, the interviews were anonymously processed and the only personal question that was asked was what their last obtained grade was. This is of importance because this might make a difference in the results and conclusions of this research. At the beginning of the interview the learners were told how anonymity was ensured.

**Teacher**

Another participant was the current English teacher of 1A. This participant was chosen in order to answer the fourth sub question.

The teacher is a male with a Dutch nationality. The teacher has worked at Hartenlust Mavo for over twenty years and is considered to be an experienced and skilled teacher by his co-workers. The think-aloud protocol was held with this teacher because he teaches the participants mentioned above. This provided me with a better view on the input the learners had during their lessons, besides the course book and what they study at home. The teacher gave me permission to use the information he gave me during the think-aloud protocol and was willing to sign an agreement form.

### 4.3 Research instruments

For this research three different instruments were used: a course book analysis, interviews with learners and a think-aloud protocol. As the research is small-scaled, there was no use of computerised data analysis except for a form in which the interview questions were processed. Below, a table that portrays the instruments and the sub question they aimed to answer is given.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Sub question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course book analysis (1)</td>
<td>To what degree do the course book provide the first-year mavo learners with the necessary input for the process of repetition?</td>
</tr>
<tr>
<td>Course book analysis (2)</td>
<td>To what extent do the course book materials make use of retrieval of new words?</td>
</tr>
<tr>
<td>Interview</td>
<td>To what extent do the learners make use of repetition and retrieval at home?</td>
</tr>
<tr>
<td>Think-aloud protocol</td>
<td>To what extent does the teacher pay attention to repetition and retrieval in their lessons?</td>
</tr>
</tbody>
</table>

Table 1. The instruments matched with the sub question they answered.

1. **Course book analysis**

The course book analysis was content analysis as it is an objective and systematic process of identifying characteristics (Bell, 2014). The analysis was objective because it concerned a book and not a human being. The book cannot be influenced by the way it was analysed and everyone would get the same results. In order to ensure inter-rater reliability two teachers analysed the course book. Both parts of the course book analyses were problem-orientated approaches (Ibid.). This means that the question was predetermined. The course book analysis is used to test whether the documentary evidence meets the other research methods: in this case the use of repetition and retrieval. As this is a small-scale research, one chapter of the course book was analysed. The first part of the course book analysis was used to measure
repetition and the second part to measure retrieval. An example of the course book analyses can be found in appendix 1 and 2.

Interview with learners
The disadvantage of an interview is that it is biased, because the way the interviewer interacts with the learner might influence the answers, this is the interlocutor effect (Bell, 2014). However, my awareness of my position and influence were taken into account to minimalise this effect. If it was noticed that interaction influenced an answer, this answer was not used in the research. The advantage of an interview is adaptability. An interview is more suitable for this research than a questionnaire because face-to-face conversation enabled the interviewer to add questions when necessary. The interview was structured and was with one person at a time. Focus groups were not used in this research because the learners could have influenced one another. The purpose of an interview is ‘elicit certain information from the respondent’ (Moser & Kalton, 1971, p. 271). The interview aimed at gaining an insight into what the learners do in order to acquire vocabulary at home. The questions were based on repetition and retrieval. The first four questions were open questions and did not influence the train of thought of the learner. By knowing the estimated amount of repetition at home, this number can be added to numbers from the course book in order to draw conclusions. The interview ended with two closed questions to know whether the learners learn with or without context and whether they retrieve the words or not. Although a group interview would be less time consuming, one-on-one interviews ensure that there was more depth (Bell, 2014) The interview questions can be found in appendix 3.

Think-aloud protocol teachers.
The think-aloud protocol is based on one created by Links (2011) and consists of two parts. The think-aloud protocol is adjusted to the topic of this research and the participant. First the participant did a task while sharing every step he took and every thought he had while carrying out this task. Afterwards, we evaluated and discussed the previously mentioned process.

The teacher only received the course book and was asked to think-aloud while planning a vocabulary lesson. The aim of this instrument was to gain an insight into how this teacher approaches vocabulary and what is of importance to him when it comes to teaching vocabulary. The instructions, evaluation and observation form for the think-aloud protocol can be found in appendix 4.1 and 4.2.

4.4 Data collection, data processing and analysis
All the information was obtained by me. The first thing to carry out will be the course book analyses. The next step was to conduct the interview with the learners and carrying out the think-aloud protocol with the teacher.

Course book analysis (1)
In the theoretical framework we established that learners have to encounter a word
seven times over different intervals. Five words were chosen from the vocabulary list and the amount of times they were detected in one chapter were written down. Both books were used as well as the online listening and watching materials. The type of exercise the words occurred in was also written down, to see if a word was used in different ways and if retrieval was used. This analysis concerned the receptive input of vocabulary in restricted materials. The results of this analysis were compared to the theory and then a conclusion was drawn from the comparison.

**Course book analysis (2)**

In the theoretical framework it was established that the second most common way to store a word in the long-term memory is by retrieval. Retrieval is done by productive exercises: producing something with the word. The five words from the first course book analysis were used to measure to what extent the course book makes learners retrieve a word using (re)production in one chapter. The amount of (re)production was counted and the type of exercise was taken into account. As the theory states that more retrieval ensures storage, this research also used 7 retrieval moments as sufficient. The results of this analysis demonstrated to what extent the course book provided learners with retrieval. The analysis was done at the participating school because all the resources are at school. The first analysis took about 60 minutes, as two teachers had to read and listen to everything in that chapter. The second analysis took about 30 minutes as it only concerned the Activity Book.

