Content and Language Integrated Learning

A Look Into Vocabulary Range and Inference of Meaning as Part of the General Proficiency of Pupils of the 'Traditional' Language Teaching Method and the CLIL Teaching Method

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1. Introduction

1.1 Overview

Content language integrated learning (CLIL) and the traditional approach to vocabulary acquisition are situated at the core of this thesis. As bilingual education has been on the rise for the last decades, and as it has received acclaim and extensive promotion in recent years, the author of this thesis was particularly interested in the effectiveness of CLIL education in comparison to the 'traditional' type of education. An important aspect to language proficiency is vocabulary range, and it is relevant to research if CLIL is more effective than the 'traditional' method from this vantage point. By focusing on one specific component in learning English as a foreign language, namely vocabulary acquisition, this thesis attempts to provide clarity of the results of the CLIL teaching method on the subject of vocabulary acquisition as part of pupils' general proficiency.

1.2 Theoretical background

The theoretical chapter focuses on vocabulary acquisition, and in particular three important components in vocabulary acquisition; word knowledge, strategies for guessing from context, and L1 sensitivity in pseudo cognates. Relevant theories discussed in this thesis concern Paribakht and Wesche's Vocabulary Knowledge Scale, the number/percentage of lexical items needed for reading comprehension as researched by Schmitt, and Hu & Nation. The Involvement Load Hypothesis is included as it is relevant for the comparison between CLIL and non-CLIL pupils, in terms of their test performance. Research by Hall is of relevance to this thesis, as he conducted research into L1 sensitivity in L2 word learning. Hall elaborates on the Parasitic Strategy, a strategy which learners subconsciously equip to infer meaning from unknown L2 words by making use of their L1 lexical knowledge. Batia Laufer carried out research on guessing from context and the role 'synforms' (words which are easily mistaken for a different word because they sound or look similar) play in inference of meaning and guessing from context.

1.3 Research variables

The variables discussed in this thesis are exposure to English, L1 sensitivity, strategies for inference of meaning. In addition to the main variables, other factors were taken into account as well, such as time spent with English outside of the classroom and the correlation of extracurricular activities and performance. Especially the exposure to English plays an important role in this research, as exposure is perhaps the largest difference between the two approaches.

1.4 Research gaps

Research was conducted on vocabulary acquisition and the content and language integrated learning approach, yet there is little research that combines these two with the 'traditional' approach to language learning. This thesis looks into the two teaching methods and focuses on the pupils' vocabulary range as part of their general proficiency. The comparison made between the two learning methods could be of use to further improvement of either method, and it can shed light on the weaker aspects to both methods which can use some improvement.

1.5 Thesis overview

This thesis consists of five chapters: 1. Introduction, 2. Literature, 3. Methodology, 4. Results, 5. Conclusion and discussion. Following the introductory chapter, the second chapter introduces English as a Foreign Language (EFL), Content and Language Integrated Learning (CLIL) and the 'traditional' approach to language learning in Dutch secondary schools. It also elaborates on research in vocabulary acquisition, in which it aims to discuss variables such as exposure and strategies for guessing from context. In the third chapter, the test design for this research is discussed and demonstrated, including demographic information of the pupils that were the subject of research. In the fourth chapter, the outcomes of the tests are presented in discussed so that in the fifth and final chapter the research questions of this thesis can be answered. The fifth chapter also features the limitations of this research and the implications for future research.

The main research question of this thesis is:

"Does the CLIL approach result in pupils' more comprehensible word knowledge and lexical strategies for incidental learning and guessing from context?"

This main question is divided into sub-questions:

1. Do CLIL-pupils have more word knowledge of words from the 1001-2000, 2001-3000, and 3001-4000 BNC word frequency levels than 'traditional' pupils?
2. Are CLIL-pupils better equipped with strategies (as a result of the Involvement Load Hypothesis) in incidental learning and guessing from context (due to their higher exposure to English)?
3. Are CLIL pupils less sensitive to L1 interference in isolated words and pseudo cognates?

The substantial exposure to the L2 in the CLIL teaching method could influence the vocabulary knowledge of pupils positively, as exposure is crucial in language and vocabulary learning. As incidental learning is an important strategy in the final stages of L2 acquisition in secondary schools, it is relevant to conduct research on pupils' performance in guessing from context. In

the process of incidental learning, L1 interference could contribute to erroneous vocabulary acquisition. The third sub-question aims to find out if L1 interference is of relevance in the comparison between the CLIL and the non-CLIL teaching method, so that it could be taken into account in strategies for incidental vocabulary learning.

2. Literature

This chapter discusses key theoretical aspects to this research; vocabulary word knowledge, guessing from context and L1 sensitivity, and focuses on the traditional approach to teaching English as a Foreign Language (EFL) and a different, more recent approach called Content and Language Integrated Learning (CLIL). In addition to that, this chapter strives to provide a clear description of the similarities and differences between these two approaches in secondary school environments as this research mainly deals with the traditional and CLIL approach for pupils doing their A-levels in Dutch secondary school (VWO).

As the focal point of this research is vocabulary acquisition, this chapter also serves to discuss and elaborate on the theoretical background related to this type of acquisition, which results in a theoretical framework that provides the basis for the methodology (chapter three) and results (chapter four) of this research.

2.1 English as a Foreign Language

While people express themselves using one language mostly, many are capable of speaking more than one language. Some have been taught this language in a natural environment, and others have been taught languages in the classroom. The field of second language acquisition focuses on the acquisition of languages in addition to the mother tongue, distinguishing between several types of 'additional language'. For instance, second language acquisition, in which the second language the learner acquires in addition to his mother tongue is spoken within the same country, and foreign language acquisition, in which the learner acquires a foreign language for long-term use in other countries (Cook, 2008, p. 11).

In secondary schools in the Netherlands, teachers give instruction in foreign language acquisition in languages such as English, French and German. Within these four, five or six years of secondary education, teachers are presented with the challenge to guide their pupils into a (fairly) new language and help them acquire a decent level of proficiency in the said language, so that the pupils can use the target language independently. In this time frame, the pupils are introduced to a wide array of language components which play essential roles in their target language proficiency, namely skills such as reading and listening, but also aspects of language knowledge such as grammar, pronunciation, and vocabulary. Vocabulary provides essential building blocks for pupils to form sentences and allows them to express themselves in the target language.

