# The acquisition of English spelling by Dutch primary school students: an exploratory study on users of Words&Birds

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**0. Abstract**

The main purpose of this exploratory study is to develop an understanding of the current position of English spelling instruction in Dutch primary education from grade five to grade eight. Spelling instruction is often limited and implicit. However, there is little known about the actual spelling instruction inside the classroom of Dutch vvtoE schools that offer English from the first grade onwards and use Words&Birds (W&B), an online English vocabulary trainer. By means of a literature overview and interviews with students from four schools, the research question (*How do Dutch primary school students that use Words&Birds acquire English orthography through in-class instruction and through Words&Birds?*) is answered. It appeared that spelling instruction is indeed very limited and restricted to activity books. Explicit instruction on the rules of the English orthography is absent. W&B is often used as an addition to in-class instruction. Although a wide variety of words are offered, explicit spelling instruction is not. Suggestions for further research and improvements for W&B are given.

*Keywords:* orthography, spelling instruction,  Dutch primary education, Words&Birds

**1. Introduction**

English is a global language that is often used as lingua franca in communication, education, politics, and in trade and industry. Consequently, English has gained a prominent place in second language education in many different countries. In the Netherlands, English has a leading position in comparison to other foreign languages in primary, secondary, and higher education. In contrast to French, German, Spanish, and sometimes Chinese, English is mandatory in both primary and secondary education. The final attainment goals for all different levels of secondary education are nationally determined as part of the final exams. However, such set final attainment goals are not established for primary education. After becoming an obligatory subject in 1986, English had to receive a place in primary education and schools had the freedom to design their own curriculum. Because there was no national exam at the end of primary school to measure and compare proficiency, the time spent on English, the quality of the teachers, and the materials that were used, varied to a great extent between schools. English often received low priority in comparison to core subjects that are tested in final exams and the training of teachers in English had low priority in their study programmes as well (Groot & Deelder, 2014).

In recent years, there has been an increasing interest in expanding English as a primary school subject. Approximately 1200 primary schools start with English in group one, the number of *tto* (*tweetalig onderwijs* 'bilingual education') schools is slowly growing, there is more attention for teacher training in English (Oefenweb[a], 2017), and the PlatformOnderwijs2032 (2016) proposed to make English a core-subject for primary education. Only recently, the parliament decided that English should indeed become an obligatory core subject with set attainment goals and a national exam at the end of primary school. The implementation of this change will take several years but it is clear that there is need for improvement of English as a primary school subject. In the following, it will be explained how this study attempts to contribute to the discussion on this improvement.

As stated earlier, the final attainment goals for English in primary education are still rather broad and imprecise and the differences between schools are substantial. There is no final exam but there are four core objectives that are nationally set for English in primary education (Greven & Letschert, 2006):

1. Students learn to acquire information from simple spoken and written texts.
2. Students learn to ask for or give information in English on simple subjects and develop an attitude where they dare to express themselves in English.
3. Students learn how to spell some simple words on present day topics.

4. Students learn how to look up the meaning and spelling of English words in a dictionary.

These core objectives are very general but focus on communication, meaningful reading and listening, spelling, and the skill to use a dictionary. There are schools that focus primarily on achieving these goals and there are schools that will aim to achieve more.

This study will focus on the third objective: *Students learn how to spell some simple words on present day topics.* As verbal communicative skills and reading skills are usually the main objectives in English primary education in the Netherlands (Thijs et al., 2011), spelling seems to receive less priority. Spelling instruction appears to be concentrating on frequently used words or specific words that belong to a certain theme rather than words grouped by spelling rules. It is often assumed that children will learn to spell in a second language (L2) through reading alone. Additionally, objective four stimulates the use of dictionaries in order to look up the correct spelling of unknown words. This eliminates the use for specific spelling instruction. Although Van Berkel (2000) showed that attention for technical reading and explicit instruction on grapheme-phoneme connections is lacking in secondary education, no research has been found that surveyed spelling instruction in primary education. Considering the recent developments in English as a primary school subject, it will be important to evaluate the current position of spelling instruction in order to discover areas for improvement.

Furthermore, recent technological developments have provided the opportunity for teachers to use educational games in addition to in-class instruction. One of those educational games that is used in primary education for English vocabulary and grammar training is Words&Birds (W&B). W&B is developed by EarlyBird and Oefenweb. There are several games in W&B that are said to aid English spelling retention namely *Flashy, Ducktator, Chooser,* and *Puzzl* (Oefenweb[b], 2017). More detailed information on these games can be found in an elaborate description of W&B (Ch. 3). No previous study has investigated the use of educational games for spelling retention in primary education. Consequently, it will be interesting to explore how W&B is implemented in primary English education, whether the games indeed aid spelling retention, and how the users of W&B use those games.

The main purpose of this study is to develop an understanding of the current position of spelling instruction in-class and through W&B. Considering the lack of explicit technical reading instruction in English in secondary schools (Van Berkel, 2000), it will be interesting to see if this trend can be seen in primary schools in the Netherlands as well. The research question central to this study will be: *How do Dutch primary school students that use*

*Words&Birds acquire English orthography through in-class instruction and through Words&Birds?*

This study is organised in the following way. Firstly, a description of the differences between schools in the organisation of English as a primary school subject will be given. This is essential as this study will only be looking at schools organised by a particular method. Secondly, Words&Birds will be described including the different games that aid spelling retention (Ch. 3). Following, the theoretical background (Ch. 4) will give a literature overview about theories on the acquisition of orthography of the first and second language, the differences between English and Dutch orthography, the possibilities for L1 transfer, and strategies that can be used to acquire spelling. Lastly, theories of educational games will be given. With this information sub-questions are formed. In order to gain more knowledge on in-class spelling instruction and on the practical use of W&B for spelling retention, interviews were held to explore students' opinions and experiences. These interviews were held with primary school students from grades 5 to 8[1] as W&B is usually used from grade 5 onwards and written English instruction starts in grade 5 as well (van Berkel, 2012). Chapter 6 will show the results from the interviews and answer the sub-questions and research question. The conclusion (Ch. 8) will show the academic relevance of the outcomes from this study and make suggestions for further research. Additionally, suggestions will be made for the improvement of Words&Birds for orthography retention.

## 2. English in Dutch Primary Education

Before all the theories on spelling retention can be mentioned, it is important to further explain the differences between English education on primary schools in the Netherlands.

In the Netherlands, there are still many different views on the place that English should have in primary education. Proponents of early foreign language learning argue that English teaching (as part of a continuous curriculum across all years) can form conditions that can result in beneficial effects on the students' command of English. Young children are said to learn languages more easily and attain higher levels of proficiency from which they can benefit in their careers and as world citizens. Opponents argue that the implementation of substantial English learning time in primary education could harm the proficiency of the

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[1] Grade 5 in the Netherlands is the equivalent of grade 3 in the UK. In the Netherlands, primary school starts with grade 1, which can be seen as kindergarten or pre-school in the UK, and ends with grade 8 (grade 6 in the UK). All future references to school grades will be based on the Dutch system.

children in Dutch as their first language[2] (L1) and takes away teaching time from subjects that are tested in the final exams. Additionally, opponents argue that the conditions under which young learners are known to have an advantage over older learners (in naturalistic early L2 settings: large quantities of rich input, immersion, and native speaker input) are highly unlikely to be found in formal learning settings. These views result in differences between schools, the year they will start to offer English, and the intensity by which they implement English as a subject. There are three main methods that schools use in order to form their English curriculum:

- EIBO is the basic implementation of English in primary education (*Engels In het Basis Onderwijs* 'English in primary education'). Schools that have implemented English according to EIBO standards, aim to spent 30-60 minutes on English each week starting in the two senior grades of primary education, the seventh and eighth grade. The majority of primary schools in the Netherlands uses this approach.

- Early EIBO is very similar as it aims at 30-60 minutes per week as well. However, Early EIBO starts in the fifth or sixth grade. Children will thus receive up to two years of extra English education.

- VvtoE (*Vroeg Vreemde Talen Onderwijs Engels* 'Early foreign language education in English') is used by approximately 1150 primary schools (Nuffic[a], 2017). This approach offers English from the first grade onwards. The exact time spent on English does vary between grades and schools (15 minutes in the junior grades and 45 minutes or more in the middle and senior grades). Up to grade four the instruction is primarily oral. From the fifth grade onwards written instruction will be given as well.

Apart from these three main approaches, there is an ongoing pilot with 19 TPO (*Tweetalig Primair Onderwijs* 'Bilingual primary education') schools that offer 30-50% of education time in English (Van den Broek, de Graaff, Unsworth, & van der Zee, 2014). This pilot shows the growing popularity of English in primary education.

Although the different views named above do determine the starting points of English education and the approximate time spent on English, they still leave a great amount of freedom for the schools to develop their own curriculum. Additionally, the fact that vvtoE schools start earlier with English, does not necessarily mean that the quality of the subject is better in comparison to EIBO schools. The quality of the teachers or of the materials used can still differ. EarlyBird, an initiative from BOOR (*Bestuur Openbaar Onderwijs Rotterdam*), is

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[2] Or Dutch as a second language considering the different language backgrounds present in the Netherlands.

a centre of expertise for English as early foreign language education (vvtoE) that aims to guard this quality. Enabling playful learning and safeguarding the quality of vvtoE underlie the research and development of materials by EarlyBird. In addition, EarlyBird helps schools with the transition from EIBO to vvtoE with teacher training sessions in English and two moments of assessment. The last assessment focusses on the quality of English education, the time spent on English, the quality of the teachers, whether there is a continuous programme across the grades, and the organisation of international activities (EarlyBird, 2017).

The focus of this study is on vvtoE schools that have completed the EarlyBird assessment. In addition, these school use Words&Birds as well. Words&Birds will be described in more detail below.


## 3. Words&Birds

Firstly, it is important to establish how Words&Birds (W&B) was developed. W&B was created by the collaboration between EarlyBird, Oefenweb, and the University of Amsterdam (UvA). EarlyBird has developed the content, consisting of over 20,000 items, in Words&Birds. The gaming environment is managed by and in ownership of Oefenweb. The technology that is used for W&B is invented by a group of researchers from the UvA under direction of prof. dr. Han van der Maas. This team first built RekenTuin as a math practice environment. Secondly, TaalZee was manufactured to enable Dutch children to practice grammar, vocabulary, and spelling in Dutch. EarlyBird was looking for a digital practice environment that could increase the students' exposure to English without asking more time from the teachers and collaborated with Oefenweb by using the overall format of TaalZee to create Words&Birds.

Words&Birds is a practice environment where children can playfully learn English language skills. The environment can be used as an additional product independent of any teaching method. W&B is designed for children from the fifth grade of primary education to the first and second grade in secondary education. It is mostly used in primary education as the game is often



Image 1: Words&Birds environment

considered too easy or too childish for secondary school children.

The main characteristics of W&B are built around the following key points: playful learning, method independent, adaptiveness, online practice, and usefulness as a student following system and test instrument. The fact that W&B enables online practice is evident. The other key points, including a description of the content and the visual appearance, will be illustrated in the following.

Playful learning, as an important characteristic to the methodology of EarlyBird and Oefenweb, has had a significant impact on the design of the game. W&B consists of eight games that focus on expanding the student's language skills in English. As can be seen in Image 1, the environment is visualised as a park with birds that are tied to a pole. When a game is played, the child progresses and the bird can fly in the sky. Because there is a cat on the ground that can catch the birds, the child is motivated to keep playing in order to rescue the birds from the cat. In addition, this motivation is triggered by rewards. The participants have, for most items, 20 seconds to answer. The number of seconds that remain  when answered correctly translate into coins that the participant can spend to decorate their birds' nest with jewellery or other objects. When the participant answers an item incorrectly, the participant will not receive any coins. Therefore, the child is motivated to answer the items fast but correctly.

In the design of the game it was important that the visual appearance was not distracting from the content in any way. Image 2 shows the game Chooser. The white meter on the right slowly diminishes as the white blocks disappear. The only moving object during an item is the white bar. The imagery is designed not to be distracting. The background, although containing an image of the bird, is created with soft colours and does not changes.



Image 2: screenshot of Chooser.

All games have their own individual background but they are all visualised with the same range of soft colours. These aesthetics were intentionally chosen to aid the learning process. The imagery is very clear in its instructions. There are some basic buttons that are self-explanatory. The only other interactive button in the game environment is the question mark. If the child does not know the answer, the question mark can be clicked and it will show the correct answer to the participant. Children should be able to play in the W&B environment on their own. This

means that, when used in a classroom setting, W&B can be used in many lesson designs and, for example, can enable the teacher to focus on students that may need help with a task while letting others practice with W&B independently.

The content of Words&Birds consists of approximately 20.000 exercises and is constantly expanding and adapted. The content is made by linguists from EarlyBird and is based on word lists and the Common European Framework of Reference for languages (CEFR) levels A1-B1 (Oefenweb[a], 2017). Examples of target lists of words are:

- The list of frequently used words for group 1 and 2 in bilingual primary education (TPO schools) developed by Nuffic[b] (2017).

- A translated version of the BAK (*Basiswoordenlijst Amsterdamse kleuters* 'Basic Word List of Toddlers in Amsterdam) which is a Dutch word-list developed to reduce the differences between children's vocabulary when they enter primary school (Mulder, Timman, & Verhallen, 2009).

- The 1001-wordlist that contains the first 1000 Dutch words that children with a different language background learn (Bacchini, Boland, Hulsbeek, Pot, & Smits, 2005).

With these types of lists and the expertise of EarlyBird on vvtoE, eight different games were developed that are described below (Oefenweb[b], 2017).

*Flashy (flash)*: This game tests the spelling ability of its participants by showing a word for a brief moment. After it has disappeared, the student needs to type the word in correctly. Children will need to focus on the individual letters and the shape of the word. In this game there is no connection to the semantic value of the word.

*Ducktator (dictation)*: This is an dictation game that can be compared to a dictation test that is often used in the Netherlands to test students' spelling ability. A sentence is spoken out loud and the word that needs to be typed in by the student is repeated to make clear which word should be spelled out. Ducktator therefore not only focusses on spelling but also on listening. In addition, the carrier phrase connects the word to semantic value as well.

*Chooser (spelling)*: This game (can be seen in Image 2) focusses on the spelling of words. Six boxes are shown with a variation of the same word in every box. Only one of the boxes contains the correctly spelled version of the

word. The other five boxes contain five miss-spelled words. The student needs to choose which word is spelled correctly. When answered wrongly, the correct answer lights up in green. There is no translation given and no connection to the semantic value of the word. The game focusses primarily on spelling.

*Verby (verbs)*: All different verb forms are tested. A sentence is shown but the verb is missing. The student needs to select the correct verb from three options. The student needs to select the verb according to the subject-verb agreement rules and tenses. When an answer is incorrect, the right answer turns green. There is no feedback explaining the correct answer.

*Shaper (word forms)*: Is a game that tests knowledge of plurals, pronouns, and degrees of comparison. The student needs to type in the logical addition to the sentence or enumeration. This game will also test the knowledge of spelling as the word needs to be spelled correctly.

*WordoAudio (vocabulary)*: The player sees and hears a word in English and needs to choose the correct translation in Dutch from different options. It tests the vocabulary of the participant.

*Puzzl (letter chaos)*: A theme is presented in words accompanied by an image. Underneath, the letters of the word that belongs to the theme are randomised. The student needs to pick and drag the letters to the right place to form the correct word. Although the exact meaning of the word is not presented, the participant will be able to connect the word to the theme. When answered wrongly, the right order of letters is presented.

*Twinny (common sentences)*: Children learn small sentences and word combinations by choosing the correct word to fill the blank in a sentence or by placing the words in the correct word order. This exercise expands the vocabulary and focusses on the semantic value of words.