**Interview**

The interview questions helped to gain insight into how learners acquire vocabulary at home. The questions were based on whether they use repetition and retrieval or not. The questions also covered whether words are studied with or without context. The answers to the interview were compared and contrasted for each grade (high/average/low). A conclusion was drawn based on the answers given and the grades to see if there is a connection or not. The interview was held in a classroom at school and each interview took about ten minutes.

**Think-aloud protocol**

The think-aloud protocol gave information on if and how the teacher uses repetition and retrieval in the classroom. Course book exercises and texts do not count, as these were already in the course book analyses. The think-aloud protocol was recorded and the data was processed in an observation form based on repetition and retrieval. The think-aloud protocol was held in Dutch because this made it easier for the teacher to think-aloud. The form of the think-aloud protocol is from Links (2011). However, the content is adjusted to the topic and research questions of this research. The think-aloud protocol was held in a classroom. The data was analysed at home with an observation form which was also adapted and adjusted form the one designed by Meta Links (ibid.).

*Everything together demonstrated if the restricted input the learners receive is enough for vocabulary acquisition to take place.*
4.5 Validity and reliability
While carrying out research it is of importance that the results are valid and reliable. Below the way in which validity and reliability were taken into account in this research can be found.

The course book is a document that cannot be influenced in the way people can be influenced. In order to carry out a reliable course book analysis two English teachers sat together and did the course book analysis simultaneously. Two teachers sat on different sides of the room with the same book and form in order to ensure inter relator reliability (Bell, 2014). Afterward the answers were compared to see if the answers matched. If there was a difference, that part of the analysis was redone.

The interview and think-aloud protocol involved people. While carrying out the interviews it was of importance to be aware of the influence the interviewer has on the interviewee. The interviewer had to remain as neutral as possible, as the learners might give desirable answers based on what they think the interviewer wanted to hear (Bell, 2014). Both the interviews, and the think-aloud protocol were recorded as this enabled later analysis and ensured the interviewer is removed from its position (Bell, 2014).

Questions were asked in more than one way to see if the answers remain the same and the person was being honest. My role within the think-aloud protocol was instruction-based. While the teacher was thinking aloud there were no reactions or responds in sounds or facial expressions, as this could have influenced his answers, but reactions were prompt so that he vocalized his thoughts.
5. Results
This chapter will state the results of this research without conclusions and justifications. The results were obtained by the research instruments described in the previous chapter. The results are shown for each sub-question and the complete instruments can be found in the appendix.

5.1 Course book analysis (1)
*To what extent do the course book materials provide the first-year mavo learners with the necessary input for the process of repetition?*

<table>
<thead>
<tr>
<th>The word:</th>
<th>Amount of input in chapter 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>1</td>
</tr>
<tr>
<td>Photograph</td>
<td>3</td>
</tr>
<tr>
<td>Friendly</td>
<td>3</td>
</tr>
<tr>
<td>Headache</td>
<td>5</td>
</tr>
<tr>
<td>Morning</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 2. The results of repetition.

Upon analysis of a random selection of five words in a randomly selected chapter in the course book, it can be seen in the table above that the course book materials provide the learners with repetition. Some words are encountered once (brain) whereas others are encountered six times (morning). The words were encountered over different intervals, for example first in a listening assignment and later while reading a text.

5.2 Course book analysis (2)
*To what extent do the course book materials make use of retrieval of new words?*

<table>
<thead>
<tr>
<th>The word:</th>
<th>Amount of output in chapter 3</th>
<th>Authentic or Restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>1</td>
<td>Restricted</td>
</tr>
<tr>
<td>Photograph</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>Friendly</td>
<td>4</td>
<td>Restricted</td>
</tr>
<tr>
<td>Headache</td>
<td>3</td>
<td>Restricted</td>
</tr>
<tr>
<td>Morning</td>
<td>0</td>
<td>Restricted</td>
</tr>
</tbody>
</table>

Table 3. The results of retrieval.

The same five words which were randomly selected from a chapter for the first analysis, were used for the second course book analysis. The table above shows that the course book materials do not make the learners retrieve some words at all whereas others are retrieved three or four times. Two out of five words are not retrieved and one word is retrieved once. If retrieval is provided it is always restricted.
5.3 The Interview

To what extent do the learners make use of repetition and retrieval at home?

The data was obtained through 6 interviews with learners in their first-year. The participants are anonymous and only the grades were taken into account in the selection process. Within the results there is a distinction in grades: high (8 or higher), average (around 6/7) and low (4 or lower). Number 1 and 6 had a high grade, 2 and 5 an average grade and 3 and 4 a low grade.