In acquiring the first language, the vocabulary acquisition process is natural and L1 learners are taught words whenever they come across them, by seeing new objects, by engaging in

conversation and by reading. In foreign language acquisition, the acquisition process is set in a classroom setting and it is often compulsory in secondary schools. Nonetheless, if language proficiency is desired, then vocabulary acquisition is of utmost importance; hence its vital role in foreign language acquisition. A new approach in the acquisition of English vocabulary is on the rise in the Netherlands, where bilingual education ('tweetalig onderwijs') is offered in schools, as alternative to the standard type of education. The next sections discuss the traditional and the bilingual (CLIL) type of education in foreign language acquisition.

2.1.1 Voorbereidend Wetenschappelijk Onderwijs (VWO)

This thesis focuses on the bilingual and traditional types of education offered to the VWO level. In the Dutch secondary education system, VWO is the highest level (Figure 2.1) and its aim is to prepare pupils for university (Ministry of Education, Culture and Science). This aim is evident in the Dutch words that make up the abbreviation of VWO and it can be translated to English as pre-university education.

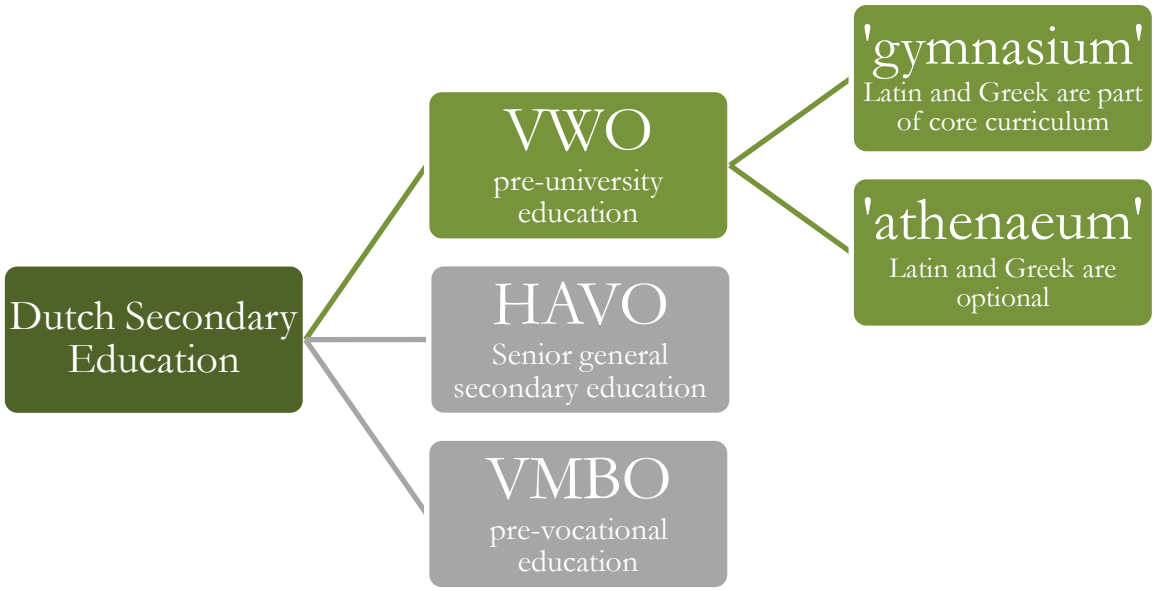

Figure 2.1 Level structure of Dutch secondary education

The first three years of VWO mark a period of basic secondary education in which the core curriculum includes Dutch language, foreign languages, maths, history, science and other subjects. During the last three years of VWO, pupils are prompted to specialize through choosing out of four specialized subject combinations such as: science and technology, science and health, economics and society, or culture and society.

2.1.2 The traditional approach

In the second half of the twentieth century, the traditional approach to teaching English as a Foreign Language was dominant in secondary schools throughout the Netherlands. In this approach, the focus of learning a modern foreign language lies in the teaching/learning of the separate components of the language; grammar, vocabulary, listening and writing. EFL programmes in secondary schools attempt to use the target language as the language of communication, although the L1 is employed in classes and vocabulary acquisition often makes use of L2 – L1 – L2 translations. A considerable amount of time is spent on grammar education and vocabulary acquisition in the lower elementary classes of secondary school, so that pupils can make themselves understood in basic and informal conversation.

Core objectives for the elementary classes (year 1-2) are presented by SLO (Stichting Leerplanontwikkeling), an organization that strives to specify and concretize educational aims for teachers. Equivalent objectives for the more advanced classes are not available, so these core objectives will be used to demonstrate the goals of the traditional approach, which provides insight into the guidelines for this approach. Table 2.2 provides the core objectives:

Table 2.2

Core objectives for English in the traditional type of education in Modern Foreign Languages (Stichting leerplanontwikkeling, 2006)

1. The pupil continues to become familiar with the sound of English by frequently listening to both spoken and sung texts.
2. The pupil learns how to use strategies to expand his English vocabulary.
3. The pupil learns to use strategies to acquire information from texts spoken and written in English.
4. The pupil learns to search for, structure and value information from English written and digital sources.
5. The pupil learns to use colloquial speech so that he can put someone in the picture of his daily life.
6. The pupil learns to hold a standard conversation to buy something, to gather inquiries and to request help.
7. The pupil learns to keep in touch informally through e-mails, letters and online chatting.
8. The pupil learns which role English plays in different types of international contacts.

From these core objectives can be inferred that the emphasis in this stage of learning is mainly put on receptive knowledge as opposed to productive knowledge. Only basic productive knowledge is required in objectives 5, 6 and 7. Exposure to reading materials and listening materials is provided through objectives 1 and 4 and as complementary measures objectives 3 and

4 are introduced, to optimize and integrate strategies and retrieval of information. On average, two hours per week are spent on English lessons.