Thus the linguistic skills that are tested are reading, writing, listening, spelling, grammar, and vocabulary. Audio is present in *WordoAudio* and *Ducktator* but not in the other games. *Flashy, Ducktator, Chooser,* and *Puzzl* focus on the spelling of words and are of importance for the interview questions in the current study.

The games are under constant analysis and development. Oefenweb reviews the test results and can judge the validity, reliability, and effectiveness of the items per game. These analyses are then delivered to EarlyBird who can edit or expand the content. For example, Oefenweb detected a problem with the content of Ducktator. Some of the words were ambiguous when dictated without a carrier phrase. In order to improve the content, EarlyBird developed carrier phrases. In addition, new games are developed as well to broaden the diversity of language skills that are tested and to, possibly, broaden the game's target group. It is clear that there is a continuous quality maintenance through collaboration between Oefenweb and EarlyBird.

Words&Birds is method independent because W&B does not offer the items organised by theme or subject, as do most methods, and thus can be used at any time in addition to in-class instruction. It can be used as a tool to offer additional practice to students that need to expand their vocabulary in order to follow the method or it can be used as a tool to challenge students that have exceeded the level of the method. Every student always practices on their own level which means that the game is suitable for all children in a particular class. This entails that it is irrelevant whether a student has attained the content of the method or not. Words&Birds thus can be used as a tool that can boost the students' reading, writing, and spelling skills by practising their vocabulary next to any method used in class.

The games of Words&Birds are operated through an advanced algorithm that enables the game's adaptiveness. This algorithm is developed by the previously named research group guided by prof. dr. H. van der Maas. It is an extended version of the Computer Adaptive Test (CAT). CAT can dynamically determine the ability level of the participant as previous results are taken into account (Van Der Linden & Hambleton, 1997). Because CAT is essentially for final measurement only, Klinkenberg, Straatemeier, and Van der Maas (2011) proposed the new form of CAT that can account for continuous practice and levelling up, as well as final measurement of ability, the Computer Adaptive Practice system (CAP). CAP solves three problems that were found in CAT.

Firstly, "CAT operates most effectively if the difficulty level of administered items equals the ability estimate of the person" and thus the correctness probability is .5 (Klinkenberg, Straatemeier, & Van der Maas, 2011, p.1814). This means that the participant will only answer 50% of the items correctly. Although the .5 probability may be very discouraging for participants, a probability to or above .7 reduces the efficiency of CAT. The CAP system aims for a mean probability of .75 without losing the effectiveness and measurement precision. As higher-level users will answer questions quicker than lower-level

users, response time provides more precise insight into the level of a learner which reduces the number of items that needs to be analysed in order to establish the learner's level. This enables the .75 probability as fewer items need to be taken into account and thus more items can be presented that will probably be answered correctly.

As a second problem, Klinkenberg, Straatemeier, and Van der Maas (2011) mention that CAT requires pre-calibrated items of which the difficulty is given. This requires the pre-testing of items on large groups of participants to be able to generalise, which is very time consuming, and not at all practical, considering the rapidly changing materials in language education. Real-time adaptation of participants and items is proposed as a solution to this problem. Inspired by the Elo Rating System (ERS) that was originally developed for chess competitions, "on the fly" estimation of student ability and item difficulty are available (Klinkenberg, Straatemeier, & Van der Maas, 2011). In the ERS all participants of a competition move up and down a ranking list by calibrating the wins and losses of the players. In the CAP system, 'On the fly' means that participant and item are instantly calibrated after each item is answered. Simply said, if the answer is correct, the participant will go up in difficulty and the item will go down. If many participants instantly give the correct answer to a particular item, this item will go further down in level. If many participants answer a particular item wrongly, this may indicate that the item is very difficult or there may be something wrong with the item.

Thirdly, the differences between students where not calculated precisely enough. By combining speed and accuracy, the discriminating ability of the system becomes more precise. Speed and accuracy are strongly correlated with each other but can cause large differences between individuals. When there is no time limit, two participants may receive the same scores because they answered the same number of items correctly while one of the two may have needed more time to form the correct answers. This difference between participants is not taken into account in CAT. By regulating the time in which an answer must be given, and measuring the answering time per item, the discriminating factor of the system becomes greater. With these alterations, CAP is implemented in the educational games Math Garden, TaalZee, and Words&Birds.

The combination of the fact that W&B is an online environment that constantly collects data from its users and the unique form of adaption not only lets the students practise on their own level and thus differentiates, but also provides the opportunity to compare students to other students in their school level. This is an important characteristic of the

student following option in the back-end[3] of Words&Birds. Apart from insight in individual student results, it gives the teachers insight in the level of their class and whether this level is similar to the average student in that age group. With regards to the developments in vvtoE, this is essential because the core goals and exams are not yet determined and the average language ability per class changes as the quality of English education constantly evolves. This comparison gives a more reliable measuring point as the measurement is never out-of-date. Although the measurement is already reliable, this can improve when Words&Birds gets more users.

Another feature in the dashboard is the detailed information that is given to teachers and students on the performance of the students on the different games. The dashboard provides insight into the ten difficult (nightmare) and five easy (dream) items of each student.



Image 3: Dream items and Nightmare items.

This makes it possible for teachers to compare their students' progress and select items that might need more attention in class. Because the reaction time is also given in this display it is possible to differentiate between items that were made too fast or items that really entail difficulties. Teachers can also open and close certain games for each student. In this way, a teacher can control which games have priority and which games can only be played in the bonus environment after all the games that need to practiced, are practiced (Oefenweb[a], 2017). However, it is not possible for a teacher to add materials or exercises to the environment.

As a last remark, the language of instruction is, mostly, English because Oefenweb and EarlyBird promote the use of the target language as instruction language because they want to ensure full immersion into English. Dutch is only used as a deliberate choice in *WordoAudio*. This is the only game that relies on translation.

From this description it can be concluded that Words&Birds is an educational game that contributes to the playful learning of the English language by primary school students. However, neither EarlyBird nor Oefenweb provides published academic support for the choice in games and whether *Flashy, Ducktator, Chooser,* and *Puzzl* actually contribute to

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[3] The back-end entails all the information that teachers can access and use in order to follow the development of their students.

spelling retention. In the following, literature on spelling or orthography learning will be presented. At the end of the theoretical background a summary will be given and the four games will be analysed in regard to the theory on orthography learning. Additionally, sub-questions that will of importance for the interviews, will be formed.

## 4. Theoretical background

Learning a second language is a process of learning many different skills and is influenced by age, knowledge, attitudes, cognitive abilities, and knowledge of the first language. These aspects can influence the acquisition of certain subareas such as phonetics and phonology, the connection of words or expressions with semantics, the morphological and grammatical aspects that structure a language, and the pragmatic rules and guidelines that are often culturally determined. Because of this broadness, this study will focus solely on the acquisition of orthography of English as a second language by primary school children. Through a description of first language spelling acquisition it will be explained how intricate the process of spelling acquisition is. The focus will switch to L2 spelling acquisition of English and the differences in comparison to L1 spelling acquisition (Section 4.2). The differences between Dutch and English spelling rules will be explained in order to locate possibilities for negative transfer (Section 4.3). Different spelling exercises and learning strategies will be discussed in Section 4.4. Lastly, Section 4.5 will elaborate on educational games and their use for spelling retention. Section 4.6 will summarise the theory, compare the four games from Words&Birds to the theory in Section 4.4, and sub-questions in support of the research question will be formed.

4.1 L1 Spelling Acquisition

The development of first language spelling ability starts at very early age and goes through several stages influenced by children's cognitive abilities. There are multiple models that try to describe this development. For example, Gentry (1982) proposed a five stage model describing the development that English children go through in their spelling acquisition:

1. *Pre-communicative stage*: "Precommunicative spelling is the natural early expression of the child's initial hypotheses about how alphabetic symbols represent words" (Gentry, 1982, p.194). Children may use symbols from the alphabet but lack the knowledge of specific letter-sound correspondences. They may not be aware of all letters in the alphabet, be able to distinguish upper and lower case letters, or be aware of the left-to-right direction of English writing.

2. *Semi-phonetic stage*: In this stage, children begin to notice letter-sound correspondences and will assign sounds to letters. They may assign sounds consisting of multiple letters to only one letter or reduce the number of letters (e.g., *U* for *you* or *GABJ* for *garbage*). The knowledge of the alphabet will become more complete and they will slowly understand the left to right arrangement of the English language.

3. *Phonetic stage*: children will begin to use a letter or multiple letters for every speech sound and will begin to distinguish phones from one another. Spelling mistakes will be made but are often systematic and easily understood relying on phonetic information.

4. *Transitional stage*: the conventional English spelling rules will become more important and children will rely more on the their understanding of word structures and less on the phonological representation.

5. *Correct stage*: in this stage the child is aware of the English orthography and most of its rules. The child's generalisations about the spelling of groups of words will usually be correct and incorrect spellings will be recognised.

Gentry (1982) mentioned that these stages are part of a continuous development where elements from two stages may concur during the transition, although it is highly unlikely that a child would move in the opposite direction of this development. Gentry (1982) connects his model to the spelling development of a case study by Bissex (1980), where Paul, the case subject, started the pre-communicative stage at age four and reached the correct stage at eight. Although this is just one case study of one child (that developed faster than the average English child), it gives a general idea to the connection to age and the long process that is needed for spelling acquisition to occur. More specifically, it shows that the cognitive abilities of a child need to develop in order to gain metalinguistic awareness and progress in the stages.

In contrast to the prerequisite stages from Gentry's (1982) model, the phase model by Ehri (2005) consists of phases that do not have to occur successively or can be partially present in children's development. Children can use strategies from former phases they use for storing letters or words in memory from the phases described below:

- *Pre-alphabetic phase*: This phase is characterised by sight word learning at the earliest stage when children know little about the alphabetic system and have not formed letter-sound connections. For example, children can remember *look* because of the two 'eyeballs' in the middle or remember environmental print such as the McDonalds sign because of the golden arches not because it is an *m*.

- *Partial-alphabetic phase*: Children begin to learn letter-sound connections of the letters of the alphabet and slowly begin to use them to read words. For example, they may know the *s* and *n* and use these letters to memorise *skin.* However, they can easily mistake *skin* for another word with *s* and *n* such as *spoon* because they primarily focus on the boundary letters. They still lack complete knowledge of the alphabetic system.

- *Full-alphabetic phase*: "Children become full alphabetic phase readers when they can learn sight words by forming complete connections between letters in spellings and phonemes in pronunciations" (Ehri, 2005, p.174-175). They are able to distinguish phonemes and match them with graphemes, decode unfamiliar words, invent spellings according to phonemes, and remember correct spellings.

- *Consolidated alphabetic phase*: Children have retained an increasing number of sight words in memory and became familiar with letter patterns in different groups of words. Letter chunks help them to remember multisyllabic words and they have all the tools to decode new words when necessary.

These phases show similarities with the development that children go through in Gentry's (1982) stage model. Generally spoken, taking both models into consideration, children first rely on the visual form of letters, then they learn to connect some graphemes with phonemes, they will become better in distinguishing phonemes and start to represent them more completely, then they will gain full alphabetic knowledge and will start to rely on spelling patterns and rules developing metalinguistic awareness, and lastly become fully aware of the orthography and spelling rules in the language they are learning. The most important difference between the models is, as mentioned above, the fact that strategies for reading in Ehri's (2005) phases can concur and are not necessarily prerequisitive. For example, word reading at the pre-alphabetic phase does not contribute to word reading during the alphabetic phases (recognising the McDonalds *m* because of the golden arches does not help children to read words alphabetically). The alphabetic phases do emerge successively but children may use properties from multiple phases during the consolidated alphabetic phase to decode new or more difficult words (Ehri, 2005).

According to Ehri (2005), her model can be applied to both opaque and transparent languages. However, children learning a transparent language progress faster through the phases. Previous studies have reported this difference between L1 learners of opaque and transparent languages as well (Seymour, Aro, & Erskine, 2003; Patel, Snowling, & De Jong, 2004). According to Van Berkel (2012), this difference can be explained through the differences between the languages. Dutch has less irregularities and more one-to-one

grapheme-phoneme connections. Learners can rely mostly on sound recognition and can learn words by sight more gradually. In contrast, English L1 learners can rely less on direct grapheme-phoneme connections and need to learn more words by sight. Additionally, Van Berkel (2012) showed that Dutch words learned in primary school are often less complex than English primary school words (English word lists often contain more words with consonant clusters or multi-syllable words). Ultimately, sight-word reading is an important goal for both languages but English learners will have less help from the grapheme-phoneme connections and thus the development will go slower as Van Berkel (2012) showed in her comparison of Dutch and English children's technical reading ability. The choice between strategies for word-decoding (grapheme-phoneme connecting or direct word recognition) thus depends on the regularity of the language.

The process of connecting phonemes with graphemes and storing them in memory is described by Ehri (2014) as orthographic mapping. The letter-sound connections can combine spelling and pronunciation with the meaning of words in memory. Ultimately, Ehri (2014) argues that this development will result in advanced readers who can read very fast because they can access words directly from memory. People are able to read from memory because, according to Ehri (2005), words are reliable units to process as they always consist of the same letters. Readers store words as units focussing on the shape of a word as well. Which explains why people can read words when letters are left out from the middle or sometimes do not notice spelling mistakes while they do know the correct spelling. However, words are not always reliable as this assumption disregards that the spelling of a word can differ in spelling alternatives or because of positional spelling rules. For example, a positional spelling rule can determine when a word should be written with lower case letters or with a capital letter. The choice of the letters in a word thus can be determined by context. Some languages will rely more on these contextual rules than others. Additionally, when learning new words, memorised grapheme and phoneme connections can be unreliable because one phoneme may be spelled in more than one manner and one single letter can be produced as more than one phoneme, depending on the context it appears in. Overgeneralisation of a certain grapheme-phoneme connection can occur and spelling mistakes can be made.

To summarise, the acquisition of first language spelling is a difficult process that will slowly allow children to gain alphabetic knowledge, connect graphemes to phonemes, and learn the rules of the L1's orthography. The phase model (Ehri, 2005) allows more room for gradual development and a child's use of strategies for decoding words, while the stage model (Gentry, 1982) is more strict in its description of the steps in this development. Additionally,

the difference between opaque and transparent languages can have influence on the development and the decoding strategies used by a child. The theories named above do not state whether they apply to English as an L2 spelling acquisition as well. Therefore the following will elaborate on the literature on L2 spelling acquisition and the possible differences in comparison to L1 spelling acquisition.

4.2 L2 Spelling Acquisition

Research on spelling acquisition in English by Dutch children between the ages of 8 and 12 is very limited. However, there are some studies on other L2 learners of English and English natives that are relevant to be mentioned in relation to this study that will show some of the differences between L1 and L2 acquisition. First, the difference in age of acquisition, input, and the possibilities for transfer in L1 and L2 acquisition will be discussed. Secondly, the more specific implications for L2 spelling acquisition will be mentioned.

The age of acquisition is an important difference between L1 and L2 acquisition as a child will be exposed to the L1 from the earliest stages of life. In contrast, although English in the Netherlands is widely used in many public contexts, children are mostly exposed to English from the moment they enter primary education. Even if children first encounter English in group 1 (as does the population in this study), they have been exposed to the L1 for four years. During those first four years they have not only acquired L1 language skills, they have also acquired cognitive skills that will allow them to comprehend and use language in different ways. They will develop metalinguistic awareness that allows children to rely on language as a tool for communication and learning instead of a necessity in order to get what they need (Hummel, 2014). Additionally, the content that the children will learn in schools is adapted to their age. If a student will begin to learn the L2 at the age of 10 (sixth or seventh grade), children's books may be too childish. The content should thus be age appropriate as well.