<table>
<thead>
<tr>
<th>Learner</th>
<th>Approximate amount of repetition of each word</th>
<th>Word-translation or with the provided sentence</th>
<th>Materials used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>Word – translation</td>
<td>WRTS</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Word – translation</td>
<td>Pen and paper</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Word – translation</td>
<td>Pen and paper</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>With provided sentence</td>
<td>WRTS</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>Word – translation</td>
<td>WRTS</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>With provided sentence</td>
<td>Pen and paper</td>
</tr>
</tbody>
</table>

Table 4. The results based on repetition and retrieval

The table indicates that learners 1 and 6 repeat a word six to ten times. In addition, learners 3 and 4 repeat a word 4 times or less. Learner 3 answered the first question regarding the amount of repetition with ‘geen idee’\(^4\) and after repeating the question learner 3 stated ‘sommige één keer maar sommige ook twee of drie keer’\(^5\). Furthermore, learner 2 repeats a word around five times and learner 5 around eight times. Learner 5 indicated ‘moeilijke woordjes zes keer en makkelijke woordjes drie keer’\(^6\) and after repeating the question learner 5 claimed to study a word ‘tien keer’\(^7\).

Additionally, the table demonstrates that learners 1, 4 and 5 indicated using WRTS, an online website, in order to practice the words. Learner 2, 3 and 6 use pen and paper. None of the learners creates new sentences with the words as all of them answered with ‘nee’\(^8\). Two out of six learners learn the word with the provided sentence in the book, whereas the other four learn the word and translation.

Regarding retrieval the learners unitedly answered that they do not create new sentences or make use of retrieval activities.

\(^4\) No idea
\(^5\) Some of them once and others two or three times
\(^6\) Difficult words six times and easy words three times
\(^7\) Ten times
\(^8\) No
The think-aloud protocol

*To what extent does the teacher pay specific attention to repetition and retrieval in the lessons?*

The data was obtained through a think-aloud protocol with one English teacher. The teacher described a typical vocabulary lesson and by using an observation form the amount the key words were mentioned or described were counted on an observation form. The results are presented below in a pie chart.

![Pie chart showing key words mentioned in the think-aloud protocol](image)

**Table 5. Results of the think-aloud protocol with one English teacher.**

The diagram displays that the teacher mentioned repetition once and retrieval twice. Furthermore, receptive tasks were mentioned twice. An example of a receptive task was an exercise in which the learners had to listen and translate: ‘*schrijf het woord “dog” op en schrijf erachter wat je denkt dat het is*’\(^9\). The listening exercise was based on a word (for example ‘dog’) and the words were not provided with context.

Productive tasks were mentioned three times. The teacher claimed: ‘*ik zou ze een memory laten maken waarbij ze twee kaartjes hebben en dat ze dat dan bij elkaar moeten vinden*’\(^10\). Creating a pelmanism is also an assignment with the word and translation, without context. Furthermore, all exercises mentioned by the teacher were restricted and authentic exercises were not mentioned.

---

\(^9\) Write down the word ‘dog’ and write down what you think it is

\(^10\) I would instruct them to make a pelmanism in which they have two cards and they will have to match the cards.
6. Discussion and conclusion
This chapter will discuss and justify the results in this research. Conclusions will be drawn based on these results and the theory. Per sub-question a discussion has been written followed by a conclusion. Within each question the results are interpreted and attention is given to justifications of the results. In addition, the restrictions and generalisations of the results are taken into account. Moreover, suggestions for further research will be made. The chapter ends with an overall conclusion. Important to note is that the results are only applicable to one of the first-year classes at Hartenlust Mavo.

Sub-question 1
To what extent do the course book materials provide the first-year mavo learners with the necessary input for the process of repetition?

The amount of input differed for each word. Only one word was encountered six times: morning. Morning is a high frequency word (Nation, 1990), which was encountered on a regular basis for example in the phrase ‘good morning’. In the theory a seven times encounter over several intervals was established as necessary input for the process of repetition (Thornbury, 2002; Hedge, 2002). In the results the course book provides the learners with approximately three encounters for each word over various intervals. Although there were breaks between the encounters, three encounters is insufficient for optimal vocabulary storage. The course book did provide context around the words which also stimulates vocabulary storage (Kihlstrom, 2013). The course book materials do not follow a certain system for the repetition of words as one word is repeated six times and another word is not repeated once. In addition the course book materials do not stimulate the use of the articulatory loop as no lip movement or mentioning a word is requested (Baddeley, 1986).

In conclusion, the extent to which the course book materials provide the first-year mavo learners with the necessary input for the process of repetition is not enough according to the amount of repetition established by Hedge (2002) and Thornbury (2002). The course book materials provide the learners with approximately three encounters over several intervals.

These results generalise the input from the whole book. However, results could differ for each chapter. The results are strictly based on one chapter from the first-year learners. In further research more words could be analysed or several chapters could be examined.

Sub-question 2
To what extent do the course book materials make use of retrieval of new words?

The extent to which the course book materials make use of retrieval of new words differed for each word. Wessel (2003) states that there is little to no language acquisition without a considerable amount of input. In the theoretical framework seven times retrieval was established as necessary input. In the results only one word was encountered four times, one word three times, whereas others only once or not at all. Therefore the course book provides the learners with little to no use of retrieval. When the course book materials make the learners use retrieval it is
restricted only, as all exercises were adapted to the level of the learners (Scrivener, 2011).