In the traditional approach, the underlying method for vocabulary is largely based on grammar-translation which follows a thematic structure. This structure provides pupils with a general introduction, a dialogue, a translation-based glossary, and a grammar component that adhere to the topic of interest to the chapter.

In addition to the translation-based glossary, the traditional type of education uses word lists and their translations to teach and expand the L2 vocabulary of pupils. The glossary and word list complement each other in vocabulary expansion; the glossary provides an L1 translation and shows the context in which the word is used, and the word lists aids the student in quickly gaining a substantial number of words associated with the theme of the chapter (or unit as it is also referred to). Key phrases are also provided to familiarize the pupils with words that are used within a specific context and which allow for basic communication on a certain topic (by merely memorizing these phrases and their translation by heart, which 'saves' the language learner from having to apply and process language rules which could possibly interrupt language output at this stage).

2.1.3 Content and language integrated learning

A more recent methodological approach to language learning is Content and Language Learning (CLIL), which was introduced in the Netherlands in 1989. This approach is modelled on the bilingual immersion programme that was introduced in the 1970s in Canada, where schools implemented this bilingual approach to stimulate an additive bilingual environment for the two majority languages, English and French. The immersion programme was quite successful in Canada, as described in Tucker and d'Anglejan's summary of their results and analysis of said immersion programme below:

> "the experimental students appear to be able to read, write, speak, understand, and use English as well as youngsters instructed in English in the conventional manner. In addition and at no cost they can also read, write, speak and understand French in a way that English students who follow a traditional program of French as a second language never do." (Tucker & d'Anglejan, 1972, p. 19 as quoted in Baker, 2011, p.264)

The success of this immersion programme led to a spread to the European continent, where matters were altered slightly, resulting in the introduction of the concept of Content and Language Integrated Learning (CLIL). This methodological approach aims for a broader scope than mere language teaching, as the Eurydice Survey explains:

"[…] its advocates stress how it seeks to develop proficiency in both the non-language subject and the language in which this is taught, attaching the same importance to each. […] achieving this aim calls for the development of a special approach to teaching in that the non-language subject is not taught in a foreign language but with and through a foreign language. This implies a more integrated approach to both teaching and learning, requiring that teachers should devote special thought not just to how language should be taught, but to the educational process in general." (Eurydice, 2006, p. 7)

The choice to use English in other subjects provides educational environments with the opportunity for a greater exposure of the students to the language, without it having to consume a substantial number of the hours of instruction. This approach attempts to integrate a subject (content) and language into one lesson, so that a higher exposure is achieved while time is efficiently being used to study the content of a different subject as well. This efficiency is an important asset to CLIL, but it is not the sole aim of this programme. Depending on the country in which CLIL is employed, additional aims are e.g.:

- preparing pupils for life in a more internationalized society and offering them better job prospects on the labour market (socio-economic objectives);
- conveying to pupils values of tolerance and respect vis-à-vis other cultures, through the use of the CLIL target language (socio-cultural objectives);

(Eurydice, 2006, p. 22)

Most CLIL schools in the Netherlands offer additional hours in teaching the English language in the form of extra English classes, especially in the first six months of secondary school, in order to prepare the pupils for the further extensive classes offered in English.

The CLIL approach can be implemented in different stages of education, and the ranking system 'ISCED' serves to provide structure into stages such as pre-primary, primary, lower secondary or upper secondary education. Eurydice explains that "The International Standard Classification of Education (ISCED) is an instrument suitable for compiling statistics on education internationally. It covers two cross-classification variables: levels and fields of education with the complementary divisions of general/vocational/pre-vocational orientation[…]"(2006, p.60). The corresponding levels for CLIL range from ISCED 0 to ISCED 3, where 0 is pre-primary education, 1 is primary education, 2 is lower secondary education and 3 is upper secondary education. Figure 2.3 shows the ISCED levels and their criteria below.

Table 2.3
ISCED levels and their corresponding criteria (Eurydice, 2006, p. 60)

ISCED level	Main and subsidiary criteria
0: Pre-primary education	Pre-primary education is defined as the initial stage of organized instruction. It is school- or centre-based and is designed for children aged at least 3 years.
1 Primary education	This level begins between 5 and 7 years of age, is compulsory in all countries and generally lasts from four to six years.
2 Lower secondary education	It continues the basic programmes of the primary level, although teaching is typically more subject-focused. Usually, the end of this level coincides with the end of compulsory education.
3 Upper secondary education	This level generally begins at the end of compulsory education. The entrance age is typically 15 or 16 years. Entrance qualifications (end of compulsory education) and other minimum entry requirements are usually needed. Instruction is often more subject-oriented than at ISCED level 2. The typical duration of ISCED level 3 varies from two to five years.

The Netherlands has specified the official minimum amount of time for CLIL use on various ISCED levels. According to Eurydice these amounts are as follows:

ISCED 1: -

ISCED 2 (years 1-3): 50 % of teaching in the target language

ISCED 2 (years 4-5/6): at least 1150 hours are recommended for this stage

(Eurydice, 2006, p. 28)

As the 'content' subjects for CLIL are not set, it is not possible to concretize these amounts, as different subjects are assigned specific amounts of time within the timetable. In the Netherlands, schools decide what kind of curriculum will be offered in both lower and upper secondary education (Eurydice, 2006, p. 26). Whereas CLIL is primarily integrated in science and social science subjects in Europe, this approach is also allowed in additional subjects concerning artistic and/or physical education in the Netherlands.

2.1.4 Differences between the traditional approach and CLIL

The most notable differences inferred from sections 2.1.2 and 2.1.3 lie in the amount of exposure and the manner of exposure to language in both approaches. As the CLIL-approach provides additional hours for exposure to English, in addition to including English as a regular course in the curriculum, this suggests that CLIL pupils have the advantage over pupils of the traditional method and the reason for this is twofold; they receive 'regular' education on the English language in the 'standard' English subject and the complementary opportunity to consolidate this

newly found language knowledge through studying content, through different subjects, in that language. Section 2.4 will further elaborate on the importance of consolidation.

Whereas the amount exposure presents by far the biggest difference between the two approaches, another influential difference can be found in the manner in which English is taught to pupils. In the traditional approach, the L1 is given more leeway and is more likely to be used in comparison to the CLIL approach. The next section (2.2) will discuss the involvement of the L1 in L2 learning and possible consequences of L1 presence in L2 learning.