The amount of input that is available is another important difference between L1 and L2 acquisition. Children learning an L2 at a later age in a school setting do not necessarily need the L2 in order to function outside of school while they do need their L1. Consequently, the amount of practice and context in which they will use the languages are other important differences. As the participants of the interviews live in a country where English is not an

official language and thus is mostly available in the educational setting[4], the input that the children receive will be considerably less in comparison to the input in L1. Additionally, children will be assessed in schools while they can practice freely at home. This will have implications for the overall learning process. Even when considering that the target group of this study, children between the ages of eight and twelve, will be able to encounter English outside of school, the amount of input compared to Dutch will never be equal.

A third difference between L1 and L2 acquisition is the possible L1 interference or transfer in L2 acquisition. L2 learners already acquired a linguistic system which can cause L1 transfer or interference in L2 learner language (Hummel, 2014). Transfer can be positive as well as negative while interference of the L1 in the L2 is always negative. Transfer can occur when there are similarities between the L1 and L2 or when L1 knowledge is lacking (Figueredo, 2006). It has been shown that L1 interference can occur at a phonological level resulting in a foreign accent or marked pronunciation and in the borrowing of syntax or lexicon (Van Heuven & Dijkstra, 1998). In addition, it has been argued that L1 orthographic knowledge and cognitive strategies can be accessed for L2 reading. Even when the lexical distance of the L1 and L2 is large (Chinese and Korean in comparison to English), transfer can occur (Koda 2008). This would entail that the strategies used for acquiring and remembering L1 spelling as portrayed in Ehri's (2005) and Gentry's (1982) models, would transfer towards L2 spelling acquisition. In a literature review by Figueredo (2006), two important trends were found:

1. Both positive and negative transfer of L1 knowledge can occur and influence English as a second language (ESL) spelling.
2. Learners will rely less on L1 knowledge when they acquire more knowledge about the English language and spelling norms.

Thus, L1 transfer in English spelling acquisition is more likely to be found in beginning learners of English and will gradually fade as they will learn more about English spelling and will solely rely on English spelling rules. Additionally, acquired knowledge, whether language specific or cognitive, can be transferred to the L2. Evidence that the first assumption applies to Dutch students learning English spelling comes from a study by Van Berkel (1987). Dutch secondary school students showed interference of Dutch spelling in English spelling of words that look similar but are spelled differently. For example, *badkamer* is the Dutch equivalent of *bathroom* and was produced by students as *badroom*. Transferring the Dutch *d*

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[4] Apart from possible Dutch-English bilingual families. However, the participants of this study all had a monolingual Dutch language background or were bilingual with another language than English.

to the position of the English *th*. Secondly, decoding strategies were argued to transfer as well. Van Berkel (2012) showed that Dutch students used the same decoding strategy in English as they used for Dutch. Although the English orthography is organised differently, the Dutch children used the same strategy for both languages.

Concluding, L2 spelling acquisition differs from L1 spelling acquisition. There is evidence that Dutch learners of English can transfer Dutch spelling rules and their decoding strategy to English. In order to avoid negative transfer, the children's English orthography knowledge needs to expand. The fact that English and Dutch orthography have similarities and differences is evident. In the following, a comparison of both orthographies will be given.

4.3 Differences between English and Dutch orthography

Before any comparison can be made between English and Dutch, it is important to clarify that the variety of English referred to in this study is British English. This is the variety that is mostly taught in the Netherlands and is taught in Words&Birds as well. This will thus also be the variety used in the comparison.

Before going into specific differences, Dutch and English do have many similarities in vocabulary and spelling that may cause overgeneralisation in words that are similar but not identical. Names of certain objects (e.g. *kiwi*, *lamp, water,*) or borrowed words from English (e.g. *laptop, tablet, hockey, online*) are examples of words that are spelled identically in both languages. However, there are many 'false friends' in spelling as well (e.g. *boek-*'book', *papier-*'paper', *boot-*'boat'). In these 'false friends' the consonants are often the same while the vowels differ. Because the words are so similar, the difference in vowels may be overlooked, and when L2 knowledge of the correct spelling is missing, a spelling mistake can be made. Similarly, Dutch has some rules that cause for some complexity in grapheme-phoneme connections as well. The principle of congruence, for example, allows the spelling of words to be consistent in all derivations or compounds of the word even if the pronunciation of a grapheme differs (Patel, Snowling, & De Jong, 2004). An example can be seen in the representation of *d* in *paard* ('horse'). At the end of the word, the *d* is pronounced as a /t/ yet written as a *d* because in the plural form *paarden* ('horses') the *d* is pronounced as a /d/ and thus written as such. Even though the pronunciation alternates, the spelling is consistent. This is similar to the morphological principle that allows the spelling of morphemes (e.g. the English <ed>) to be consistent in verbs while the pronunciation differs (*worked, landed,* and *lived)* (Van Berkel, 2000).

The first important difference between English and Dutch is that Dutch has a fairly transparent orthography while English has a more opaque orthography as mentioned above. Although there has been some debate on how transparent Dutch is in comparison to other transparent languages such as German (Seymour, Aro, & Erskine, 2003; Borgwaldt, 2003), it has been confirmed that English is far less consistent in comparison to Dutch (Patel, Snowling, & De Jong, 2004). The mapping of graphemes to phonemes is less complex in Dutch and the majority of the orthography has a one-on-one correspondence and is rule-based. English has often been portrayed as very inconsistent while others argue that the rules or guidelines that structure the exceptions, do clarify most inconsistencies.

Another important difference between Dutch and English orthography can be found in the letter combinations with silent letters commonly used in English words such as *thumb, debt, muscle, palm,* or *solemn* (Collins & Mees, 2009). Apart from loanwords from English, Dutch does not have words ending in *-mb, -scle,* or *-mn* (except for column or zeemn which are highly unlikely to be known by primary school children). These are letter combinations that have to be learned because they are new. Furthermore, the silent letters such as the *h* in *thumb* or the *l* in *palm,* may cause children to omit them from these words when they have not acquired the written form because these letters cannot be heard.

Table 1.
*Grapheme-phoneme connections of English o (Collins & Mees, 2009, p.112).*

| Spelling | Sound | Example |
|---|---|---|
| o | /ɒ/ | hop, box, slot, rotten, doll |
| o…e, o…o, o…a | /əʊ/ | hope, sole, solo, sofa, solar |
| o | /ʌ/ | son, love, won |
| final o | /əʊ/ | tomato, potato |
| | /u:/ | to, do |
| oa, oe | /əʊ/ | toad, toe |
| | /u:/ | shoe, canoe |
| | /ɔ:/ | broad |
| oi | /ɔɪ/ | boil, voice |
| oo | /u:/ | food, root |
| ook | /ʊ/ | book, hook, look |
| | /u:/ | spook, snooker |
| ou | /aʊ/ | house, pout, blouse |
| | /ʌ/ | country, southern |
| ow | /aʊ/ | cow, town, growl |
| oy | /ɔɪ/ | toy, loyal |

Furthermore, the letter *o* in English is associated with the most spelling irregularities in comparison to the other letters in the alphabet (Collins & Mees, 2009). Even though there are so many pronunciation differences, these words are all written with *o* or with a vowel combination of *o.* Consequently, Dutch learners of English will need to learn the different

realisations of *o* in the different contexts given in Table 1. In addition, there are some other combinations of letters with *o* that can cause confusion such as well: *hour* and *sour,* in contrast to *your.* These three words are all written with *ou* while *your* is not pronounced as such. Another example is the contrast in pronunciation between *cord, board, tourist* (/ɔ:/), and *attorney, journey,* or *journalist* (/ɜ:/). Although the graphemes for /ɔ:/ and /ɜ:/ in *cord* and *attorney* are the same, they are connected to different phonemes. It can be imagined that Dutch learners of English can make mistakes in pronunciation when reading these words or in their spelling when writing them down.

Other spelling combinations that may cause difficulties are phonemes connected to multiple letters (/f/ as *f, ff,* or *ph*) or a letter combination connected to multiple phonemes (*gh* in *laugh, daughter,* and *ghost*) (Van Berkel, 2000).

Another example in spelling differences can be found in the use of capital letters. In the Netherlands, capital letters are used for the beginning of a sentence, names, geographical names, language names, official holidays, and sacred books or persons for example. In English, there are additional word-groups written with a capital letter. *I* is also always written with a capital letter, capital letters are used when family relations are addressed as a subject, and in weekdays and months. Additionally, punctuation is bound to different rules in English as well. However, this is more often a subject that is addressed in secondary school.

In conclusion, there are many spelling differences between English and Dutch as well as many similarities. In order to learn the English irregularities in grapheme-phoneme connections, silent letters, new letter combinations, differences in use of capital letters, and false friends, it is very important to have exercises that offer practice in these particular areas especially considering the limited input in English as an L2. In the section below, an overview will be given of possible exercises by which these difficulties can be practiced.

4.4 Spelling Retention

Considering the intricate process of spelling acquisition and the difficulties in the English orthography, spelling can be hard to acquire. It is a linguistic skill that often is taught implicitly as well as explicitly. However, not all types of spelling instruction are effective. In a study by Gill and Scharer (1996), teachers were asked for their concerns regarding L1 spelling acquisition by primary school students. One of the main issues was that children often spelled words correctly on tests but misspelled those same words in writing assignments the day after. This implies that the spelling of the words was stored in the short-term memory or was bound to specific contexts. It showed that learning strategies and exercises can be a

great influence on the retention of spelling (Gill & Scharer, 1996). This section will elaborate on some different instruction methods and exercises. The examples are mostly derived from ESL instruction in the Netherlands or general ESL instruction.

As mentioned before, orthography learning is part of the acquisition of words and contributes to reading ability. In order for children to acquire the orthography of a language they need to connect the graphemes to phonemes. Especially in opaque orthography languages, there is a lack of one-to-one relations of phonemes and graphemes which can lead to spelling difficulties. The different phoneme-grapheme connections need to be learned through implicit learning and practicing or through explicit instruction (Ehri, 2005; Allal, 1997). Implicit learning of orthography can occur through general reading and writing exercises in any possible setting. By encountering new words in a film or song, recognising words that are spelled alike, writing something down by using new words, or by reading in a book, the spelling of new words can be acquired. This can also be seen in Big English (2017) a method developed by Pearson which is often used in vvtoE schools and has the EarlyBird approval. Exercises that do not focus on spelling explicitly, can contribute to spelling retention. Image 4 gives an example of a pronunciation exercise that can contribute to the implicit learning of spelling because of the combination of written and spoken instruction. There is
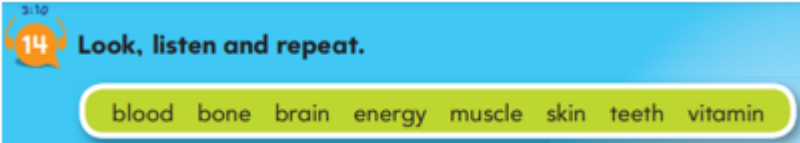


Image 4: Pronunciation exercise Big English.

however, no direct emphasis on the letters in the words themselves. Regular writing assignments can contribute to spelling retention as well. Especially when students are corrected afterwards on their spelling of words or capital letter use. However, the amount of input is also important in implicit instruction because the learners will need a lot of positive and negative evidence in order to learn the correct spelling rules and exceptions. In explicit spelling instruction these rules and exceptions can be explicitly explained.



Image 5: Spelling exercise Big English

Explicit instruction can be given in many different forms as well. English instruction in the Netherlands is often facilitated through texts, songs, films, and assignments given in written form in practice books. These assignments consist of exercises where new words need to be pronounced, repeatedly

written down, cut into pieces, practiced in word games, or have to be compared to rhyme words. An example can be seen in Image 5 (Big English, 2017), where children have to do a listening and pronunciation exercise with the emphasis on certain letter combinations with *r*. In general, but especially for L2 spelling retention, pronunciation exercises are necessary for the process of connecting graphemes with phonemes as new connections need to be made. Careful pronunciation instruction will contribute to the storage in memory because the individual letters are established as sound symbols which makes them easier to remember in comparison to letters alone (Drake & Ehri, 2009). The connection to pronunciation or audio is thus an important aspect of explicit orthography instruction in the Netherlands. However, most audio used in the Netherlands is directed at communication or listening exercises, not necessarily for spelling instruction or practicing while explicit oral instruction is an important feature that contributes to more effective orthography learning (Ocal & Ehri, 2017).

Pronunciation exercises can help students retain spelling by cutting words into pieces, to spell words aloud, or compare words similar and different on spelling and pronunciation. Especially for the acquisition of the correct spelling of longer words, segmenting the word can be helpful. For example, a study by Ehri (1987) showed that children that who knew how to spell a word such as *interesting*, used their knowledge of spelling while segmenting it, (*in-ter-est-ing*). In contrast, those who had no correct knowledge of the correct spelling, spelled the word according to its pronunciation (*in-tres-ting*).

Another strategy for the retention of words and their orthography is repetition. Repetition can occur for one word in one exercise through one strategy that is repeated multiple times (by repeatedly writing down the same words). Or by using the same words in a variety of exercises. It has been showed that new information is better retained when practiced through different exercises (Woolfolk, Hughes, & Walkup, 2013, chapter 8). Thus, repetition of words for the retention of orthography is important and most effective when facilitated through different assignments. For example, a particular word can be repeated through different acts such as (Allal, 1997):

1. Pronouncing the word carefully
2. Segmenting the word and looking at each part as you pronounce it
3. Pronouncing the letters in successive order
4. Visualise the word in your mind before spelling it aloud
5. Check whether you spelled it correctly
6. Write the word down
7. Check whether you spelled it correctly

8.  Repeat if incorrect

If all steps are followed, the word is repeated seven times while focussing on individual letters, the pronunciation, and the word as a whole. Therefore, it can be a good way to store the word in the long term memory. However, this would be very time-consuming and probably very de-motivating when applied to a large number of words. Which is why it so important to keep the students motivated by giving them a multitude of different exercises that still cover the same words and focus areas. Examples of different exercises derived from methods used in the Netherlands for English orthography learning are listed below:

- Making a word out of scrambled letters. By putting the letters in the correct order, learners will focus on the individual letters and will learn the correct spelling of the word.

- Copying words. By writing words down, learners need to focus on the different letters and can copy the form of the word. This can be used as an exercise for entirely new words as the chance is small that the student will copy the word with wrong spelling. The words can be placed in a sentence to promote the connection to meaning as well.

- Dictating exercise. This is usually used as a test to measure children's knowledge of spelling of a particular set of words. The word will be pronounced by the teacher and the children need to write the word down. When possible mistakes are checked after the test, this can be a very good exercise to promote orthography learning. It is usually conducted after the children had the time to use or study the words.

- Connecting rhyme words to each other. Rhyme words can be used to contrast different phoneme-grapheme connections: *room-boom* next to *tomb-comb*. The different phoneme-grapheme connections in opaque orthographies can especially be learned through this way. This can be an exercise where the children need to pronounce the words when presented in written form or in a writing exercise.

- Word games such as a word-searcher can also aid spelling acquisition. When learners need to find a word and thus focus on all the individual letters within that word, they need to pay attention to the explicit spelling of that word.

- Correcting words or noticing spelling mistakes can also help students to acquire the correct spelling of a word. Especially when learners notice the mistakes or have to look for the mistakes themselves.

This list is not exhaustive and these types of exercises can be given in many forms. For example, the exercises can be given on paper, on the smartboard, on the computer, as an

individual task or as a group task, or in a game with multiple participants. It is important to alternate between exercises and type of medium (Farrington-Flint, 2015).