In conclusion, the extent to which the course book materials make use of retrieval of new words is not enough according to the theory. The course book materials do not make the learners retrieve a word more than four times, if it is retrieved at all. All retrieval activities are adapted to the level of the learners and therefore restricted (Scrivener, 2011).

These results generalise the input from the whole book and therefore results could differ for each chapter. The results are strictly based on one chapter from the first-year learners. However, it is not very assumable that a word would occur (over) seven times within the practice of retrieval.

**Sub-question 3**

*To what extent do the learners make use of repetition and retrieval at home?*

The materials that were used do not influence the learners’ grades. One of the learners who learnt the words with the provided sentence received a high grade. However, the other learner who learnt the words with the provided sentence received a low grade. The learners did not put the words to practice by using it in other sentences than the one given, consequently there was no retrieval practice effect (Kihlstrom, 2013). The learners collectively stated that they do not create their own sentences with the given words or use any type of retrieval.

Both learners with a high grade repeated a word over six times. However, a learner who repeated a word eight times received an average grade. Therefore it is unclear whether the repetition at home increased the grade and therefore the storage into the long term memory. The learners with a low grade repeated the word less than four times, which could explain their low grade as this research established that a word has to be repeated seven times for optimum vocabulary storage (Thornbury, 2002; Hedge, 2002). A possible explanation for the discrepancies within the results could be that 80% of the input is gone within twenty-four hours of initial learning (Thornbury, 2002). Another explanation could be that the words were merely repeated and Kihlstrom (2013) indicates this is insufficient for vocabulary acquisition. A word has to be retrieved, as it is a process of using it or losing it (ibid.). In this case it could explain the lack of vocabulary storage of the learners.

In conclusion, the extent to which the learners make use of repetition at home contradicts for each learner and grade and it is unclear whether the words were encountered over different intervals. The distinction in materials and amount of repetition does not plainly result in a higher grade. However, the lack of repetition does result in a lower grade. Furthermore, none of the learners make use of retrieval at home, which could explain their lack of vocabulary storage.

The results are restricted in number of participants and the interview did not shed light on whether there were breaks between the encounters of the words, which is essential according to Thornbury (2002). Furthermore, while conducting the interviews the learners did not regard the questions about practicing or learning a word as the same thing. Apparently there was a distinction between the two as four
out of six answered this question differently. Therefore the question on how often they learnt a word was repeated twice.

**Sub-question 4**  
*To what extent does the teacher pay specific attention to repetition and retrieval in the lessons?*

The teacher mentioned repetition once whereas retrieval was mentioned twice. Most ideas were based on the course book materials, except for the productive tasks. The productive tasks were more creative and adjusted to the target group, which makes it restricted in- and output (Scrivener, 2011).

In conclusion, the extent to which the teacher pays attention to repetition in the lesson is not very much as mentioned once. The extent to which the teacher pays attention to retrieval in the lesson is more specific than the attention to repetition. In addition, two receptive tasks and three productive tasks were mentioned which demonstrates a variety in input. The input was restricted as the activities are adjusted to the level of the learners (Scrivener, 2011).

The teacher indicated that he would not add anything to this lesson and he described a lesson that he could actually teach, therefore there are no limitations within the methodology and there are no alternative explanations. Of course a lesson for another chapter could differ, but the distinction would not influence the results of this research.

**The main question**  
*To what extent are the first-year vmbo-t learners at Hartenlust Mavo exposed to repetition and retrieval for optimum vocabulary storage?*

As established in the problem statement the outcome of this research was to gain an insight into how vocabulary is learnt and taught to first-year learners at Hartenlust Mavo. All the answers to the sub-questions above have helped to answer the main question. The course book does provide the learners with repetition and makes them retrieve words. However, the extent to which this is done is not sufficient for optimum vocabulary storage. The learners repeat the words at home, but they do not retrieve words. The amount of repetition differs for each learner and when a word was repeated less than four times this resulted in a low grade. The teacher pays little attention to repetition and pays more attention to retrieval. The lack of retrieval in the course book and at home could explain why the learners forget the words when they return in the next chapters.

When the amount of repetition in the course book, at home and in the lesson are combined it generally meets the necessary seven encounters (Thornbury, 2002; Hedge, 2002). The only exception are the learners who repeat a word less than four times at home, which could explain their low grade. If one of the three moments of exposure (the lesson, the course book or at home) is absent, the amount of exposure is insufficient. The course book materials provide encounters over different intervals, which is an important feature in repetition (Kihlstrom, 2011). Whether the teacher and...
learners encounter the word over different intervals is unclear and would be interesting for follow up research.

Regarding retrieval there is insufficient exposure. Learners do not retrieve words at home, and at school they do not retrieve a word more than six times. In general a word is retrieved twice for each chapter. The more a word is retrieved the better and this is not the case at home or in the course book materials (Kihlstrom, 2011). Although the teacher mentioned two retrieval activities, these activities are unlikely to cover every word in the wordlist. The teacher also indicated to make use of the course book materials and added to this with his own exercises, which results in a little additional exposure. The exercises created were restricted and not based on producing authentic output.