Even though the traditional approach strives to use the L2 as language of communication, the only opportunities for pupils of the traditional type of education to use the L2 are in fact in the relevant course on the L2 subject. This subject provides the only time to use the target language in terms of production, and even then production is divided into different categories of speaking and writing. Contact with the L2 is thus quite limited in the traditional approach, especially compared with the CLIL approach where pupils get to engage with the L2 in the L2 subject – acquiring grammar, vocabulary, pronunciation and listening skills – while in addition being offered the L2 in different subject contents, which offer a wide array of vocabulary.

2.2 L2 Vocabulary acquisition

In language teaching, or learning for that matter, vocabulary is an important building block for one to achieve proficiency in the target language. Comprehensibility is pivotal, as it represents the base for expansion and improvement in language command. The role of vocabulary in language learning is thus of crucial importance, as is the awareness of the key aspects to achieving success in vocabulary acquisition.

At the heart of effective vocabulary instruction lie several factors, among which having reasonable goals. Setting reasonable goals for language learning (in this particular case in secondary schools, but this applies to vocabulary acquisition in general) demands knowing the current (general) proficiency of the learners the programme is aimed at, in order to provide an accessible entry level. To set these goals, "we must determine a percentage of lexical items in written or spoken discourse that a learner must know in order to understand it" (Schmitt, 2008, p. 330). Research by Hu and Nation (2000) indicates that a 98-99% coverage is sufficient for comprehensibility in the target language. This percentage, however, is rather abstract and does not provide the teacher with a specific goal for vocabulary learning. In order to concretize this number, Nation (2006) carried out research that aimed to provide a more specific number of word families which correspond to the 98% goal, coming up with the conclusion that 6000-7000

word families are required in order for a language user to understand most of the target language. As research is still on-going on this subject, and as both Bonk and Staehr claim that lower coverage percentages (95% and 90%) would also suffice for an adequate understanding of spoken English, it is evident that more research is necessary in order to establish a precise percentage/number, but for now this number makes for a margin in which objectives can be set.

Thus, the coverage percentages for adequate comprehensibility in the target language are impressive, as goals range from 90% to 98%, and these numbers (partially) explain the difficulties in successful language learning. Nonetheless, the high coverage percentages do suggest that mere exposure to language tasks is not sufficient in order to achieve success in vocabulary acquisition. As Schmitt (2008, p.333) mentions: "a more proactive, principled approach needs to be taken in promoting vocabulary learning, which will require contributions from four learning 'partners' [teachers, students, researchers and materials writers]". It is of importance then that the four learning partners co-operate in designing an educational programme that selects specific (commonly used) word families by using word lists, and in instructing this vocabulary effectively.

In order to be able to venture into the field that studies the effectiveness of vocabulary teaching, more information is necessary on the consolidation of vocabulary acquisition. Receptive vocabulary, which indicates the words a person understands but cannot actively apply to their speech or writing, has different requirements in terms of effectiveness than productive vocabulary, which indicates the words a person not only understands, but of which that person is linguistically aware and thus able to actively use it when communicating in a language.

2.2.1 Vocabulary knowledge

The production of language requires a higher quality of vocabulary knowledge (Schmitt, 2008, p. 333) than its reception, something which is as crucial to language production as vocabulary size. Nation provides the range of 'word knowledge' aspects which are of relevance to vocabulary acquisition in Table 2.4:

Table 2.4
What is involved in knowing a word

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

These factors are relevant to vocabulary acquisition as this framework of word knowledge provides a structure that shows the correspondence between language components and their realization in terms of the receptive and productive use of language. This correspondence contributes to differentiating between the two types of education discussed in this thesis, as the structure presents a reliable and concrete means to reveal the implementation of the factors in the two types of education. Some aspects to word knowledge are straightforward, and require explicit instruction, e.g. meaning and form, while others are more dependent on context and require acquisition through considerable exposure to the L2 (Schmitt, 2008, p. 334). Both for explicit and implicit, or contextualized, learning it is of interest that words are recurring with a high frequency, so that the consolidation process is set in motion. Every occurrence of a word allows the learner

not only to consolidate form and meaning, but also to implicitly gain information in the 'use'-category, which contributes to these words being actively used. There is plenty of evidence to show that vocabulary learning is strongly affected by word frequency (Hu & Nation, 2000, p. 406). This influence is also found in Read's 1988 study of the Vocabulary Levels Test (Nation, 1983 and 1990) in which the test results indicated strong implicational scaling; second language learners' scores on the various levels of the test decreased from the high frequency levels to the lower frequency levels.

The greater amount of exposure to the target language in CLIL in comparison to traditional EFL education thus provides teachers with an opportunity to expand the vocabulary of their pupils while providing them with contexts in which the concepts can be consolidated. The consolidation in different content subjects allows for repetition and this in turn provides the pupil with need and opportunity to expand their word knowledge. The level of pupils and their input comprehensibility should be taken into account here, however, as 'acquisition can take place only when people understand messages in the target language' (Krashen & Terrel, 1983, as quoted in Cook, 2008, p.132). The gradual shift from L1/L2 in ISCED-2 to L2-only in ISCED-3 adheres to this notion, and it can thus be said that the initial vocabulary base for pupils is laid in ISCED-2 and expanded upon in ISCED-3.

Hall, Jiang, Sunderman & Kroll all conclude that the L1 is active during L2 lexical processing in both beginning and more-advanced learners (2002; 2002; 2006). This is of interest as CLIL, especially in ISCED-3, strives to no longer make use of the L1 language but rather build upon the existing vocabulary base by using the L2. The advantage the L1-presence offers is establishing the initial form-meaning link, as Prince (1996) found that a higher number of newly learned words could be recalled using L1 translations rather than L2 context, particularly for less-proficient learners. A reason for this is presented by Hall (2002), who hypothesizes that "the initial form-meaning link consists of the new L2 word form being attached to a representation of the corresponding L1 word which already exists in memory, so an L1 translation is a natural vehicle" (Hall, 2002, as quoted in Schmitt, 2008, p. 337). This would, in turn, suggest that the L1 is thus useful at initial stages of vocabulary acquisition; to contribute in vocabulary consolidation and understanding of the concepts.