Furthermore, taking student differences into account, it can also be imagined that students can have preferences in types of mediums or exercises they would like to use. Preferred learning methods may not always be the most effective methods for a particular student. Students may prefer a learning method because they feel it is easier or takes less time. However, storing new information in the long-term memory can take a long time. Switching between strategies and exercises can aid students learning process even though some strategies or exercises may not be their favourite (Woolfolk, Hughes, & Walkup, 2013, chapter 4; Farrington-Flint, 2015). Naturally, it is also important to select the exercises or learning assignments with regards to the developmental stage of the child and not asking too much or too little from their cognitive abilities (Gill & Scharer, 1996). In addition, it has to be taken into account that L1 exercises or content may be too difficult for L2 acquisition when the words used for the L2 exercise are at the same level as they would be in an L1 exercise.

Concluding can be said that L2 spelling retention can be obtained through many different exercises and that it is important to alternate between assignments and mediums. Using pronunciation exercises will help Dutch students retain the different spellings of similar pronounced words and similar spellings of differently pronounced words. Repetition is an important factor as well even though this can demotivate students. Thus a variety of exercises is essential. In the following, a description of educational games will be given. It will also be explained how educational games can offer repetition without demotivating children.

4.5 Educational Games

An increasing amount of educational materials are digitalised due to many technological innovations that have improved the efficiency of the games and facilitated student-monitoring options. Online learning environments are created that enable students to practise during, or in addition to, regular classes. They allow teachers to track the students' progress without having to manually assess their work. In the following, important aspects of educational games will be discussed.

Digital games are often designed to speak to the imagination and grab the gamer's attention. However, educational games need to guard the learning process that the students go through as well. In order for educational games to do their job, they need to educate their participants. Educational games thus need an environment that is not distracting but engaging, support minds-on activity, and support learning by social interaction (Hirsh-Pasek et al.,

2015). In order to create such an environment, a number of key features that should be present are listed below:

- The visual appearance of a game should not be distracting but should support the task (Hirsh-Pasek et al., 2015).

- A large amount of practice is needed for the acquisition of spelling thus the motivation to keep playing is essential (De Freitas, 2006).

- The content presented should be suitable for the target group of participants. For young children, the digital environment should be easily accessible, have recognisable icons, and the desired action should be clear. For older children it is important that the content is engaging and challenging and triggers the intrinsic motivation (Mijn kind online, 2016).

- Lastly, an aspect of educational games that has been developing over the past few years is adaptiveness and the possibility for personalised learning and student-monitoring. A game should be suitable to all students in a class in order to be used in an educational setting and should thus be able to differentiate (De Freitas, 2006).

These general criteria for educational games are equally important for games that aim for the retention of English orthography by second language learners. These criteria (visual appearance, practice and motivation, content, and adaptivity) will be discussed in more depth below.

4.5.1 Visual Appearance

The second point, visual appearance, is an important subject that can affect the effectiveness of the game. Engaging games can look like an imaginary world with many things to discover, many moving objects, or flashing colours and lights. However, it is very important for educational games that they are effective and thus that the participants will not be distracted by elements that do not contribute to learning (Hirsh-Pasek et al., 2015). Although the visual appearance should not distract, it should still be inviting for the participants and engage them because it is important, by means of deliberate practice, that the participants spent a lot of time playing the games. This shows that there is a fine line between good and poor imagery. It is even more important for the actual game display. The task should be the centre of attention and the instructions should be clear. The game should be easy to navigate but also capture the learner's attention. Additionally, the software should be working correctly. When it takes a lot of time before a game can be played, when the game is malfunctioning, or when it is unclear how to operate the game, children will probably get demotivated. Thus, imagery, easy navigation, and working software are important features of a game's visual appearance.

4.5.2 Practice and Motivation

In language learning, nativeness is often the ultimate goal which can be seen as an expert level. Being able to spell correctly is an important aspect of nativeness. Even if someone could form good English sentence structures and made no grammar mistakes, spelling mistakes in writing assignments would discredit that person's command of English. In order to acquire a language's orthography, a great amount of practice is needed. This practice can be compared to the deliberate practice theory by Ericsson, Krampe, and Tesch-Römer (1993). According to them, expertise can be reached by means of deliberate practice. Deliberate practice entails a number of key aspects that contribute to effective learning and can be applied to orthography learning.

Firstly, the design of the task should be based on the pre-existing knowledge that learners have so they can understand the task. However, they should also be challenged. For second language orthography acquisition this entails that the vocabulary presented, should be part of the students' social environment and should thus be relevant for them to learn at that moment but should also challenge them to learn something new. Thus the words should be chosen according to the child's cognitive skills and social and cultural knowledge. In addition, spelling rules could be compared to the ones the children already know in Dutch.

Secondly, direct informative feedback is needed to enhance learning. For orthography acquisition, direct informative feedback can benefit the learning process when presented at the right time (Woolfolk, Hughes, & Walkup, 2012). The feedback is of better use when presented right after the assignment is made, for example by offering the correct spelling directly after the wrong answer was produced. Directive feedback can be important in orthography acquisition as well but can be demotivating when presented too often (Bitchener, Young, & Cameron, 2005).

One last, and possibly most important aspect of deliberate practice, is motivation. Motivation is an aspect that makes sure that the subject attends to the task for longer duration and with greater effort (Ericsson, Krampe, & Tesch-Römer, 1993). As mentioned before, repetition is important for the acquisition of a language. Especially in vocabulary and orthography learning it is important to repeat words in order to store them in the long term memory and ultimately learn them by sight. However, too much repetition might affect motivation negatively. Especially for young children, motivation is an important aspect of language learning. They may not comprehend the benefits of an additional language and may need more extrinsic motivation. Because motivation is such an important aspect of

educational games and orthography learning, aspects that can influence motivation will be discussed below.

Motivation can be triggered in many different ways. For example, an important element of games is that it sets a challenge. The level of the items will determine how much challenge the participant will experience and how many items will be answered correctly, which plays a role for the intrinsic motivation. When the level of the items is too difficult, frustration will negatively affect motivation. Similarly, items that are too easy will cause a decrease in motivation because of boredom (Sandberg, Maris, & Hoogendoorn, 2014). Thus, too many difficult or easy items will damage the game flow, which subsequently will damage the intrinsic motivation. Flow, as mentioned by Murphy (2012), will enable the player to keep playing because of a certain rhythm. It is important to continue and stop the flow at the right time. Exercises that take too long or too short can hurt the flow and affect the motivation negatively.

Another element that can influence motivation are rewards. Games often grant rewards for high scores, achievements, or just for playing. Rewards can have a positive effect on the extrinsic motivation of the player and can be offered in many different forms such as appraisal, gifts, coins that can be used to buy something, or a bonus game or level (Sandberg, Maris, & Hoogendoorn, 2014). The rewards should be something that the participant desires or likes. It should thus be adapted to the target group.

Elements of competition or collaboration may affect motivation positively as well. When competing against someone or something, there is a drive to win and with the use of collaboration, the player does not want to let the team player down. Additionally, it has been showed that a sense of control has a high correlation with motivation as well (Cordova & Lepper, 1996; Garris, Ahlers, & Driskell, 2002). By giving the learner control over the flow, the choice of games, or a situation motivation can be enhanced. Control and confidence are strongly related and produce similar effects. Confidence includes that the learner experiences mastery of the game, another important motivator. In order to create a sense of mastery the questions should not be too difficult or too easy for the learner (Oefenweb[a], 2017; Garris, Ahlers & Driskell, 2002).

Finally, it can help when a player almost becomes part of the digital environment. A fantasy world and visual and auditory stimuli can serve as another motivational element by engaging the participant into the world that the game presents. Engagement is important for the effort that the participant has to make in order to meet the deliberate practice criteria and evoke effective learning. When one is fully engaged in the game, the participant will be less

distracted and more consciously involved in the task (Ericsson, Krampe, & Tesch-Römer, 1993; Hirsh-Pasek et al., 2015).

### 4.5.3 Content

Educational games can be used to learn a variety of skills in English. Some games only focus on one particular language skill such as reading, writing, speaking, or listening. Other games focus even more on for example just spelling or grammar. Games that aim to teach orthography usually focus on vocabulary and grammar as well. The words and sentences should adhere to the skill level of a range of differently levelled participants. Although the CAP system used in the games of Oefenweb uses on the fly calibration of student and level, not all educational games use this technique. And even so, the content chosen is usually still based on certain language reference lists. For example, the *Common European Framework of Reference* for languages (CEFR). The CEFR is often used as a guideline in Dutch foreign language education however, because of the very general skill descriptions of the CEFR it may not always be possible to base the content of games solely on this reference framework. The CEFR provides levels that describe the skills that should be acquired according to a particular level (A1, A2, B1, B2, C1, to C2). It does not give explicit words, sentences, or structures but guidelines and skills. The CEFR can be used for language learners of all ages and thus does not have age dependent descriptions of skills (Council of Europe, 2001).

Another source for the content of English learning games may consist of word-lists that contain words that are part of the world of perception of primary school children. Examples are the Target list of words used for group 1 and 2 in bilingual primary education (TPO schools) developed by Nuffic[b] (2017), a translated version of the BAK (Basiswoordenlijst Amsterdamse kleuters) which is a Dutch word-list developed to reduce the differences between children's vocabulary when they enter primary school (Mulder, Timman, & Verhallen, 2009), or the 1001-wordlist that contains the first 1000 Dutch words that children with a different language background learn (Bacchini, Boland, Hulsbeek, Pot, & Smits, 2005). These different word lists show that there can be many references for the content used in educational games.

### 4.5.4 Adaptation

Adaptation is a very important aspect for educational games as well. When games have content that can be used by students with a wide range of acquisition levels, adaptation can be used to make sure that every student can practice on their individual level, which in turn

provides enough challenge for the participant to stay motivated. Therefore, many game designers use algorithms to regulate the item selection. Adaptation in games is often based on Models that are inspired by the Item Response Theory (IRT) or Rasch model. These theories are usually used in educational tests that measure certain constructs of, for example, the grammar of a given language. IRT models measure the relationship between the score of someone on a construct within a test, and the probability that someone would choose a certain answer on each item that measures that construct. The Rasch model, or one-parameter logistic (1PL) model, in games is essentially a function of the difference of student ability and item difficulty on which many item response models are based (Rasch, 1960; Klinkenberg, Straatenmeier, & Van der Maas, 2011). A two-parameter logistic model can be formed by adding the item's discriminating quality as a weighted factor (Klinkenberg, Straatenmeier, & Van der Maas, 2011). The item's discriminating factor measures whether an item can discriminate between good and bad students.

These models are often used for the validity and reliability assessments of tests or particular items and can be used in games as a final assessment test (Secolsky & Denison, 2012). They are the foundation for the development of computer adaptive tests (CAT) as well. CAT can dynamically determine the ability level of the participant as previous results are taken into account (Van Der Linden & Hambleton, 1997). Because CAT is essentially for final measurement only, Klinkenberg, Straatemeier, and Van der Maas (2011) proposed the new form of CAT that can account for continuous practice and levelling up, as well as final measurement of ability. This CAP system, as explained in the description of Words&Birds (Ch. 3), is one of several possibilities for adaptation. The problem with finding other forms of adaptation is that they are usually property of the educational game that use them. Thus there is often little information on the exact technology behind different forms of adaptive games. However, the objective of most alternative algorithms is either to provide the participant with enough repetition of certain constructs or to test the participants knowledge on a specific construct. The CAP system in Words&Birds does both.

4.6 Summary and sub-questions

Overall, the theoretical background has shown that the literature on Dutch learners of English in primary education in regard to spelling acquisition is limited. Research did show the intricate process of L1 spelling acquisition and the differences with L2 spelling acquisition considering age, cognitive ability, input, and context. It also showed that transfer of L1 orthography to L2 orthography rules is possible and that children can make use of L1 spelling

knowledge when L2 knowledge is missing. Less experienced L2 learners will probably use more of their L1 knowledge in comparison to more experienced learners (Figueredo, 2006).

Furthermore, examples of implicit and explicit in-class spelling instruction where given. These examples coincide with the games in Words&Birds. Flashy shows the learner the word after which it needs to be typed in correctly. The words thus has to be copied and the spelling of the word needs to be correct. When answered wrongly, the correct answer will appear as well. Ducktator uses the same method as many oral tests. The words needs to be typed in correctly after dictation of the word. The transition from sound to writing thus has to be made. With chooser, the participant needs to select the word with the correct spelling out of wrongly spelled variations of that word. This can help learners in spelling retention because they have to look closely to the individual letters in order to select the correct word. In Puzzl, the scrambled letters of a word need to be placed in the correct order. This is a method used in regular spelling exercises as well. Although the games are comparable with spelling exercises from the theory, it will be interesting to see how the users of Words&Birds use and judge these games through the interviews.

Van Berkel (2000) showed that explicit spelling instruction is very limited in secondary education. Because there is limited information on the actual practice of spelling retention in primary education, the interviews are needed in order to show how Dutch students actually learn English orthography in-class as well as through educational games in the vvtoE setting. The following sub-questions are formed to support the research question "*How do Dutch primary school students that use Words&Birds acquire English orthography through in-class instruction and through Words&Birds*":

1. What kind of explicit and implicit spelling instruction do the children receive in class?
2. Do the children experience that they are learning spelling through the games in Words&Birds?
3. Do the children use their L1 knowledge in completing L2 spelling exercises?
4. Do the children perceive a difference in the level of English in W&B and in-class?

The first sub-question is important because, especially the children in grade 5, may not receive explicit spelling instruction. It is interesting to see if implicit spelling instruction is the norm in all schools. The second sub-question will give insight in the opinions of the students about W&B as a tool for spelling retention. The third question is important because vvtoE argues for full emersion and uses the target language as instruction language. It will be interesting to see whether the students rely solely on English or if they do use their L1 knowledge in L2 spelling exercises. Lastly, sub-question four could give insight in the level

of W&B and their overall English instruction and whether this is similar. These questions will also be leading for the construction of the questions for the interviews. These will be discussed in Section 5.3 below.

## 5. Method

Although the theoretical background gave information on L2 orthography learning and the possibilities created by educational games, the research question is not answered. In order to answer the research question and sub-questions, interviews with students will be held. Public research does not give insight into the actual opinions of students on English spelling education in the Netherlands. More specifically, the interviews will contribute to knowledge on how Dutch primary school children from the fifth grade upwards acquire the English orthography by use of Words&Birds and by in-class instruction because research on actual English spelling lessons is absent. It was decided to do semi-structured interviews because it can be difficult to gain enough knowledge from children without asking follow-up questions or rephrasing questions. In addition, it is important to clarify that the answers that the students chose on for example, the Likert scale, are actually what they intended to choose. In order to guard the validity of the answers given, it is necessary to ask the children why they chose an answer to check if they understood the question. Additionally, it was decided to ask the children if they had any remarks on Words&Birds or the acquisition of English spelling at the end of the interview. This part of the interview is not structured but can give important insights in the students' experiences and ideas and will be of value for EarlyBird and Oefenweb. In the following, the participants, the materials, and the procedure will be described in detail.

### 5.1 Participants

Four schools were available for the interviews. These were all vvtoE schools that use Words&Birds and have successfully obtained the EarlyBird approval and thus start with English in grade 1. Although the schools have these criteria in common, there are some important differences to mention. The locations of the schools differ which has implications for the student population. School 1 and School 3 were located in large cities. Especially in School 3 there were many children with different language backgrounds. School 1 was smaller in overall size but also had a considerable number of children with different language backgrounds besides Dutch. In contrast, School 2 was located in a small city and School 4 in a small village. These locations did have effect on the class sizes and the student population.

School 2 had all individual classes per grade while School 4 only had combined classes, grade1/2, grade 3/4, grade 5/6, and grade 7/8. Because of the locations of the schools, there were considerably less students with different language backgrounds in school 2 and 4 in comparison to the other schools. The participants were not selected on different language backgrounds because the sample would not be representative for the population of vvtoE children from grade 5 to 8 if only monolingual children were chosen. Additionally, the children will not be tested on their spelling skills otherwise this may have been of importance.