In conclusion, the extent to which the first-year vmbo-t learners at Hartenlust Mavo are exposed to repetition is generally enough when all three moments of exposure are carried out and when the words are repeated over four times at home. The extent to which the first-year vmbo-t learners at Hartenlust Mavo are exposed to retrieval is insufficient even with all three moments of exposure together.

As this research is identified in the intervention cycle as problem analytical research, the following step would be to use the results of this research for diagnostic research and eventually complete the intervention cycle (Enthoven & Oostdam, 2014). Within diagnostic research the English department could ensure more repetition at home. Furthermore, more retrieval could be implemented in the lesson and at home in order to diagnose whether this enables the learners to recognise words in the upcoming chapters. Additionally, the results of the learners could be more central in follow up research or the research could be done on a larger scale in all four years of Hartenlust Mavo. If this research were to be carried out in all four years this could shed light on whether every year has the same problem or not. If the problem concerns the amount of repetition and retrieval more classes could benefit from it in an earlier stage. At this moment only one group of first year learners would benefit from further research. In order to make this research more valid, the research should be carried out over a larger group.

*Altogether vocabulary acquisition is an extremely difficult process in need of a great deal of exposure and reproduction. Although this research was carried out with one class and one chapter of the course book materials, the research did demonstrate a clear lack in retrieval. Moreover, the amount of repetition varies depending on what each learner does at home in order to study for a test.*
7. Recommendations

In this chapter implications and recommendations will be made for my own practice, my colleagues and the English department. These recommendations are based on the results as well as the conclusions of this research.

This research established that the first-year learners at Hartenlust Mavo are insufficiently exposed to retrieval in order for optimum vocabulary storage to take place. This research also established that exposure regarding repetition differed for each learner and if the learner repeated a word less than four times, the exposure to repetition is also insufficient. If the English department wants a more specific result they could investigate how each teacher approaches retrieval in the lessons and think about implementing more retrieval into the curriculum. Furthermore, the English department can think about the approaches mentioned in the theoretical framework to introduce or fine-tune the approaches to vocabulary acquisition.

The first action to achieve this would be to see if the results of one teacher apply to all three of the English teachers. It should also be established whether all the exercises and tasks in the course book materials are used. The second step would be to encourage learners to repeat words with context and to show them how words can be retrieved easily at home. When the input from each teacher is clear, agreements can be made in order to improve the existing curriculum with regards to vocabulary.

In order to improve the results and conclusions from this research it would be wise to continue this research according to the intervention cycle (Enthoven & Oostdam, 2014). For further research, all four years should be taken into account. If changes to the curriculum are made, it would be recommended to measure the differences in results to see if the grades of the learners have improved or not. The same interview questions can be used to measure the progress and the same course book analyses could be used in the other years to measure the input from the existing materials.

Finally, the other language departments at Hartenlust Mavo could raise awareness of how vocabulary is learnt in general by reading this research. The other language departments could see whether they recognise the problem described in the problem statement; if so, they could investigate the current situation with regards to vocabulary acquisition and make any necessary improvements based on the theory and findings of this research under hand.
8. Reflection

This chapter is the last one of this research and will discuss what this research brought me within the context of my own professional development. This chapter will describe what I have learnt within the framework of pedagogical, (subject specific) didactics and how this research helped me to develop research strategies.

Personally I believe I made more progress in my teaching development than in my pedagogical development, as this research was more subject-specific. This research has helped me to gain an insight into how vocabulary acquisition takes place and which features help the learners through this process. As I am aware of the details which are important by repeating a word such as the different encounters, I am able to adjust my teaching style to these new finding. I will pay more specific attention to repetition and retrieval. Moreover, I am aware that 80% of initial learning is gone within 24 hours (Thornbury, 2002). By taking this into account I am able to help my learners get this information back in the following lessons. When it comes to retrieval I am aware that not a lot of reproduction is stimulated by the course book at our school and I am aware that the learners do not retrieve words themselves at home. Therefore, I am aware that this is my task as a teacher if I want optimum vocabulary storage to take place. Altogether I am more aware of what I can do to help the learners in the process of vocabulary storage. In the future I would also like to learn more about the other ways of vocabulary acquisition as this research only covered the main two. Each learner is different and therefore I will be able to meet each learners needs and serve them accordingly.

This research has helped my professional development, as I had never carried out such elaborate research before. I have gained more knowledge on the type of research existing and the various ways to go about research. Before commencing this research, I had never heard of a think-aloud protocol before and I used to carry out interviews without being aware of the interlocutor effect I am much more aware of the effect the interviewer can have on the interviewee (Bell, 2014). At this moment I have more resources to carry out research and I am not limited to one or two instruments anymore. By carrying out this research I learnt to look more critically at results and make a distinction between mere facts and my interpretations of these facts.

In my opinion, it is highly important that if there is a problem, the problem is not merely acknowledged. Therefore, the problem should be examined to see if there is a real problem. By studying literature regarding the problem I believe the cause could be determined and solutions can come to light. In my opinion further research would be interesting because I would like to get as much out of my learners as possible. If solutions would be applied it could be determined whether the solution is suitable for this group or not. Therefore, this research helped me to get my own vision on how to deal with problems and the research of problems.
Bibliography


Appendixes

Appendix 1 – Course book analysis (1)
The course book analysis was carried out by two different persons in order to ensure inter relator reliability. Both results can be found below.