2.2.2 Consolidation process and reading comprehension

As mentioned above, the learner's frequency of engagement with a word is of influence in the acquisition of that word. This process of engagement is part of the consolidation process, which has been described by Hulstijn and Laufer (2001), who suggest a more detailed notion of the

process, which is dubbed the Involvement Load Hypothesis; "learning consists of three components: need, search and evaluation". 'Need' indicates the requirement of a certain linguistic feature in order to be able to fulfill a task, 'search' denotes the attempt to find the required information and 'evaluation' refers to the comparison of the word, or information about a word, with the context of use to determine if it fits or is the best choice. This hypothesis contributes to vocabulary teaching methods, but other (individual) factors such as attitude and motivation should also be taken into account. Tseng and Schmitt claim that "vocabulary learning is part of a cyclical process where one's self-regulation of learning leads to more involvement with and use of vocabulary learning strategies, which in turns leads to better mastery of their use. This enhances vocabulary learning, the effectiveness of which can then be self-appraised, leading to a fine-tuning of self-regulation and the start of a new cycle (Tseng &Schmitt as quoted in Schmitt, 2008, p. 338).

The consolidation process is thus influential in both vocabulary acquisition and reading comprehension, and the three components are dependent on each other in achieving success in language acquisition. Vocabulary is an essential component of reading comprehension (Grabe, 1991) and research by Barnett (1986) and Strother & Ulijn (1987) indicates that vocabulary is a notable predicting factor of reading skills. The relationship between vocabulary knowledge and reading comprehension could be evident in strategies that involve guessing from context, as vocabulary knowledge could hypothetically be of influence to the comprehension of the overall text which could positively affect the results of inference of meaning from context.

2.2.3 Exposure and the involvement load hypothesis

CLIL pupils are offered the L2 in various subjects, and in accordance with the Involvement Load Hypothesis, the pupils are more often presented with the requirements of Need, Search and Evaluate. This would suggest that the vocabulary knowledge of CLIL pupils is more extensive compared to pupils of the traditional EFL approach, who simply do not receive the same amount of exposure required to achieve this word knowledge. This suggestion might seem one-dimensional, as other factors come into play in vocabulary acquisition (e.g. motivation, attitude) and as the frequent recurrence of words is not guaranteed, i.e. it is not documented whether teachers of English and 'content' teachers reflect on their own speech in class to the extent that is most effective for vocabulary learning. Nonetheless, the difference in exposure is evident from the instructional hours which include the L2 language, and thus should be apparent in the CLIL pupils' vocabulary development and vocabulary knowledge.

Not only exposure to the L2 is of importance in L2 (vocabulary) acquisition, but also the students' output of the L2. Swain's output hypothesis (1985, 1995) proposes that the comprehensible input may not be sufficient for certain aspects of L2 acquisition and that comprehensible output may be needed. Whereas L2 output is required from CLIL pupils on a large scale (in assignments for a variety of subjects), this output is not required from the 'traditional' pupils to the same extent (they only have to provide output in English lessons). The CLIL pupils are given opportunities in which they can develop their production skills through manipulation of their interlanguage system in order to ensure that their L2 output in assignments and communication with their interlocutor is clear and can be understood (Swain, 1985).

2.2.4 Reading comprehension and guessing from context

The CLIL approach relies on incidental vocabulary learning from reading and writing assignments (as will be discussed further in chapter three), thus reading comprehension and strategies for guessing from context should play crucial parts in this approach so that L2 vocabulary acquisition is optimized. Imperative conditions for reading in L2 are understanding the text's words (vocabulary knowledge) and knowledge of the text's subject matter (Ulijn, 1984, Ostyn and Godin, 1985, Ostyn, Vandecasteele, Deville & Kelly, 1987, and Ulijn & Strother, 1990). The aim in using texts is thus to acquire vocabulary, to understand the newly acquired words and finally to apply this newly found knowledge to the comprehension of the text.

Studies of extensive reading programs have cited gains in overall language development (Cho & Krashen, 1994; Elley, 1991; Hafiz & Tudor, 1990) which indicates that the reading component of the CLIL approach contributes to the pupils' language development. Different benefits of extensive reading include increased motivation to learn the new language and renewed confidence in reading (Brown, 2000; Hayashi; 1999; Mason & Krashen, 1997). While these positive outcomes of research promote extensive reading, they do not indicate the effectiveness in terms of vocabulary knowledge or guessing from context. Horst, Cobb and Meara (1998) cautiously claim that extensive reading positively affects the knowledge of the words learners already know, the lexical access speeds, the network linkages between words but that only a few words will be acquired (as quoted in Brown, Waring & Donkaewbua, 2008, p. 221).

More in-depth research in which graded reading materials and a modified vocabulary knowledge scale were used for vocabulary acquisition, discuss in the results section that 51% of the new words were learned (Horst, 2005). The A Clockwork Orange investigation by Saragi et al (1978) shows comparable results: 75% of the target words were correctly identified, especially the frequently recurring ones. It can thus be said that reading in a foreign language, and learning from

context, do contribute to vocabulary knowledge and growth. However, as Nation points out: "inferring from vocabulary meaning from context is an essential strategy for developing reading comprehension and promoting lexical acquisition (2001, p. 240), thus suggesting that inferring meanings of unknown words from context is important for both coping with and learning unfamiliar words.

2.2.5 L1 sensitivity in vocabulary acquisition

Throughout secondary schools, pupils are prompted to continue their acquisition of vocabulary, albeit this stimulation explicit or implicit. In this on-going process, pupils can be confronted with already existing lexical knowledge. This may usefully be viewed as a problem of pattern-matching and assimilation with current lexical knowledge, at least in the onset of the word learning process (Hall, 2002, p. 71). As new words are met throughout secondary school, it can be stated that the onset of the word learning process is recurring for every new word a pupil encounters. The Parasitic Strategy supposes that in this initial stage of word learning, learners are prone to immediately infer meaning from existing lexical knowledge in the L1 (Hall, 2002, p. 72). The process of assigning meaning to a new form is prompted by the input of new language, and indicates that the language faculty in the mind has the responsibility to immediately deal with this input, whether it is L1 or L2.