Another difference is that the schools made the switch to vvtoE with help of EarlyBird. Naturally, this is a process that takes several years and is different for every school. School 1 started to work with EarlyBird in 2012 and finalised the switch to vvtoE in May 2017. School 2 started with EarlyBird a year sooner in 2011 and finalised the switch to vvtoE in May 2016. School 3 started with EarlyBird in 2011 and finalised the switch in November 2016. School 4 started with EarlyBird in 2012 and finalised in May 2017. Although all schools have the EarlyBird approval, the overall quality of the schools may differ, as explained in Chapter 2. The fact that they all start with English in grade 1, have the EarlyBird approval, and work with Words&Birds, were important variables to have in common. The possible difference in quality between the schools makes this study population more representative of the overall population.

Table 2.
*Descriptive statistics participants.*

| School | Grade | Students | Gender | |
|---|---|---|---|---|
| | | | Male | Female |
| School 1 | 5 | 4 | 2 | 2 |
| | 6 | 5 | 2 | 3 |
| | 7 | 4 | 2 | 2 |
| School 2 | 5 | 4 | 2 | 2 |
| | 6 | 4 | 1 | 3 |
| | 7 | 4 | 2 | 2 |
| | 8 | 5 | 3 | 2 |
| School 3 | 5 | 4 | 3 | 1 |
| | 6 | 4 | 2 | 2 |
| | 7 | 4 | 2 | 2 |
| | 8 | 4 | 2 | 2 |
| School 4 | 5 | 5 | 2 | 3 |
| | 6 | 3 | 2 | 1 |
| | 7 | 4 | 2 | 2 |
| | 8 | 4 | 2 | 2 |
| Total | 15 | 62 | 31 | 31 |

The interviews were held with children from the fifth grade to the eighth grade. The descriptive statistics of the students are displayed in Table 2 (p. 35). In total, 62 students were

interviewed of which the distribution over girls and boys was even. There are some discrepancies in the population. Firstly, it was not possible to interview grade 8 from School 1. It was possible to interview one student more from grade 8 in School 2 in order to compensate. In school 4 there was only one girl in grade 6 thus only three students from grade 6 were interviewed and one extra girl from grade 5.

5.2 Materials

In order to answer the sub-questions interview questions were created. The Dutch questions can be found in Appendix A but will be translated into English for this section. The questions were all asked in Dutch because the children should not feel restricted by having to talk in English. Additionally, although the reasoning ability, memory, and language skills of primary school children form the fifth grade onwards (ages 8 to 12) allow for evaluation tasks (Popper & Kroll, 2005), it was chosen to use a five points Likert-scale with smileys (Appendix B) to clarify the different points, *strongly agree* to *strongly disagree* or *super good* to *super bad* depending on the question. This Likert-scale was used for the questions that ask for the children's attitudes (Questions 2, 3, 16, 17, 21, 22, 23, 24, and 25).

The general questions were chosen to gain knowledge on the overall use of W&B, and the overall preferences of the students towards W&B and English in class. For the first question ('Do you recognise this bird?') we showed them a picture of Ducktator. This printed picture would later function as a 'speaking stick' to guard that the children would speak one at a time and it was designed to start the conversation and to let the children feel at ease.

The second and third question ('Do you like English at school?' and 'Do you like Words&Birds?') were asked because there may be a difference between the appreciation of English lessons and playing with W&B. Additionally, motivation to practice can be triggered when the children enjoy the tasks they have to perform. The questions were answered on the five points Likert-scale.

It is also of importance to see how much W&B is used as this could give valuable information to EarlyBird and Oefenweb (questions 5 'Do you only play at school or also at home?' and 6 'How many times a week do you play with W&B?'). This could help to indicate differences between the schools and how they implement W&B. For question 5 the children could choose from the options only at home, only at school, or both. Question 6 was an open question.

The questions 7 ('Which games do you play?'), 8 ('Which game is the most fun?'), 9 ('Which game is the most difficult?') of the general section are designed to gain insight in the

availability of the games within W&B and which games are preferred or disliked by the participants. Screenshots of the games were printed and numbered. The children could point at the games that they played and the numbers were written down by the interviewers.

The other questions are designed to contribute to the sub-questions and will thus be discussed in relation to each sub-question. In order to answer the first sub-question (*What kind of explicit and implicit spelling instruction do the children receive in class?*), four questions were created. Question 11 ('Do you ever talk about English spelling in class?') was important to ask because the participants may not receive explicit spelling instruction at all. Question 12 ('What do you do in such a lesson?') was designed as an open follow-up question that could give insight in the actual spelling lessons that the children would get. Question 13 ('What kind of tricks does the teacher use in order to remember the spelling of difficult words?') was asked because the children may not receive explicit spelling instruction but the teacher may have tricks that could help the students remember new words. Question 14 ('Does it help to write a word down multiple times in a row?) is asked because repetition is an important for spelling retention as was showed in the theoretical background and could give insight in the students' strategy towards learning the spelling of a new word. Follow-up questions can be asked when children answer that they do not use this strategy for spelling retention.

The second sub-question (*Do the children experience that they are learning spelling through the games in Words&Birds?*) will be answered by questions 21 ('I think that Chooser is a good game for the acquisition of spelling.'), 22 ('Do you find it tedious to see words that are incorrectly spelled?'), 23 ('Ducktator is a good game for spelling retention.'), 24 ('I will learn to spell correctly by putting letters in the correct sequence in order to form a word as in Puzzl.'), and 25 (Flashy is a good game for spelling retention.'). These questions will ask the participants to judge Flashy, Chooser, Ducktator, and Puzzl on their ability to aid the participants in the acquisition of English spelling. According to the literature, these games should aid to spelling retention, thus it is expected that the participants will give good scores to these games. If a student judges a game poorly, follow-up questions will be asked. The questions are all answered on the five points Likert-scale.

The third sub-question (*Do the children use their L1 knowledge in completing L2 spelling exercises?*) is supported by questions 15 ('Do you ever think of the Dutch spelling while spelling a word in English?'), 16 ('I like it when the teacher translates a word into Dutch.'), and 17 ('I like it when the teacher explains the differences between Dutch and English spelling'). L1 transfer in English spelling acquisition is more likely to be found in beginning learners of English or when learners still heavily rely on their L1 knowledge

(Hummel, 2014). This will gradually fade as they will learn more about English spelling and will solely rely on English spelling rules. It will thus be interesting to see whether the children still use their L1 as a strategy for English spelling. This may indicate that the principle of "target-language is instruction-language" is not yet fully implemented because the children still rely on Dutch (EarlyBird, 2017). To show this, a positive correlation between questions 15, 16, and 17 should occur. Question 15 is answered with yes or no but follow up questions can be asked when a participant seems indecisive. Questions 16 and 17 are answered on the five points Likert-scale.

The fourth sub-question (*Do the children perceive a difference in the level of English in W&B and in-class?*) is supported by questions 18 ('Do you think that W&B is easier or more difficult than English instruction in class?'), 19 ('Do you ever use words in the class that you have learned through W&B?'), and 20 ('Do you ever use words in W&B that you have learned in class?'). In order to show a difference between in-class instruction and W&B it was be important to know if the children perceive one or the other more difficult. When a difference is significant, this could indicate that W&B is too easy for vvtoE or that the in-class instruction is too easy and that the words used in W&B are a better fit to the level of the children. Question 18 had answer options *easier* and *more difficult.* Questions 19 and 20 were answered with *yes* or *no*.

At the end of the structured interview, participants will be given the opportunity to give some of their remarks on Words&Birds or spelling education. This, as mentioned before, was not structured and depended on the available time after the structured interview.

5.3 Procedure

The interviews were not only intended for the current study but also for a study by G. van den Hoorn. The general questions at the beginning of the interviews were used in both studies. After this general part there are two sections of the interview. The first was designed by Van den Hoorn and thus will only be used in her study. The second section was created and used for this study and consisted of the questions discussed in Section 5.3. The interviewers took turns in interviewing and scoring. Both separate sections were conducted in each interview.

The interviews took place at the schools themselves. For each interview, four students from the same grade were asked to join the interviewers in a quiet room that was assigned by the school. Per interview, 30 minutes were available. Considering the importance of answering all questions of both sections, time management was important and guarded by bots interviewers. The interviews were recorded on a mobile device to allow the interviewers

to transcribe the open and unstructured questions of the interview in a more accurate manner after the interviews were conducted. The Likert-scale and closed questions were scored during the interview on the scoring form (Appendix A). The participants had to answer one by one and the sequence in which they answered was altered (approximately every other question) in order to eliminate the possibility that the first participant would always answer first. The names of the participants and schools were written down on the scoring lists but are anonymised in this study.

## 6. Results and Discussion

After the interviews were completed there were two parts to be analysed. The closed and Likert-scale questions and the open questions with the important parts of the un-structured interviews. First all the general questions will be presented (Section 6.1). Secondly, the results from the spelling specific questions will be presented (Section 6.2). The transcriptions of the open questions and the important unstructured questions can be found in Appendix C. It was chosen to connect the results to the sub-questions and the research question in this section (instead of in a separate discussion) to avoid repetition. The conclusion (Chapter 7) will show the academic relevance of the results and give an advice to EarlyBird and Oefenweb to improve Words&Birds  as a tool for spelling retention.

### 6.1 Results General Questions

The results from the general questions (2-10) will be discussed first. Question 1 will not be mentioned as it was only designed to introduce the topic of the interview. Questions 2 ('Do you like English at school?') and 3 ('Do you like Words&Birds?') were interesting to analyse as there could be a difference in attitudes. It was expected that the children would prefer playing with Words&Birds over following English lessons in class. Both questions were answered on a Likert-scale thus, a paired samples t-test was used to compare the students' attitudes towards English lessons in general and towards Words&Birds. There was a significant differences in the scores for English in school (M = 4.26, SD = .79) and Words&Birds (M = 4.50, SD = .65) conditions; t(61) = -2.12, p = 0.038. These results suggest that the participants preferred playing with W&B over following English lessons in class. This result was confirmed by the overall attitude of all children towards W&B which was very positive.

Descriptive statistics regarding question 5 ('Do you only play at school or also at home?') are given in Table 3. The results are grouped by schools. Although Words&Birds is

designed for usage at school and in the private setting, the results indicate that Words&Birds is used in different strategies by the different schools. In School 1 and 3, W&B is mostly used in both settings (as intended). In school 2 and 4 the game is mostly used in school alone.

Table 3.
*Descriptive statistics of question 5 grouped per school.*

| School | Answer | Frequency | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| 1 | Only at home | 2 | 15.4 | 15.4 |
| | Only at School | 4 | 30.8 | 46.2 |
| | Both | 7 | 53.8 | 100.0 |
| | Total | 13 | 100.0 | |
| 2 | Only at home | 0 | 0 | 0 |
| | Both | 3 | 17.6 | 17.6 |
| | Only at school | 14 | 82.4 | 100.0 |
| | Total | 17 | 100.0 | |
| 3 | Only at home | 0 | 0 | 0 |
| | Only at school | 1 | 6.3 | 6.3 |
| | Both | 15 | 93.8 | 100.0 |
| | Total | 16 | 100.0 | |
| 4 | Only at home | 1 | 6.3 | 6.3 |
| | Both | 2 | 12.5 | 18.8 |
| | Only at school | 13 | 81.3 | 100.0 |
| | Total | 16 | 100.0 | |

Question 6 ('How many times a week do you play with W&B?') will not be used because the participants were not able to give consistent answers. Some children explained that they played three times a week for 10 minutes while others said they had to play the eight games every week. The answers are therefore not consistent with the intended construct.

Question 7 ('Which games do you play?') indicated a problem. Not all games were available to all participants. Table 4 shows that the four games of interest (Flashy, Ducktator, Chooser, and Puzzl) were not available to all participants either (Missing $N=9$, $N=2$, $N=5$, and $N=4$ respectively). However, some of those participants did answer the questions regarding those games. These answers are therefore invalid and will be regarded as missing. Fortunately, the games that were available to the least number of participants were Twinny, Verby, and Shaper which are not of importance to the spelling specific questions.

Table 4.
*Frequencies table individual games.*

| Available | Flashy | Ducktator | Chooser | Shaper | Verby | Puzzl | WordoAudio | Twinny |
|---|---|---|---|---|---|---|---|---|
| No | 9 | 2 | 5 | 20 | 21 | 4 | 8 | 24 |
| Yes | 53 | 60 | 57 | 42 | 41 | 58 | 54 | 38 |
| Total | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |

Questions 8 ('Which game is the most fun?') and 9 ('Which game is the most difficult?') were answered by all participants however, considering Shaper, Verby, and Twinny were not available to approximately one third of the sample, these games could have

never been voted the most fun or the most difficult (even though these were options to choose from and some children did choose them). Thus, the answers to these two questions are not reliable. The results will be mentioned in the advice to W&B because they may still be of interest for Oefenweb or EarlyBird. However, no strong conclusions can be drawn from this information.

Question 10 ('On what level do you play the game?') was added to the structured interview questions after visiting the second school. Before creating the interview questions, it was unknown that the children could adapt the level they are playing on, because it was assumed that the adaptive algorithm was the only way by which the level could be changed. Additionally, some of the children were not aware that they had this options either. Although most of the participants who answered the questions played on the hardest level, there were ($N$=26) missing values. This information will therefore not be used in order to answer sub-question 4 regarding the difficulty of W&B but will be used in the advice to W&B.

6.1 Results Sub-Question 1

The remaining questions will be presented grouped per sub-question. The next section of the interview was concerned with sub-question 1 (*What kind of explicit or implicit instruction do the children receive in class?*). Questions 11 ('Do you ever talk about English spelling in class?'), 12 ('What do you do in such a lesson?'), 13 ('What kind of tricks does the teacher use in order to remember the spelling of difficult words?'), and 14 ('Does it help to write a word down multiple times in a row?) are interpreted through the transcription of these interview questions in Appendix C. The answers that were of importance for these questions are highlighted in the transcriptions. It has to be mentioned that the information received from the children is limited. Not all students were able to give elaborate answers. This could mean that spelling instruction is limited as many answers implied or that implicit or explicit spelling instruction is not recognised by the children as spelling instruction or that the children do not recall the English lessons in detail. However, valuable information will be mentioned in the following.

It is clear from the transcriptions that there are differences between schools and between classes in the form of English spelling education that they receive. In school 1 explicit spelling instruction seems to be restricted to general writing exercises in the two higher grades and occasionally copying a word in the lower two grades. Writing exercises were common in grade 7 by means of a *werkblad* or activity book (Appendix C: School 1: Group 7). One student (P12) also mentioned that they mostly focus on the semantic value of

words. This could be seen in other classes and schools as well. Many children learned new words in combination with pictures.

The children from grade 5 in School 2 were convinced they did not receive English spelling lessons. However, they were very short in answering during the whole interview thus this could be due to other reasons. In grade 6 the emphasis seemed to be on the semantic value of words rather than spelling. In grade 7 the children did use segmentation in order to memorise the spelling of new or longer words. Participant 27 from the eighth grade mentioned that the teacher used mnemonics for Dutch but not for English spelling.

In school 3, the children from grade 5 mentioned that the teacher occasionally wrote a word on the schoolboard for the children to memorise. Student P35 from group 6 mentioned that they would do a translation task with the teacher. The teacher would name a word and they had to translate it. Afterwards they would check how well everyone performed. Group 7 was distracted by the heat that day and lost focus many times during the interview. Participant 41 did explain that the teacher would tell stories to help the children remember words. However, this seems more related to memorising the semantic value of a word, not the spelling. The children in Group 8 mentioned that they mostly performed writing tasks from their book *Our Discovery Island* by Pearson. Apart from writing a word on the schoolboard, there seemed to be no explicit spelling instruction in addition to the book.