The five words that will be analysed for repetition:

1. Brain
2. Photograph
3. Friendly
4. Headache
5. Morning

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>1</td>
<td>Text (A)</td>
</tr>
</tbody>
</table>

Total: 1
2. *photograph*

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>photograph</td>
<td>1</td>
<td>text (c)</td>
</tr>
<tr>
<td>photos</td>
<td>2</td>
<td>text (c)</td>
</tr>
</tbody>
</table>

Total: 3

3. *friendly*

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>friendly</td>
<td>1</td>
<td>stones 6</td>
</tr>
<tr>
<td>friendly</td>
<td>2</td>
<td>clip (T)</td>
</tr>
</tbody>
</table>

Total: 3
4. **headache**

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>headache</td>
<td>4</td>
<td>Listening (6)</td>
</tr>
<tr>
<td>headache</td>
<td>1</td>
<td>Stone 8</td>
</tr>
</tbody>
</table>

Total: 5

5. **morning**

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>mornings</td>
<td>1</td>
<td>Clip (watching)</td>
</tr>
<tr>
<td>morning</td>
<td>2</td>
<td>Clip (watching)</td>
</tr>
<tr>
<td>morning</td>
<td>2</td>
<td>Listening (6)</td>
</tr>
<tr>
<td>morning</td>
<td>1</td>
<td>Text (H)</td>
</tr>
</tbody>
</table>

Total: 6
The five words that will be analysed for repetition:

1. Brain
2. Photograph
3. friends
4. headache
5. morning

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>1</td>
<td>Teacher</td>
</tr>
</tbody>
</table>

Total: 1
### 2. Photograph

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photograph</td>
<td>1</td>
<td>Tekst</td>
</tr>
<tr>
<td>Photos</td>
<td>2</td>
<td>Tekst</td>
</tr>
</tbody>
</table>

Total: 3

### 3. Friendly

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>1</td>
<td>Stone</td>
</tr>
<tr>
<td>Friendly</td>
<td>2</td>
<td>Clip</td>
</tr>
</tbody>
</table>

Total: 3
4. **Headache**

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>4</td>
<td>Listerine</td>
</tr>
<tr>
<td>Headache</td>
<td>1</td>
<td>Stone</td>
</tr>
</tbody>
</table>

Total: 5

5. **Morning**

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mornings</td>
<td>1</td>
<td>Clip</td>
</tr>
<tr>
<td>Morning</td>
<td>2</td>
<td>Clip</td>
</tr>
<tr>
<td>Morning</td>
<td>2</td>
<td>Listerine</td>
</tr>
<tr>
<td>Morning</td>
<td>1</td>
<td>Total</td>
</tr>
</tbody>
</table>

Total: 6
Appendix 2 – Course book analysis (2)
The course book analysis was carried out by two different persons in order to ensure inter relator reliability. Both results can be found below.

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>15</td>
<td>1</td>
<td>Translation how our [chosen] work.</td>
<td>Restricted</td>
</tr>
</tbody>
</table>

Amount of reproduction: 1
### 2. Photograph

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Amount of reproduction: 0

### 3. Friendly

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td>friendly</td>
<td>8</td>
<td>1</td>
<td>Fill in the gap: Are you friends ——?</td>
<td>Restricted</td>
</tr>
<tr>
<td>friendly</td>
<td>9</td>
<td>2</td>
<td>match the question with the answer: Is mr brown friendly? Yes he is!</td>
<td>Restricted</td>
</tr>
<tr>
<td>friendly</td>
<td>11</td>
<td>1</td>
<td>Speaking ⇒ tell what your friends are like using the stones.</td>
<td>Restricted because of the scene</td>
</tr>
</tbody>
</table>

Amount of reproduction: 4
### 4. Headache

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td>a headache</td>
<td>22</td>
<td>1</td>
<td>Use the stone. Make sentence with the following words</td>
<td>Restricted</td>
</tr>
<tr>
<td>headache</td>
<td>24</td>
<td>1</td>
<td>Finish the sentence using (k-headache)</td>
<td>Restricted</td>
</tr>
<tr>
<td>headache</td>
<td>25</td>
<td>1</td>
<td>Write an email saying each of your family members has somebody been kind?</td>
<td>Restricted</td>
</tr>
</tbody>
</table>

Amount of reproduction: 3

### 5. Morning

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
</table>

Amount of reproduction: ☐
Appendix 2 – Course book analysis (2)
Source: Stepping Stones KGT 5\textsuperscript{th} edition
Writers:
Chapter:
The five words that will be analysed for repetition:
1.
2.
3.
4.
5.