Unknown pseudo cognates, or artificial language, contribute to research into L1 interference, as the phonological overlap of the pseudo cognate may trigger prior knowledge of L1 lexical knowledge. In studies on lexical guessing (Laufer & Bensoussan, 1982; Bensoussan & Laufer, 1984) these pseudo cognates, or in the words of these studies: 'synophones', were found to be among the most frequently misinterpreted items in reading comprehension (as quoted in Laufer, 1988, p. 115). Laufer uses 'synforms' as an umbrella term for pseudo cognates, synophones, syngraphs and synmorphs.

In the L1 knowledge, similar forms could be triggered by the phonological or orthographical appearance of the synform, and this is how both positive and negative transfer could take place. Positive transfer takes place in case the source word has both phonological and semantic overlap, so that the semantic transfer results in a correct inference of meaning. In the case of negative transfer there is no semantic, but only phonological overlap which causes incorrect transfer of meaning. Talamas et al (1999) argue that less fluent individuals, who are likely to have greater insecurity about their L2 knowledge than more fluent individuals, are more prone to mistake any shared [formal] features for corresponding features in terms of semantics (as quoted in Hall, 2002, p. 70). Laufer comes to a similar conclusion for synforms in context, as

she states that "when an unknown word in the text was confused by the learner with a familiar similar-sounding-one, the contextual clues did not help in guessing the correct meaning of the unknown word" (Laufer, 1988, p. 115) which indicates that in language processing, the L1 semantic/phonological sensitivity overrides the contextual clues provided in a text.

2.3 Summary, hypotheses, main research question and sub-questions

Based on the literature reviewed and concepts discussed, the main research question for this thesis is: "Does the CLIL approach result in pupils' more comprehensible word knowledge and lexical strategies for incidental learning and guessing from context?" In order to answer this main question, the following subquestions are formulated:

1. Do CLIL-pupils have more word knowledge of words from the 1001-2000, 2001-3000, and 3001-4000 BNC word frequency levels than 'traditional' pupils?

Schmitt claims that active vocabulary (production) requires a higher quality of vocabulary knowledge than passive vocabulary, and the CLIL approach elicits more production from its pupils than the 'traditional' approach. This suggests that CLIL-pupils should be able to demonstrate more word knowledge (Table 2.3). As frequent words are likely to be more consolidated as content is taught with the English language in the CLIL approach, it seems plausible that, especially in comparison to 'traditional' pupils who are less exposed to the L2, CLIL-pupils have more word knowledge of words from the three lowest BNC frequency word list levels in the L2.

2. Are CLIL-pupils better equipped with strategies (as a result of the Involvement Load Hypothesis) in incidental learning and guessing from context (due to their higher exposure to English)?

The Involvement Load Hypothesis suggests that the greater exposure of CLIL-pupils to English is linked to the use of the 'Need', 'Search' and 'Evaluate' components of this hypothesis. As CLIL-pupils acquire most of their vocabulary through writing assignments and text comprehension, it can be hypothesized that they are more likely to have made use of the earlier mentioned components. 'Need', 'Search' and 'Evaluate' contribute to strategies for the inference of word meaning from context.

3. Are CLIL pupils less sensitive to L1 interference in isolated words and pseudo cognates?

It is hypothesized that CLIL pupils are likely to be more fluent speakers than non-CLIL students, and according to Hall this would indicate that they are likely to be more confident about their L2 knowledge. Hall states that exposure to the L2, due to familiarization, diminishes the probability

of L1 interference and he adds that increased exposure also affects the confidence of the L2 user. In addition, Batia Laufer's discussion on 'synforms' suggests that interference could also be due to the phonological characteristics of the word. This third sub-questionthus aims to clarify if there is a difference between the correlation of exposure and L1 sensitivity in CLIL and non-CLIL pupils.

3. Methodology

This chapter discusses the methodology underlying this research and the tools used in order to test the hypotheses presented in chapter two. As the CLIL-method and the non-CLIL method (the traditional approach to teaching English vocabulary in secondary schools) are the subjects of this research, two schools were approached: one that offers the CLIL-method, namely Visser 't Hooft in Leiden, and one that offers its pupils only the non-CLIL method, namely Andreas College locatie Pieter Groen in Katwijk. The participation of 5-VWO classes was requested and both schools granted the permission to work with one 5-VWO class. This chapter provides insight into the teaching method of vocabulary acquisition in both schools, the participants, test design and the measurements performed in class.

In the CLIL method, the pupils have been taught vocabulary in the first two years by means of a method called *New Headway* published by Oxford University Press. *New Headway* addresses several aspects of language acquisition: grammar, vocabulary, test builder, everyday English and the online feature of playing games to learn English. It has a thematic approach where sentences and words are offed structured by themes. It is English-English based, and thus does not demand the pupil to make use of L2-L1 translation. In year 3 the CLIL approach switches over from textbook based tasks to working with short texts with associated written tasks, and vocabulary is no longer taught explicitly. Vocabulary is acquired, according to the teacher, through exposure to a vast amount of written and spoken English. The acquisition process continues in year 4, where the writing tasks become longer and more demanding, and it is through use that the pupils develop command of vocabulary and grammar.

In the non-CLIL method, pupils acquire vocabulary on the basis of L2-L1 translation. In the first three years of the non-CLIL approach this is done through the *New Interface* textbook and workbook exercises that cover vocabulary thematically. After the third year, the non-CLIL pupils start to prepare for school exams (part of the central exam grade) and prepare for writing letters, listening to audio fragments, and text comprehension. In order to continue enhancing their vocabulary, the non-CLIL method chooses to support its pupils with a method called *Finish Up*, in which the pupils are yet again offered a thematic approach where words are provided in the form of L2-L1 translations. In addition, *Finish Up* makes use of sentences for the taught lexical items, so that the use of context becomes more important in word meaning and how the word is used in context.