Lastly, the children in School 4 do not receive explicit spelling instruction either. The children do have to make exercises from the method *Backpack* from Pearson. In group 7, the teacher does correct spelling mistakes but does not explicitly teach spelling rules or patterns.

During a number of the interviews it was also asked if the children would like to receive spelling rules in order to memorise the spelling of difficult words. The overall consensus was that they would like specific rules or groups of words that are written in the same manner as they learn for Dutch.

In conclusion, the amount of explicit spelling instruction is limited in all schools. It appears that all schools use one of the methods from Pearson. Pearson's methods are entirely in English which supports total immersion into English. Explicit spelling instruction seems to be limited in these books (Big English, 2017). There are exercises such as depicted in Image 5 that visually highlight spelling patterns in words but it is not clear how frequently these exercises are present in the books. The participants were not able to give many explicit or implicit examples of spelling lessons either. However, one striking comment was made by participant 27 who mentioned that they did use spelling mnemonics for Dutch but not for English. The children would thus receive exercises from the books and some would receive

spelling instruction for a particular word however, explicit spelling instruction by the teacher seems to be limited. Some children even indicated spelling errors that they repeatedly make while they could have been explained by English spelling rules ("P1 Ja want soms schrijf je een woord met *ch* en soms met een *g* P4 Ja of boxes schrijf je dan met *ks*"). Van Berkel (2000) showed that many English irregularities are structured and words can be grouped accordingly. Thus, the observation that spelling instruction is lacking in secondary education (Van Berkel (2000), seems to apply to primary education as well. Answering the first research questions, it can be said that explicit English spelling instruction seems to be minimal in primary education form grade 5 onwards.

6.2 Results Sub-Question 2

Sub-question 2 (*Do the children experience that they are learning spelling through the games in Words&Birds?*) was supported by questions 21, 22, 23, 24, and 25 regarding the children's attitudes towards the games. As mentioned previously, some children that were not able to play the four spelling games, did answer some of the questions. These answers were deleted and represent the missing values. There were no missing values caused by other reasons. In order to compare the means of the attitudes towards the different games, all missing values were deleted from the sample. The new total was $N = 46$. Table 5 shows that the four games all had a mean above (M > 4.30). The fact that the minimum and maximum answers on the

Table 5.
*Average scores on the four spelling games.*

|  | N | Min. | Max. | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Flashy | 46 | 1 | 5 | 4.37 | .85 |
| Ducktator | 46 | 1 | 5 | 4.39 | .98 |
| Chooser | 46 | 1 | 5 | 4.41 | .83 |
| Puzzl | 46 | 1 | 5 | 4.43 | .96 |

Likert-scale were 1 and 5 for all games, indicates that some of the participants disliked these games while others liked them. During the interview some problems became clear. Flashy was judged low by some students because the word was not visible long enough. Others said that the game was too easy. Ducktator was criticised because the voice used in Ducktator sounded like a robot (Appendix C: School 2: Group 8) and some of the words were not fully pronounced but were cut off. Only a few children disliked seeing wrongly spelled answer options in Chooser because they were worried that they would remember the wrong word. Others felt that this was necessary because they would learn how not to spell the word. Although Puzzl has the highest mean (M = 4.43), there was a serious error in Puzzl. Words

with two of the same letters, had set placements for those letters. Thus, in a word as *kiwi* the individual occurrences of *i* had to be assigned a certain spot. This is why children still had a word wrong when they did spell the word correctly.

Concluding can be said that most participants judged the games positively and felt that they were learning spelling through the games. However, there are some important remarks to make. Especially in the lower classes the children were very positive in general and may have voted whether Chooser is a good game overall. Some children were asked why they voted positive or negative but this was not possible for all participant considering the limited time for the interview. The only points of criticism were in regard to the technical function of the games such as the sometimes robotic voice in Ducktator. According to the literature in the theoretical background, the games were exercises that are commonly used for spelling retention. Apart from the comments by some children that that they did not liked seeing wrongly spelled words in Chooser, there were no other remarks that criticized the spelling retention function of the games. The sub-question, (*Do the children experience that they are learning spelling through the games in Words&Birds*) cannot be answered with absolute certainty because some children may not have judged the games in regard to spelling. Even though the children were all positive about the games and the literature supports these types of exercises for spelling retention.

6.4 Results Sub-Question 3

The third sub-question (*Do the children use their L1 knowledge in completing L2 spelling exercises?*) is supported by questions 15 ('Do you ever think of the Dutch spelling while spelling a word in English?'), 16 ('I like it when the teacher translates a word into Dutch.'), and 17 ('I like it when the teacher explains the differences between Dutch and English spelling'). There were no missing values for these questions. The descriptive statistics of question 15 can be found in Table 6. This table shows that there are differences between the schools. Especially in school 3, the vast majority thinks about Dutch spelling when spelling a word in English. The majority of school 1 also answered yes on this question. In school 4 the dispersion was more equal. School 2 was the only school where the majority voted *no* on this question.

Table 6.
*Frequencies table question 15.*

| School | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| 1 | Yes | 8 | 61.5 | 61.5 |
| | No | 5 | 38.5 | 100.0 |
| | Total | 13 | 100.0 | |
| 2 | Yes | 6 | 35.3 | 35.3 |
| | No | 11 | 64.7 | 100.0 |
| | Total | 17 | 100.0 | |
| 3 | Yes | 13 | 81.3 | 81.3 |
| | No | 3 | 18.7 | 100.0 |
| | Total | 16 | 100.0 | |
| 4 | Yes | 7 | 43.8 | 43.8 |
| | No | 9 | 56.3 | 100.0 |
| | Total | 16 | 100.0 | |

Questions 16 and 17 asked for the students' attitudes in regard to the actions of the teacher. Do they prefer it when the teacher translates an unknown word to English and do they appreciate it when a teacher explains the differences between English and Dutch spelling rules. From the results on question 15 it would be expected that children from school 1 and especially school 3 would score high on questions 16 and 17 as well. Table 7 shows that all children in school 1 liked the teacher to translate English words into Dutch and explain differences between English and Dutch spelling (question 16: $M = 4.31$, SD $= .51$, question 17 $M = 4.38$, SD $= .48$). This coincides with the results from question 15 where 61.5% of the participants from school 1, relied on Dutch when spelling in English. This is similar in school 3 where 81.3% thought of Dutch while spelling in English.

Table 7.
*Descriptive statistics question 16 and 17 grouped by school.*

| School | Question | N | Min. | Max. | Mean | St. dev. |
|---|---|---|---|---|---|---|
| 1 | 16 | 13 | 4 | 5 | 4.31 | .51 |
| | 17 | 13 | 4 | 5 | 4.38 | .48 |
| 2 | 16 | 17 | 1 | 5 | 3.12 | 1.27 |
| | 17 | 17 | 1 | 5 | 3.12 | 1.27 |
| 3 | 16 | 16 | 1 | 5 | 3.88 | 1.75 |
| | 17 | 16 | 1 | 5 | 3.69 | 1.70 |
| 4 | 16 | 16 | 1 | 5 | 3.19 | 1.68 |
| | 17 | 16 | 1 | 5 | 3.00 | 1.55 |

The means were smaller in comparison to school 1 but the distribution of answers was more dispersed (question 16: $M = 3.88$, SD $= 1.75$, question 17: $M = 3.69$, SD $= 1.70$). The large distribution of answers for school 3 can be explained in relation to the different grades. It appeared that the lower grades relied more on Dutch and that students gradually relied less on Dutch as the grades progressed. This trend was best visible in school 2 question 16 (grade 5: $M = 4.50$, SD $= .58$, grade 6: $M = 4.00$, SD $= .00$, grade 7: $M = 2.75$, SD $= .50$, grade 8: $M$

= 1.67, SD = .58). The other schools showed the same trend for both questions with only some exceptions when, for example, one class voted differently.

Concluding can be said that children thought about Dutch while spelling in English rather frequently. It was interesting to see the trend that younger children from the lower games scored higher on these items that older children. This indicated that the second assumption by Figueredo (2006), that learners will rely less on L1 knowledge when they acquire more knowledge about the L2 spelling norms, is visible in this sample as well. However, this study was not able to eliminate other variables that caused the children to think of Dutch. For example, some students mentioned that many English words are similar to Dutch. It would be natural to assume that children would recognise this and consequently think about Dutch while spelling those similar English words. This does not indicate that the children rely on Dutch spelling rules solely that they recognise the similarities. Further research that evaluates how Dutch children reason in English spelling exercises is needed to make sure that the third sub-question (*Do the children use their Dutch knowledge in completing English spelling exercises?*) can be answered affirmatively. It can be said that these children think about Dutch while completing English spelling.

6.5 Results Sub-Question 4

The fourth sub-question (*Do the children perceive a difference in the level of English in W&B and in-class?*) is supported by questions 18 ('Do you think that W&B is easier or more difficult than English instruction in class?'), 19 ('Do you ever use words in the class that you have learned through W&B?'), and 20 ('Do you ever use words in W&B that you have learned in class?'). The results from the first question show that, apart from three participants, everyone judged Words&Birds as easier than their regular English classes. This was expected as W&B is an online game where the participant only have to type in answers while in-class lessons consist of verbal exercises and writing assignments as well. However, many children mentioned that the multitude of words that they encounter, are already known or are the same in (or similar to) Dutch. Only a small majority (58.7%) said that they encountered difficult words in W&B. There was no significant differences between the answers on questions 19 and 20 but some children commented that they acquired new words in W&B because the words are not organised by themes, as is the case in most methods. These children felt that they would learn a larger variety of words through W&B in comparison to in-class instruction.

The fourth sub-question (*Do the children perceive a difference in the level of English in W&B and in-class*?) can be answered because it appeared that the vast majority of the participants judged W&B as easier than in-class instruction. This was expected as W&B is an online game with a .75 correctness probability. However, the number of new words seems to be limited because many children mentioned that the multitude of words that they encounter, are already known or are the same in Dutch. The words are not divided by theme's as most methods do thus, a greater variety of topics will be mentioned. The choice of words however, seems to be too on too frequently used words Only a small majority (58.7%) said that they encountered difficult words in W&B.

6.6 Research Question

The research question: "*How do Dutch primary school students that use Words&Birds acquire English orthography through in-class instruction and through Words&Birds?*" will be answered next. The results from the general questions showed that there are many differences between the schools in how they teach English spelling and use Words&Birds even when they are all EarlyBird schools who teach according to vvtoE and work with W&B. It will be attempted to show the similarities between the schools and the overall process of English spelling retention.

English orthography is mostly learned through implicit writing, reading, listening and pronunciation exercises. Explicit spelling instruction, especially regarding English spelling rules and patterns seems to be absent. Some children write down difficult words in order to remember their spelling but other techniques or mnemonics for spelling retention seem to be limited as well. The implementation of Words&Birds differs per school but is mostly used as an in-class task or as homework. The words used in W&B are not organised by themes and thus there is no direct connection between the words used in-class and in W&B. Many children mentioned that the words in W&B are often already know or are similar to Dutch words. Thus, although W&B offers a wider variety of words, the level of the words seems to be below the level of the participants. This could be caused by the .75 correctness algorithm. However, when children are given the opportunity to adapt the level that they are playing on, they could be playing below their own level even if there would be more difficult items in the higher levels.

The exercises in W&B (*Flashy, Ducktator, Chooser,* and *Puzzl*) are similar to the exercises named in the theoretical background but there are many more possibilities for new games to aid spelling retention. Additionally, it is unclear whether words are repeated in only

one game or that all words can be used in all games. If a word is only learned through one game, this word may be bound to this context and may be spelled wrongly in other contexts (Woolfolk, Hughes, & Walkup, 2013). Furthermore, W&B does not offer explanations of certain spelling rules or patterns, solely the correct answer when an item is answered incorrectly.

Thus it can be said that spelling acquisition is mostly stimulated through implicit spelling instruction in the activity-books and through the four games of W&B. Explicit spelling instruction in regard to English orthography rules seems to be absent.


## 7. Conclusion

In the following, the conclusion will be connected to the current developments in English primary education. Additionally, section 7.1 will give an advice to EarlyBird and Oefenweb regarding Words&Birds and spelling acquisition.

It has to be said that this study was exploratory by nature as the amount of empirical research on second language orthography learning by primary school children is limited. It was aimed to gather more knowledge on the actual practice in English orthography teaching in primary school. The results have shown that spelling instruction in primary education is limited. Although the number of participant is not substantial, considering the missing values for some interview questions, some important findings can be used for further research, as will be explained in the following.

The development of vvtoE was initiated to improve the overall quality of English education in primary schools and to achieve a higher command of English to support children in their further educational careers. Van Berkel (2012) showed that vvtoE students almost have a one year advantage in their technical reading ability in English at the end of primary school in comparison to Eibo students. Even though the vvtoE students receive oral English lessons from the first to fourth grade and written English instruction from the fifth grade onwards, the difference is only one year. Additionally, Van Berkel (2000) showed that students who are not very strong technical readers in English, will make many spelling mistakes when they enter secondary school. One of the reasons for these mistakes could be that spelling instruction is rather limited in primary schools as this study shows. This means that there could be room for improvement of spelling instruction in primary education.

Furthermore, the theoretical background showed that English has an opaque orthography while Dutch has a more transparent orthography. Even though there are similarities between the two orthographies, there are important differences as well. Dutch

learners of English thus have to make new grapheme-phoneme connections and learn new spelling rules. Explicit instruction in spelling rules, grapheme-phoneme connections, and differences between Dutch and English orthography may give students more tools to decode new and difficult words when they enter secondary school. Research should be conducted to establish whether explicit spelling instruction in English for vvtoE classes from the fifth grade onwards, could enhance the advantage they have over Eibo students. This difference may be measured through Words&Birds. Considering the students' scores are measured by Oefenweb per school and per class, vvtoE schools and Eibo schools could be compared in order to discover differences.

Additionally, Words&Birds could play an important role in further research into the effectiveness of explicit spelling instruction. As an illustration, the teacher's dashboard provides insight into the ten difficult (nightmare) and five easy (dream) items of each student. Spelling problems could be detected here. If there are difficult words with similarities in spelling, explicit instruction may help the students to retain those words more effectively. For example, if children often forget an *e* at the end of a word (as participant 23 mentioned in the interview), this could be because the children do not know when to use the *e* and when not to. Teachers could give explicit examples or instruction in rules regarding the word final *e.* Or if many mistakes are made in the use of capital letters, the teacher could dedicate some time to explaining the differences between English and Dutch. Only one class used a book to write difficult words in from W&B, thus this method could be implemented more often.

Another area for further research that seemed to be absent in the literature is the difference in effectiveness of the use of games on the computer (typewriting) and spelling exercises on paper (handwriting). During the interviews, some students were asked whether they preferred typing or writing as medium for orthography learning. Most students preferred typing because it was faster and they did not feel that they learned less effectively. However, two students did remark that they occasionally typed unconsciously and that learning can take longer because the typed words were not easily stored in memory. These effects could be studied if the same exercises are tested on the computer and on paper.

## 7.1 Advice to Words&Birds

Words&Birds seems to be a good grammar and vocabulary trainer. However, there are some points that could be improved. The first point is already mentioned above (although it is primarily a difference in usage). The dashboard with the nightmare and dream items of each

student seems to be used by one class only. Instruction to the teachers could be given on how to use this information for more effective spelling retention.

Secondly, it was unknown that the children could adapt the level they are playing on, because it was assumed that the adaptive algorithm was the only way by which the level could be adapted. It is unclear what the possible influence may be on the overall scores of the children and the effect it could have on the adaptive algorithm. The .75 probability of correct answers in a game as W&B may also be too high. From the interviews it was clear that many children believed that W&B was easier than in-class instruction and some mentioned that it did not provide enough challenge. Thus more difficult items should be added or the .75 probability should be lowered. One example in creating more difficult items could be implemented in Chooser while eliminating having to use wrongly spelled words. By giving the participant three different English words to choose from with only one correct word or one word spelled incorrectly, the difficulty could be increased.