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>15</td>
<td>1</td>
<td><em>Ventaly how ow...Cheseeedwork</em></td>
<td>R</td>
</tr>
</tbody>
</table>

*Amount of reproduction: 1*
### 2. Photography

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Amount of reproduction: 0

### 3. Friendly

<table>
<thead>
<tr>
<th>The word</th>
<th>Exercise</th>
<th>Amount of productive practice</th>
<th>Type of productive exercise (with example)</th>
<th>Authentic/ restricted output</th>
</tr>
</thead>
<tbody>
<tr>
<td>friendly</td>
<td>8</td>
<td>1</td>
<td>are your friends...?</td>
<td>R</td>
</tr>
<tr>
<td>friendly</td>
<td>9</td>
<td>2</td>
<td>is mr brown friendly?</td>
<td>R</td>
</tr>
<tr>
<td>friendly</td>
<td>11</td>
<td>1</td>
<td>describe your friends</td>
<td>R</td>
</tr>
</tbody>
</table>

Amount of reproduction: 4
<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>4</td>
<td>Luisteren</td>
</tr>
<tr>
<td>Headache</td>
<td>1</td>
<td>Stone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 5

---

<table>
<thead>
<tr>
<th>The word</th>
<th>Encountered</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mornings</td>
<td>1</td>
<td>Clip</td>
</tr>
<tr>
<td>Morning</td>
<td>2</td>
<td>Clip</td>
</tr>
<tr>
<td>Morning</td>
<td>2</td>
<td>Luisteren</td>
</tr>
<tr>
<td>Morning</td>
<td>1</td>
<td>Tekt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 6
Appendix 3 – Interview questions (learners)
Below you will find the interview questions with the answers for each learner.

Wat was je cijfer voor de laatste woordjes toets?
1. 10
2. 7
3. 4
4. 4
5. 6
6. 7,5

Hoe leer je thuis de woordjes?
1. Op wits. Ik voer ze in en dan oefen ik steeds.
2. Heel vaak doornemen en overschrijven
3. Met het rode plastic kaartje en het boek. Ik lees het eerst door om te kijken welke ik nog niet weet
4. Meestal door WRTS. Degene die ik niet weet zet ik in een aparte lijst
5. Ik gebruik WRTS. Ik zet de woorden daarin en dan gebruik ik meerkeuze en daarna doe ik het steeds moeilijker.
6. Door ze door te nemen en soms door ze op te schrijven

Hoe vaak oefen je een woord?
1. 4/5x
2. 2/3x
3. geen idee
4. 4x
5. Moeilijke woordjes: 6x Makkelijke woordjes: 3x
6. 10x
Wat is je eerste stap? en wat doe je daarna?

1. Als eerst schrijf ik het woord, dan typ ik het in en daarna overhoort het programma mij.
2. Doorezen daarna overschrijven en met het rode plastic kaartje erop leggen.
3. Ik pak mijn boeken en kijk wat ik al ken. Daarna herhaal ik de woorden die ik nog niet ken en oefen ik met het rode kaartje.
4. Woordjes invoeren, daarna ga ik ze oefenen.
5. De woordjes invoeren en daarna kies ik de meerkeuze en daarna begin ik dat ik ze echt moet tikken.
6. Ik wacht een dag voor rust. De volgende dag kijk ik hoeveel woorden het zijn en ik deel dit op in 3e. Dan leer ik elke dag een deel en elke dag en herhaal ik de woordjes erbij.

Wat gebruik je thuis om de woordjes te oefenen? alle materialen opschrijven

1. Notitieboek, pen en WRTS
2. Het rode plastic kaartje. Mijn vader helpt mij vaak en dingen om over te schrijven
3. Het boek en het rode plastic kaartje
4. WRTS, pen en papier. Geen boek
5. WRTS, Boek en overschrijven voor de zekerheid
6. Het boek, pen en papier

Hoe oefen je?

1. Door steeds te herhalen
2. Overhoren
3. Als ik het woordje niet weet kijk ik naar de zin om te kijken of ik het dan wel weet en anders herhaal ik het.
4. Door me te laten overhoren door WRTS
5. Door WRTS en herhalen. Ik controleer de woordjes ook in de woordenlijst.
6. Door het door te nemen en soms door het op te schrijven
Hoe vaak leer je een woord?

1. 6/7x
2. 5x
3. sommige 1 keer maar sommige 2 of 3 keer
4. 4x
5. Ik herhaal een woord denk ik wel 10x
6. 10x

Leer je een woord in een tekst? of alleen het woord en de vertaling?

- In een tekst: 0.0%
- Woord en vertaling: 66.7%
- Beide: 33.3%

Maak je zelf nieuwe zinnen met een woord?

- Ja: 0.0%
- Nee: 100.0%
- Beide: 0.0%
Leer je een woord in een zin? of zonder andere woorden eromheen?

<table>
<thead>
<tr>
<th>Optie</th>
<th>Aantal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>In een zin</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Zonder andere woorden eromheen</td>
<td>6</td>
<td>66.7%</td>
</tr>
<tr>
<td>Beide</td>
<td>2</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

Totaal: 6
Appendix 4.1 – Think-aloud protocol (instruction)
Adapted and adjusted from Links (2011) instructions.

Deelnemer: Docent Engels op de Hartenlust Mavo
Materialen: Hoofdstuk 3 van Stepping Stones 1 vmbo KGT 5ed..

Instructie:
Allereest, bedankt voor het meedoen aan het hardop-denk protocol. Je krijgt zo een hoofdstuk uit het tekstboek te zien. Ik wil je vragen om een woordenschat les te plannen met deze materialen. Terwijl je de les plant wil ik je vragen op alles wat je denkt stap voor stap hardop uit te spreken, ook als dit niks met de les te maken heeft. Noem de materialen op die je zou gebruiken, de soort opdrachten, alles wat je nodig hebt en zou doen bij een standaard woordenschat les.