3.1 Research design

In order to generate data for this research, a test consisting of three components was designed. This next section will discuss the different aspects to the test and elaborate on all the components involved in the acquisition of data.

3.1.1 Participant group

There are certain variables that should be taken into account in measuring properties of word knowledge, inference of meaning and L1 sensitivity between CLIL and non-CLIL pupils. In order to limit the number of external factors that could affect the participants and manipulate the variables, it is of importance to strive for two participant groups that have a high number of similarities. From this perspective, the choice was made to approach and request the permission to test 5-VWO groups in both schools, so that the pupils are in the same phase of education.

The ages of participants from both groups ranged from sixteen to eighteen years old. The CLIL group contained twenty pupils and the non-CLIL group contained nineteen pupils. Both groups showed an even distribution of gender; there were 8 female participants and 12 male participants in the CLIL sample and there were 10 female participants and 9 male participants in the non-CLIL sample.

Table 3.1
Gender distribution of pupils from both types of education

	CLIL pupil	**'traditional'/non-CLIL pupil**
Male	12	8
Female	11	9

Table 3.2
Age distribution of pupils from both types of education

	CLIL pupil	**'traditional'/non-CLIL pupil**
16 years	2	5
17 years	16	11
18 years	1	1
19 years	0	1
Unknown	1	1

3.1.2 Test introduction

Pupils from both groups were presented with a test consisting of an introduction and three components spread over eight pages. The introduction covered personal details such as the participant's name, age and gender, which allowed for acquiring the participants' demographic information. In addition, the introduction contained questions which touched upon the current class grade of students and the amount of their exposure to English in the form of pastime activities. Sundqvist's article "The impact of spare time activities on students' English language skills" provided the basis for the inclusion of these questions, as the author states in her conclusion that "spending time on extramural activities in English had a positive effect on students' oral proficiency and vocabulary" (Sundqvist, 2009, p. 75). As this research focuses on the acquisition of vocabulary, in particular the depth of word knowledge, extramural English activities should be taken into account when exploring the differences in depth of word knowledge between CLIL and non-CLIL pupils, as it might prove that the differences can partly be attributed to factors other than the method used in secondary school. In addition, pupils were asked to indicate if they had dyslexia, if they had spent time abroad (including duration) and if they have English-speaking friends or relatives with whom they communicate in English (an indication of frequency was required here too). The pupils were asked to include this information on dyslexia, time abroad and pastime English communication verbally, which explains why the question is not to be found in Appendix A which includes the tests.

3.1.3 Test components

The three different test components were created to test the vocabulary knowledge, to gain insight into the pupils' ability to infer word meaning from a text and to test the pupils' L1 sensitivity by requiring them to either translate or provide a synonym for pseudo-cognates and non-cognates.

The first component of the test provided the pupils with a Vocabulary Knowledge Scale (Parikbakht & Wesche, 1997), as shown in Table 3.2:

Scale level	Corresponding details of word knowledge
I	I don't remember having seen this word before
II	I have seen this word before but I don't know what it means
III	I have seen this word before and I think it means _____ (synonym or translation)
IV	I know this word. It means _____ (synonym or translation)
V	I can use this word in a sentence. E.g. _____ (if you do this section, please also do section IV)

Table 3.2 Parikbakht and Wesche's Vocabulary Knowledge Scale (1997)

The words for this component were chosen on the basis of word family frequency lists taken from the spoken section of the British National Corpus, which was compiled by Paul Nation and elaborated on in his 2006 article "How large a vocabulary is needed for reading and listening?". For this component, a total of fifteen words were chosen from three levels within this BNC frequency list. This selection served to offer a wide-spread distribution of words from three different levels, namely 1000-2000, 2000-3000, and 3000-4000. The higher number of the level corresponds to a lower frequency of the words. In turn, the lower frequency of the words is assumed to be more difficult for the pupils.

Table 3.3 below shows which words were taken from which 1000-word frequency levels:

Table 3.3
Fifteen words provided for the application of the Vocabulary Knowledge Scale

1001-2000	2001-3000	3001-4000
Appreciate	Thorough	Objective
Challenge	Vague	Amplify
Embarrassed	Throat	Sacred
Ignorant	Smooth	Wrinkle
Severe		Bribe
Refuse		

Only fifteen words were chosen due to time restrictions, as both schools allowed research during one fifty-minute-lesson. In these fifty minutes, the researcher needed the time to go over the assignments in detail, while still leaving enough time for the pupils to complete all three components without hurry.

The second component was implemented into this research to gain insight into possible differences in inferences of word meaning between CLIL and non-CLIL pupils. In this assignment, the pupils were asked to read a text which contained accessible yet slightly specialized language, taken from a historical central exam for the VWO-level for which the pupils are already preparing. The pupils were asked to elaborate on the words in bold, as they were required to indicate if they could name which part of speech the words belonged to, if the words were new to them or not, if they could elaborate on the functions of the lexical items in the sentence, and lastly if they could state the meaning of the words (in case they knew them) or if they could guess the meaning (should they not know them). As this component requires a more advanced level of insight into the syntax of the text, one sample answer was given in order to clarify the intention of the questions in the table.

The aim of the last component of the test was to see whether there was a difference in L1 sensitivity between pupils exposed to the two researched methods. Pseudo cognates, or synforms, were used to elicit L1 interference – the so-called effect of false friends, and non-cognates were included so that the intention of the assignment would be less clear. The pupils had to indicate in this component as well as in the others if they already had prior knowledge of the lexical items included. This is necessary as L1 sensitivity is more likely to interfere when there is little knowledge of, and more uncertainty about the word (2002, Hall, p.70) and because the knowledge of the word in question (or lack thereof) indicates whether the translation is a guess or not (if through self-assessment the pupil deems they have consolidated knowledge of the word).

3.2 Procedure

All three components were judged with the use of the *Oxford English Dictionary*, so that the chance to overlook any possible correct answers is reduced to a minimum. In Appendix B of this thesis the grading form can be found which contains an array of possible answers to the three test components. This serves as the key to the exercises the pupils had to do. The key includes the most common usages of a word; entries that are marked obsolete or rare will not be taken into account in the correction of the items. Dictionaries used in the creation of the key are the *Oxford English Dictionary*, *Dictionary.reference.com* and *Van Dale Engels – Nederlands*.