Furthermore, some malfunctions seemed to be present in the analysed games and navigation area. Firstly, it can take a long time before the birds fly by in the navigation area. When it takes a lot of time before a game can be played or when the bird will fly by, children will get demotivated or irritated. The games (the birds) should be visible constantly in the navigation area to allow children to start immediately. Secondly, the audio in Ducktator may cause irritation and could be improved as well. The 'robotic' voice or the interrupted sentences may be caused by software malfunctions or the audio content itself should be adapted. Additionally, Ducktator is the only game for spelling retention with audio support. In order to help children make the new grapheme-phoneme connections as explained in the theoretical background, more and better audio support is needed. Another problem was found in Puzzl. Some participants mentioned that their answers were labelled as incorrect while the displayed correct answer was exactly the same. This happened in words like *kiwi* with two identical letters. When these letters are switched, they are seen as incorrect.

Apart from these malfunctions in the games, all children were still very positive about the games and liked playing them. Question 8 ('Which game do you like best?') was not analysed in the result because of the missing values. However, they may be of interest for Words&Birds because Puzzl was voted on the most. One participant refused to choose just one game, this participant represents the missing value in Table 8 (p. 51).

Lastly, it is clear that explicit spelling instruction (especially regarding spelling rules), is limited in in-class education. Similarly, there is no explicit feedback in Words&birds. An important addition to Words&Birds for the enhancement of spelling instruction in primary

education could be given by informative feedback. By giving more elaborate feedback that would teach the children spelling rules or show the children words that are spelled alike, spelling instruction in general, could be enhanced. In this manner, W&B could be of greater value for English spelling acquisition.

Table 8.
*Frequencies table on question 8.*

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Chooser | 2 | 3.2 | 3.3 | 3.3 |
| Verby | 3 | 4.8 | 4.9 | 8.2 |
| Twinny | 3 | 4.8 | 4.9 | 13.1 |
| WordoAudio | 5 | 8.1 | 8.2 | 21.3 |
| Shaper | 6 | 9.7 | 9.8 | 31.1 |
| Flashy | 9 | 14.5 | 14.8 | 45.9 |
| Ducktator | 9 | 14.5 | 14.8 | 60.7 |
| Puzzl | 24 | 38.7 | 39.3 | 100.0 |
| Total | 61 | 98.4 | 100.0 | |
| Missing | 1 | 1.6 | | |
| Total | 62 | 100.0 | | |

In conclusion, the children enjoyed playing with Words&Birds. Some children (especially the older children) missed some challenge and felt that the words were often too easy or were too similar to their Dutch equivalent. There were some malfunctions in the games which can be solved. Additionally, new games could be added. In order to enhance spelling retention in general and substitute the lack of specific spelling instruction in class, informative feedback and more (and better audio support) could be added to Words&Birds. In this way, W&B could contribute to more effective orthography learning. However, more research is needed in the effectiveness of explicit instruction and learning spelling through a digital game.

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## 9. Appendices

<div align="center">Scorelijst</div>

Naam school: _____

Plaats:_____

EarlyBird school: ja/nee (zo ja, sinds wanneer:_____)

Datum:_____

Interviewer:_____

Groep:_____

Bijzonderheden:

_____

*Algemeen deel (1,5 min)*

1. Herkennen jullie deze vogel?
2. Hoe leuk vind je Engels op school? (Likert)

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

3. Wat vind je van W&B? (Likert)

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

4. Hoe lang gebruiken jullie W&B al?

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

5. Speel je alleen op school met W&B of ook thuis?

| school/thuis/beide | school/thuis/beide | school/thuis/beide | school/thuis/beide |
|---|---|---|---|

6. Hoe vaak speel je met W&B?

| … x per week | … x per week | … x per week | … x per week |
|---|---|---|---|

7. Welke spellen speel je?

| 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 |
|---|---|---|---|

8. Welk spel vind je het leukste? Waarom?

| 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 |
|---|---|---|---|

9. Welk spel vind je moeilijk? Waarom?

| 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 | 1/2/3/4/5/6/7/8 |
|---|---|---|---|

10. Op welke moeilijkheidsgraad speel je W&B?

| 1/2/3 | 1/2/3 | 1/2/3 | 1/2/3 |
|---|---|---|---|

*Spelling (7min)*

11. Heb je het in de les ook wel eens over de spelling van Engelse woorden?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

12. Wat doe je dan in zo'n les?_____

13. Wat voor manieren gebruikt je juf om moeilijke woorden te onthouden?

_____

14. Helpt het als je een woord heel vaak moet overschrijven?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

15. Denk je bij het spellen van een Engels woord wel eens aan de Nederlandse spelling?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

16. Ik vind het fijn als de juf een Engels woord in het Nederlands vertaald.

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

17. Ik vind het fijn als de juf de verschillen tussen de Nederlandse en Engels spelling uitlegt.

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

18. Vind je W&B makkelijker of moeilijker dan Engels in de klas? Waarom?

| makkelijker/moeilijker | makkelijker/moeilijker | makkelijker/moeilijker | makkelijker/moeilijker |
|---|---|---|---|

19. Gebruik je weleens woordjes in de klas die je met W&B hebt leren spellen?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

20. Gebruik je weleens woordjes in W&B die je in de klas hebt leren spellen?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

21. Ik vind het spel **Chooser** goed om spelling mee te leren.

|  |  |  |  |
|---|---|---|---|

22. Vind je het vervelend om fout gespelde woorden te zien?

| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

23. Vind je **Ducktator** een goed spel om spelling mee te leren?

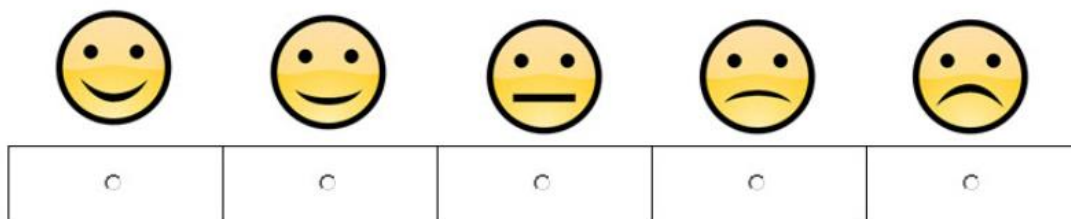| ja/nee | ja/nee | ja/nee | ja/nee |
|---|---|---|---|

24. Ik leer een woord correct te spellen door de letters in de goede volgorde te zetten zoals bij **Puzzl**.

|  |  |  |  |
|---|---|---|---|

25. Ik vind **Flashy** een goed spel om spelling mee te leren.

|  |  |  |  |
|---|---|---|---|

Appendix B: Likert-scale

Appendix C: Transcription of interviews.
Interviewer 1: J. Larrazabal Garcia
Interviewer 2: G. van den Hoorn

**School 1: Group 5**
*Questions 11, 12, 13, and 14. 22:15-22:31 with Interviewer 1 and P1, P2, P3, and P4.*
I1 En heb je het in de les ook wel eens over de spelling van Engelse woorden, dus hoe je een woord moet schrijven, welke letters er in een woord zitten. Hebben jullie het daar wel eens over?
P1 Ja
P4 Ja
P3 Soms
P2 Soms
I1 Soms? En wat doe je dan in zo'n les met spelling?
P1 Overschrijven.
P3 Vroeger deden we dat wel overschrijven. Maar nu, onze schriftjes zijn een beetje door de war gegooid.

P4 Taalschriftjes en onze Engelse schriftjes.

[inaudible]

I1 En vind je het moeilijk om de spelling van woordjes te onthouden?

P1 Ja want soms schrijf je een woord met ch en soms met een g

P4 Ja of boxes schrijf je dan met ks

I1 En wat doe je om die woordjes te onthouden?

P2 Heel vaak oefenen.

P3 Kun je opschrijven en dan heb je het weer geleerd.

I1 En wat voor manier gebruikt de juf om de spelling van moeilijke woorden te onthouden?

P4 Heel vaak herhalen.

P3 Overschrijven.

I1 Helpt dat?

P3 Ja want dan onthoud je het.

P1 Ja.

I1 Zou je regels willen leren die je helpen bij het goed opschrijven van spelling van moeilijke woorden?

P1 Ja dat zou wel kunnen

P2 Ja

P3 Ja

P4 Ik denk het

*Unstructured 28:10-29:02*

P3 Ja ik wil dat echt verbeteren. Ik wil dat verbeterd echt meer spelletjes gemaakt worden en ik wil dat levels komt zodat je beter kan worden.

I1 Zodat je zelf beter kan zien dat je beter wordt?

P3 Ja.

I1 En jullie, hebben jullie nog dingen die verbeterd kunnen worden?

P4 Oh ook als je een woord fout het dan eh… ik hoop dat dat komt, dat kan je die woord aanklikken en dat je die vaak kan oefenen.

I1 Dat hij vaker terug komt?

P4 Ja dat je hem vaak kan oefenen.

**School 1: Group 6**

*Questions 11, 12, 13, and 14. 15:49-18:01 with interviewer 1 and P5, P6, P7, P8, and P9.*

I1 En hebben jullie het in de les ook wel eens over de spelling van Engelse woordjes? Dus hoe je een woordje schrijft?

P5 Jawel

P7 Soms

P8 Ja heel soms

P6 Heel klein beetje

I1 En wat doet de juf dan in zo'n les?

P5 Nou over hoe je een woordje schrijft.

I1 Dan schrijft ze het op het bord?

P5 Nee nee, ze zegt alleen maar hoe je het moet schrijven dus zeg maar

I1 Dus ze gaat het spellen?

P5 Ja maar wel in het Engels.

I1 En vind je het lastig de spelling van Engelse woordjes te onthouden?

P6 Nee

P9 Niet echt

I1 Wat voor manieren gebruikt de juf om moeilijke woordjes te onthouden?

[silence]

I1 Gebruikt de juf manieren om de spelling van woordjes te onthouden? Heeft ze daar manieren of oefeningen voor?

P5 Nee eigenlijk niet

P6 Ze heeft een boek dat is eigenlijk anders hoor maar dan kijkt ze daar in.

[inaudible]

I1 Zou je regels willen leren die je helpen bij het goed opschrijven van spelling van moeilijke woorden?

P6 Jawel

P8 Ja

I1 En helpt het als je de spelling wilt leren om een woord vaak over te schrijven?

P6 Een beetje

P5 Nee nou soms.

I1 Doen jullie dat wel eens?

P8 Nee bijna niet

P7 Soms overschrijven van het bord of boek. Maar meer opdrachten alleen.

**School 1: Group 7**

*Questions 11, 12, 13, and 14. 15:57-19:36 with interviewer 2 and P10, P11, P12, P13.*

I2 Heb je het in de les wel eens over spelling van Engelse woorden?

P10 (or P11) Niet echt

P12 Niet echt. We letten alleen op de woorden wat dat betekent.

I2 De betekenis, niet echt spelling?

P10 Niet echt spelling

P12 De spelling niet echt nee We hebben het meer over de betekenis niet echt spelling

P11 Maar ehm mag ik wat zeggen met spelling bedoelt u toch eh zeg maar hoe je het schrijft?

I2 Ja dat klopt. Hoe je een woord schrijft.

P11 Nou eigenlijk dat ook best wel maar ik bedoel… niet van… losse letters

P12 We hebben het wel eens over letters. We hebben wel een werkblad.

I2 Wat bedoel je met een werkblad?

P12 Ja met opdrachten

P11 Van Cloe heeft of Cloe schrijft een brief.

P13 We hadden daar ook een toets van.

[inaudible]

P11 Wij hebben zeg maar ook boeken en zo

I2 Een woordenboek?

P11 Nee geen woordenboek waar wij lessen mee hebben

P13 Een activity book.

P12 Activity book

P11 Nee maar hij heeft echt een naam

P12 Ja daar staan ook schrijfopdrachten in met woorden.

I2 Wat voor opdrachten?

P11 Gewoon dingen schrijven.

[Inaudible]

I2 Vind je het lastig om de spelling van woorden te onthouden?

P12 Nee eigenlijk alleen lange woorden.

I2 En wat voor manieren gebruikt je juf om de spelling van woorden te onthouden?

P11 Op het bord schrijven of uitbeelden

P12 Ja uitbeelden

P11 Ja of met samenstellingen en dan met plaatjes van de woorden

P13 Ja en dan mag je alleen Engels praten

P11 Ja en we hebben ook kaarten en daar staat dan zeg maar een plaatje op een dier of ding en dan moet je zeggen wat het is.

P12 Of dan hebben we van die dierenplaatjes en dan staat er niet wat het is maar dan moet je het Engels beschrijven.


**School 2: Group 5**
*Questions 11, 12, 13, and 14. 16:23-17:09 with Interviewer 1 and P14, P15, P16, and P17.*
I1 En hebben jullie het in de les ook wel eens over de spelling van Engelse woordjes?

P14 Nee

P15 Nee

I1 Nee helemaal niet

P17 Nooit. Nooit van mijn leven

P16 Nee dat staat er gewoon

I1 Nee? Dus daar wordt geen aandacht aan besteed in de les?

P14 Nee

I1 En vind je het lastig om de spelling van woordjes te onthouden?

P14 Nee

P15 Nee

I1 en helpt het als je een woordje heel vaak overschrijft?

P14 Nee

P16 Nou soms onthoud je het dan wel.

P17 Soms wel


*21:33-22:01*
I1 En, hoe kom je er anders achter hoe een woordje gespeld is?
Dus je kan het niet horen, hoe kom je er dan achter?

P15 Google

P17 Opzoeken

P14 YouTube

**School 2: Group 6**

*Questions 11, 12, 13, and 14. 14:37-16:22with interviewer 2 and P18, P19, P20, P21*

I2 En hebben jullie het in de les ook wel eens over spelling van Engelse woorden?

I1 Dus hoe je het opschrijft.

P18 ja

P19 Ja

I2 En.. ja wat doe je dan in zo'n les? Ja met echt hoe je dat op moet schrijven.

I1 Gaat dan het uitleggen, op het bord schrijven, het spellen dus het voorzeggen?

P18 Meestal dan hebben dan gaat hij eerst gewoon naar het boek dan gaat hij ons dingen uitleggen op het digibord dan gaan we lesjes maken en dan meestal is het gewoon met spellen.

I2 wat voor manieren gebruikt de meester om de moeilijke spelling van woorden te onthouden?

[silence]

I1 Want in het Engels zijn er wel eens woorden met letters die je niet hoort als je het uitspreekt? Heeft de meester daar manieren voor om die te onthouden?

P18 Beetje wel beetje niet

P19 Beetje wel beetje niet

P18 Dan legt hij het uit wat het betekent dan dat het zo is als je het zo hoort en soms als we het niet begrijpen dan zoeken we er een plaatje erbij.

I1 Zou je spelling regels willen leren die je helpen bij het goed opschrijven van spelling van moeilijke woorden?

P18 Ja dat is makkelijker misschien


**School 2: Group 7**

*Questions 11, 12, 13, and 14. 12:27-14:46 with interviewer 1 and P22, P23, P24, P25*

I1 En als je kijkt naar spelling, heb je het daar ook wel eens over met de meester in de les?

P22 ja

P23 Ja

P25 JA

I1 En wat doe je dan in zo'n les?

P22 Nou in de les staat dan ook wel, de dan.. op het eind van al die woordjes staat dan ook de woordjes ook het gehakt. Dus dan moet je dan ook weer

P24 De titel

I1 Okee dus dan in stukjes van het woord

P22 Ja en dan weer helemaal

P23 Dan moet je helemaal zeggen

P24 Je moet ook gewoon een verhaal maken in het Engels en dan zeg je dit is de titel. in het Engels.