Voor we beginnen wil ik je een voorbeeld van een hardop-denk protocol laten zien zodat je weet wat er verwacht wordt. Als je daarna nog vragen hebt, stel ze dan gerust.

Hier is een voorbeeld video van iemand die een hardop-denk protocol uitvoert op een iets andere manier.

- Uitvoering van het hardop- denk protocol

Als de docent het gevoel heeft dat hij alles gedaan heeft wat hij wilde om zijn woordenschat les te plannen, zullen we samen het proces evalueren. Hieronder vindt u de vragen die ik zal stellen.

1. Hoe vond je het zelf gaan?
2. Heb je ook alles gezegd wat je wilde zeggen?
3. Vond je het moeilijk of makkelijk om je gedachte zo te delen?
4. Denk je dat wat je net omschreven hebt een typische manier is waarop je een les zou voorbereiden die gericht is op woordenschat?
5. Wat is je mening wat betreft het herhalen van woorden?
6. Retrieval is het proces waarbij woorden gebruikt worden op een (re)productieve manier. Denk hierbij aan opdrachten zoals het bedenken van een zin bij een woord. Ben je hier een voorstander van?
7. Is er nog iets anders dat je met me wilt delen voordat we dit hardop-denkprotocol afronden?

Heel erg bedankt voor je deelname. Als het onderzoek afgerond is, zal er een kopie naar je verzonden worden.

The conversation will be recorded, the recording will not be shared with other parties.

---

### Appendix 4.2 – Think-aloud protocol (observation)
*Adapted and adjusted from Links (2011) instructions.*

<table>
<thead>
<tr>
<th>Concept</th>
<th>Is het genoemd? Hoe vaak?</th>
<th>Voorbeeld:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetition</td>
<td>1x</td>
<td>De woorden herhalen die moeilijk kunnen zijn</td>
</tr>
<tr>
<td>Retrieval</td>
<td>1x</td>
<td>Ze schrijven het woord op en als ik het zeg strepen ze hem weg op de bingo kaart</td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td>Een memory waarbij ze de woorden met elkaar moeten matchen</td>
</tr>
<tr>
<td>Receptive tasks</td>
<td>1x</td>
<td>Luisteren naar de moeilijke woorden</td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td>Een luisteropdracht waarin de woorden terugkomen</td>
</tr>
<tr>
<td>Productive tasks</td>
<td>1x</td>
<td>De woorden laten vertalen</td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td>De opdrachten uit het boek laten maken</td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td>De leerlingen maken zelf een woordenbingo of memory.</td>
</tr>
<tr>
<td>Restricted materials</td>
<td>1x</td>
<td><em>De woordenlijst</em></td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td><em>De opdrachten uit het boek</em></td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td><em>Luisteropdracht</em></td>
</tr>
<tr>
<td></td>
<td>1x</td>
<td><em>Wat het boek aanlevert</em></td>
</tr>
<tr>
<td>Authentic materials</td>
<td>0x</td>
<td></td>
</tr>
</tbody>
</table>
1. Hoe vond je het zelf gaan?
Ik vond het wel lastig om zo één, twee drie een les te bedenken over woorden. Dat ik denk van ja daar sta ik niet zo snel bij stil maar voorderest, ja het zou wel een les zijn die ik echt kan geven.

2. Heb je ook alles gezegd wat je wilde zeggen?
Uhm, ja ik denk het wel. Het hangt heel erg van de materialen af eigenlijk wat ik precies zou doen. Kijken wat het boek inderdaad aanlevert. Meestal hoort er een luisteropdracht bij de woorden uit het boek, dus dan zou ik die eerst gebruiken als introductie.

3. Vond je het moeilijk of makkelijk om je gedachtes zo te delen?
Nou ja wel even lastig omdat je toch voelt dat je een soort van beoordeeld wordt op wat je zegt eigenlijk. Maar ja, verder heb ik gewoon stapsgewijs gezegd wat ik zou zeggen.

4. Denk je dat wat je net omschreven hebt een typische manier is waarop je een les zou voorbereiden die gericht is op woordenschat?
Uhm wat ik zeg, normaal heb ik de boeken voor me dus dan zou ik even kijken maar het zou er wel zo uit kunnen zien ja.

5. Wat is je mening wat betreft het herhalen van woorden?
Ik denk dat het wel goed is om woorden te herhalen maar meer als ze het woord niet kennen. Ik denk dat als ze het woord al weten dit niet echt nodig is.

6. Retrieval is het proces waarbij woorden gebruikt worden op een (re)productieve manier. Denk hierbij aan opdrachten zoals het bedenken van een zin bij een woord. Ben je hier een voorstander van?
Ja maar dit doet het werkboek voor mij en deze opdrachten laat ik de leerlingen maken. Ik maak ze niet zelf. Ik maak wel opdrachten bij de grammatica maar niet bij woorden, dat doet het boek al.

7. Is er nog iets anders dat je met me wilt delen voordat we dit hardopdenkprotocol afronden?
Nee eigenlijk niet.