I1 En vind je het lastig om de goede spelling van woordjes te onthouden?

P23 Een beetje

P22 Ja

P24 Ligt eraan welk woord het is.

I1 en wat zijn bijvoorbeeld moeilijke woorden?

P23 ja so

I1 wat is een woordje dat je heel vaak fout hebt omdat je het verkeerd opschrijft?

P24 Nieuwe woordjes

P22 Ja nieuwe

I1 en zijn die bijvoorbeeld dan heel lang of hebben ze letters die je niet kunt horen?

P22 Ja

P23 Ja meestal dan hebben heel veel mensen een e op het eind terwijl dat helemaal niet hoeft.

I1 Ah dus dan hebben ze een letter te veel of een letter die je niet hoort

P22 Ja

P23 Ja

I1 En heeft de meester er manieren voor om woordjes te onthouden? De spelling daarvan, heeft hij daar manieren voor?

P24 Ja, als we, je moet het voorlezen en als het dan fout is dan moet het nog een keer.

P23 en dan moet je hem in stukjes en dan helemaal opschrijven.

**School 2: Group 8**

*Questions 11, 12, 13, and 14. 16:36-18:20 with interviewer 1 and P26, P27, P28, P29, P30*

I1 heb je het in de les ook wel eens over de spelling van Engelse woorden?

P28 Volgens mij wel

P26 Ja Engelse leenwoorden

P27 Ja

I1 En dan, wat voor les is het dan? Schrijft de meester het dan op of?

P27 Je moet het gewoon helemaal zelf doen.

P26 Ja

P29 soms geeft hij een beetje uitleg

P28 hij geeft eigenlijk gewoon uitleg over wat je moet doen en dan moet je het helemaal zelf doen.

I1 Okee. En met lastig gespelde woorden?

P28 Als het lastig is dan vraag ik het meestal aan vrienden weer.

P26 Ja

I1 Okee En vind je het lastig om de spelling van moeilijke woorden te onthouden?

P28 Ik in ieder geval niet echt

I1 Jij wel?

P30 Ja soms

I1 En wat voor woorden zijn dat dan?

P30 Ja woorden die ik nog nooit heb gehoord

I1 Nieuwe woorden?

P30 Ja

P29 Ja

P27 Ja soms meestal niet

P26 Ik ook meestal niet

I1 En heeft de meester ook manieren om de spelling van lastige woorden te onthouden?

P27 Nee niet echt volgens mij

P26 Nee

P27 Wel een paar ezelsbruggetjes maar dat is meestal voor Nederlandse woorden.

I1 En kun je die dan ook voor het Engels gebruiken?

P27 Nee dat doen we eigenlijk niet

P26 Nee niet echt

P28 Nee die zijn vaak speciaal voor een woord.

I1 Zou je ezelsbruggetjes voor Engels willen leren?

P28 Ja als dat kan

P26 Zijn die er dan?

P27 Ja

*Unstructured 28:00-28:30*

P27 "en de robot stemmen. Dus dat ze eerder gewoon normaal praten" … "maar ook gewoon dat het heel irritant is." … "het is heel verleidelijk om de hele tijd te klikken omdat het gewoon heel grappig klinkt"

*28:53-29:00*

P26 "Ik wil gewoon alles kunnen doen, gewoon alle spellen kunnen doen" … "Dat je in de bonus lucht komt dat ze niet weg zijn."

*29:10-29:15*

P30 "Maar het is ook zo je moet heel lang wachten voordat een spel voorbij komt maar je wilt ze gewoon kunnen spelen."

**School 3: Group 5**

*Questions 11, 12, 13, and 14. 14:01-15:48 with interviewer 1 and P31, P32, P33, P34*

I1 Dan gaan we over naar spelling, heb je het in de klas ook wel eens over de spelling van Engelse woordjes? Dus hoe je ze op moet schrijven en de letters…

P31 beetje

P32 Nee

P33 Nee

I1 En wat doe je dan in zo'n les, als het een beetje over spelling gaat?

P31 Eh… als je.. de meester schrijft het een beetje goed op. Dan moet je kijken hoe je het op moet schrijven

I1 En dan moet je het ook over schrijven?

P31 Nee dat moet niet. Kan je het beter een beetje leren, onthouden

I1 En vind je het lastig om de goede spelling van woordjes te onthouden? Sommige woordjes zijn misschien best lastig.

P33 Ja

P34 Ja beetje

P31 Ja Beetje

I1 En helpt het als je woordje heel vaak over moet schrijven?

P31 Ja

P32 Ja

P33 een beetje

P34 uhuh

**School 3: Group 6**

*Questions 11, 12, 13, and 14. 29:24-31:30 with interviewer 1 and P35, P36, P37, P38*

I1 Wat doe je in de les als het over spelling gaat van Engelse woordjes? Wat doe je dan?

P36 Dan ga ik een soort van raden?

P35 Mag ik de vraag nog een keer horen?

I1 Wat doe je in een les als het over Engelse spelling gaat?

P35 Dan zeg de juf soortvan een woord en dan moeten we ik denk in het gele of klad schrift… ik denk gele dan moeten we eh… dan moeten we gewoon normale klad schrift in het Engels of Nederlands wanneer juffrouw in het Nederlands zegt moet je in Engels schrijven

I1 dus gewoon overschrijven eigenlijk

P35 Ja en daarna kijken we met de hele klas na. Normaal krijgen we zes of vier woordjes.

…

I1 vind je het lastig om de goede spelling van woordjes te onthouden

P35 Nee vind ik niet lastig

P36 Nee niet

P37 beetje lastig

I1 Wat voor manieren gebruikt de juf om moeilijke woordjes te onthouden

P35 Dan gaat de juffrouw soms eh Ik weet niet of hij erbij was maar dan gaat de juf ehh

I1 Helpt het bijvoorbeeld als je de woordjes heel vaak overschrijft?

P38 Ja

P37 Nee

P35 Ja dat soms wel maar ik weet niet meer wat de meester doet maar eh Ik dacht dat het groep 5 of 4 was gaat de meester de kinderen bij elkaar op de instructie tafel en dan uitleggen.

**School 3: Group 7**

*Questions 11, 12, 13, and 14. with interviewer 2 and P39, P40, P41, P42*

I2 En hebben jullie het in de les ook wel eens over spelling van Engelse woorden dus hoe je woorden moet schrijven

P39 Ja

P41 Nee

P42 Jawel

I2 En wat doe je dan in zo'n les met spelling?

…

I1 Heb je het met de meester wel eens in de les over de spelling van Engelse woordjes?

I2 Wat doe je dan in zo'n les?

P39 Oh ik dacht gewoon oh ik dacht zelf

I2 Nee met de meester

P39 Ja dat doen wij gewoon

P40 goed naar de woord kijken

P41 Ja soms dan gaat de meester altijd uitleggen.  Of een leuk verhaaltje die over de woord gaat en die verhaaltjes vergeten wij nooit. en dan onthoud je het woord ook

P39 Ja en het is grappig

P41 Ja grappig dus dan onthoud je de betekenis ook

I1 Dus dat helpt bij het onthouden van de spelling

P41 Ja

P39 Ja ook

I2 Vind je het lastig om de goede spelling van woorden te onthouden

P39 Ja

I2 Ja of nee

P41 Ja de meeste niet dus

I2 en wat voor manieren gebruikt de juf om de spelling van de woordjes te onthouden

…

I1 want heb je wel een woordjes met letters die je niet allemaal kan horen. Heeft de meester daar manieren voor om die te onthouden?

P40 Ja soms hebben we wel toetsen of dictee en zo

I2 helpt het als je een woord heel vaak moet overschrijven?

P39 Ja

P40 Ja

P41 Ja

I2 allemaal wel.

**School 3: Group 8**

*Questions 11, 12, 13, and 14. 16:40-20:35 with interviewer 1 and P43, P44, P45, P46*

I1 Dan gaan we even over naar spelling, heb je het in de les met de juf wel eens over de spelling van Engelse woordjes? Dus hoe je ze moet opschrijven en de letters die je gebruikt

P43 Ja daar hebben we het wel over maar ik kan geen voorbeeld geven

I1 Ok weet een van jullie wel een voorbeeld? Wat de juf dan doet in zo'n les?

P44 Ja meestal dan hebben we in ons boek want we hebben die 'our discovery', dan moet je eerst dan heb je gewoon van die lessen en dan moet je zelf bladzijdes gaan maken en dan als wij niet weten hoe je het moet schrijven dan schrijft de juffrouw het meestal op het bord

I1 dus dan schrijft ze het voor

P44 ook gewoon als we gewoon geen Engels doen en iemand snapt het niet

I1 Ok dan, laatste bladzijde. Vind je het lastig om de spelling van Engelse woordjes te onthouden?

P44 Beetje

P43 Ik denk het ook

I1 En van wat voor soort woordjes? Lange woorden of woorden waarbij je niet alle letters hoort?

P44 Ik denk lange woorden.

P45 De woordjes die ik niet goed hoor

I1 Dus waarbij de uitspraak niet echt helpt?

P46 Ik denk alle twee wel

I1 En hebben jullie weleens, of wat voor manieren heeft de juf om dat soort lastige woordjes te onthouden?

P44 Ze schrijft ze meestal op het bord en dan kijken we ernaar.

**School 4: Group 5**

*Questions 11, 12, 13, and 14. 21:11-23:13 with interviewer 1 and P47, P48, P49, P50*

I1 En hebben jullie het in de les ook wel eens over de spelling van Engelse woordjes? Dus hoe je het moet opschrijven de letters die je gebruikt?

P47 Nou niet echt

P48 Nee

P49 We moeten wel eens lezen in backpack maar nooit echt dat we een zin moeten schrijven of zo iets.

I1 Okee en doet de juf wel eens op de bord een nieuw woordje opschrijven die jullie dat na moeten schrijven?

P47 Nee

P48 Volgens mij nooit

I1 En heeft de juf ook maniertjes om moeilijke woorden te onthouden?

P48 Dat weet ik niet

I1 Dus dat de juf er wat omheen verteld of dat ze het…

P50 Ze verteld wel eens…

P47 Volgens mij is dat dat het hele boek.

I1 In het boek lezen

P50 Ja als… net zoals bij Elise dat is een meisje uit de klas van groep 5 die vind het weleens moeilijk en dan zegt juf "het beest heeft two armen" of dat in het Engels en dan snapt ze het niet en dan doet ze zo.

I1 Ah dus dan gebruikt ze gebaren eigenlijk om het uit te leggen.  Ok super

P50 Ja

I1 En denk je dat het helpt om een woordje heel vaak over moet schrijven? Onthoud je het dan beter?

P47 Ja wel met Engelse toetsen dan moet ik het van mijn vader en ook bij topo moet ik het heel vaak overschrijven maar dan weet ik het bij de toets en dan haal ik een 10+

P50 Wij moeten wel met Engelse toetsen dan moet ik het telkens zeggen dan mag ik het eerst effe heel goed lezen Dan houdt mama het blaadje voor en dan zegt ze cow en dan moet ik het in het Nederlands vertalen en dan zeg ik koe en dan zegt mama het Nederlands en moet ik het in het Engels zeggen.

I1 Oh dus je doet eigenlijk een soort dictee wat goed!.


**School 4: Group 6**

*Questions 11, 12, 13, and 14. 18:18-20:24 with interviewer 2 and P51, P52, P53, P54*

I2 En heb je het wel eens over spelling in de Engelse les?

P51 Nee

P54 Nee

P52 Ja

P54 Nee

P52 Ja in de lessen

P53 Ja heel soms

P54 Ja heel soms

P52 Dus doe maar nee

I2 Ok en wat doe je dan zo'n les als je dat soms doet?

P53 Ok ja we hebben backpack en dan staat er wel altijd hoe je het schrijft dus oke dan denk ik toch ja

P54 Nee ikke nee

I2 Vind je het lastig om de goede spelling van woorden te onthouden? Ja of nee? In het Engels?

P53 een beetje ja ligt eraan hoe lang een woord is.

P52 Ja ligt eraan hoe lang het is ja

P54 Ja zelfde als …

I1 Dus lange woorden zijn moeilijk om te onthouden?

P54 Ja

I2 En wat voor manier gebruikt je juf? Zodat jullie beter moeilijke woorden kunnen onthouden?

P54 Words&Birds

I1 Door Words&Birds?

P54 Ja door Words&Birds, rekentuin ook wel

[…]

I2 En helpt het als je een woordje heel vaak moet overschrijven?

P53 Ja

P54 Ja

P52 Ja

P53 Nou we hebben wel eens huiswerk voor een Engelse toets ehh ja dan helpt het wel

I1 Dus als je voor een toets Engelse woordjes wilt leren ga je woordjes vaak opschrijven?

P53 Ja maar met Ducktator gaat het wel wat makkelijker hoe je het schijft

I2 En als je een woordje fout hebt in W&B kijk je dan ook waarom je het fout had?

P53 Ja

P54 Ja soms

P52 Maar soms heb ik ook wel met Ducktator dan schijf ik most en dan schrijf ik most goed en dan klik ik erop en dan het toch fout.

P54 Ik heb wel eens in W&B dan vergeet ik de hoofdletter bijvoorbeeld voor januari


**School 4: Group 7**

*Questions 11, 12, 13, and 14. 20:10-22:02 with interviewer 1 and P55, P56, P57, P58*

I1 En hebben jullie het in de les ook wel eens over de spelling van Engelse woordjes? Over de letters die je gebruikt

P55 Nou eigenlijk nooit

P56 Bijna nooit

P57 Nou we moeten het zelf maken in het boek en als je gaat nakijken en je weet iets niet hoe het spelt de meester spelt het meestal ook wel als je het zelf moet opschrijven

P56 Nou het vaakste is als hij rond gaat kijken zeg maar door de klas wat ze in het boek hebben staan en eh als hij ziet wat fout is dan verbeterd hij de spellingfout

I1 Dus als hij het ziet dan verbeterd hij het en dan leer je daar van

P56 Ja

I1 Vind je het lastig om de spelling van nieuwe woordjes te onthouden? Ja of nee?

P56 Nee

P57 Nee vind het wel makkelijk

P58 Ja ik ook wel

P57 Heel vaak

P56 Nou kijk met dat ene spel.. die hebben ze altijd hele lange woordjes die ik echt totaal niet snap

P57 Ja maar daar heb je ook zinnen bij.. daar heb je ook zinnen bij

P56 Ja maar dan snap ik ze als nog niet

[…]

I1 En gebruikt de, wacht meester hebben jullie he? Gebruikt de meester nog manieren om moeilijke woorden te onthouden? Verteld hij er bijvoorbeeld een verhaaltje bij?

P56 Nee

P57 Nee eigenlijk niet

P58 Nou soms

P56 Ik snap de uitleg vaak ook niet echt van het boek.

[…]

P56 Hij zegt wat het antwoord is en hij legt het soms even uit en de spelling en dan is het klaar.

**School 4: Group 8**

*Questions 11, 12, 13, and 14.  14:14-with interviewer 2 and P59, P60, P61, P62*

I2 Heb je het in de les ook wel eens over hoe je woordjes schrijft, over de spelling van Engelse woorden?

P59 Nee

P60 Jawel

I2 En wat doe je dan in zo'n les?

P62 De meester schrijft het soms op het bord

I2 Nou dan gaan we weer door, vind je het lastig de goede spelling van woorden te onthouden?

P62 Nee

P60 Nee

P59 Niet echt

I2 En wat voor manier gebruikt je juf eh meester bedoel ik om te onthouden hoe je het schrijft?

P59l Dat doet hij eigenlijk nooit.

I2 En helpt het als je een woordje vaak over moet schrijven?

P60 Eh nee ik weet niet

P62 Ja soms