The data was processed by means of the statistical programme IBM SPSS Statistics 20 and Microsoft Excel 2010. In SPSS, the data was analyzed by running several Independent Samples T Tests.

3.3 Limitations and Summary

Overall, the pupils seemed to be content with the assignments and the general balance of easy and difficult items prevented possible demotivation which could have been the consequence of an unbalanced test. An even wider distribution in the range from easy to difficult items might have provided more insight into the first component, but for the scope of this thesis the chosen items served well enough to indicate the differences between CLIL and non-CLIL pupils.

A problematic question in the second component was the column that required pupils to explain the word's function in the sentence, as the majority of items in this component were nouns and nouns are hard to elaborate on in the sense of their relation to other lexical items in the sentence. This problem was solved by allowing the pupils to fill in anything they could think of about the word, but by also allowing them to leave the question unanswered in case of a noun. It was emphasized that if they chose not to answer the "word function"-column, they should still strive to provide the meaning of the item in the last column.

4. Results

This chapter presents the results acquired through the tests discussed in chapter three. The findings will be compared and contrasted to existing literature on three different levels: vocabulary knowledge of frequent words, incidental learning and guessing from context, and L1 sensitivity in lexical items. The outcomes indicate and discuss the differences in the vocabulary acquisition of CLIL and non-CLIL pupils, so that advantages and disadvantages of the CLIL approach versus the 'traditional' approach can be discussed.

4.1 Vocabulary knowledge of frequent words

The first test component featured fifteen words taken from the British National Corpus (BNC) frequency list. The words were categorized by frequency level as infrequent words are more difficult for pupils to know in terms of vocabulary and meaning. All pupils had to rate the lexical items on a vocabulary knowledge scale (table 3.1).

4.1.1 Choice of levels in the vocabulary knowledge scale and overall score

The pupils were asked to self-assess their knowledge of a word by choosing from the five levels that were offered on the vocabulary knowledge scale. Subsequently, the pupils were asked to provide a meaning depending on which level they chose; had they chosen level III, then they should have stated what they thought was the meaning of the lexical item. If they chose level IV or V, then they were asked to either provide the meaning or provide both the meaning and an example sentence in which the given lexical item was used. Figure 4.1 demonstrates the selection of the different levels by both CLIL and non-CLIL pupils:

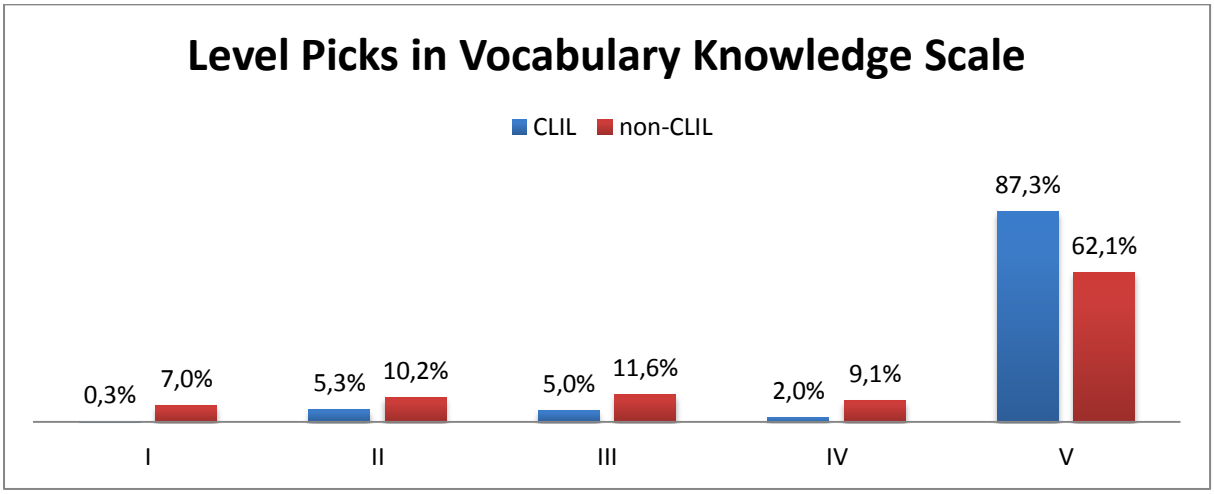

Figure 4.1 The spread of level picks in the vocabulary knowledge scale by CLIL and non-CLIL pupils

The vast majority of CLIL pupils picked the highest level (V) on the vocabulary knowledge scale. As the unreliability of self-assessment should be taken into account, Table 4.2 serves to indicate if the level V picks were justified by correct answers, and it shows that the results of this test show significance ($p < 0.05$).

Table 4.2
Independent Samples T Test on correct test scores for level V

			Test score	
			Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F		10,334	
	Sig.		,003	
t-test for Equality of Means	t		3,651	3,582
	df		37	23,253
	Sig. (2-tailed)		,001	,002
	Mean Difference		3,334	3,334
	Std. Error Difference		,913	,931
	95% Confidence Interval of the Difference	Lower	1,484	1,410
		Upper	5,185	5,259

The majority of both groups (the substantial 87.3% and the slightly lower 62.1%) were able to provide level V answers, which suggests that the selection of lexical items could have contained more items from lower frequency word families, which would have likely posed more of a challenge to the pupils.

For an overall test score, points were awarded for correct answers. The vocabulary knowledge level corresponds to the number of points, as can be seen in Table 4.3:

Table 4.3
Correspondence between answers and number of points awarded

Level	**Points**
Incorrect, levels I and II	0
Correct answer on level III	3
Correct answer on level IV	4
Correct answer on level (IV and) V	5

If all fifteen lexical items were answered correctly on the highest vocabulary knowledge level, pupils were awarded with the highest score: 75. Data analysis through SPSS (Appendix C) showed that the differences between the two groups of pupils were statistically significant, and that the CLIL pupils outperformed non-CLIL pupils with the number of correct answers and the choice of higher levels on the scale. The mean score of CLIL pupils was 65,40 (out of 75) and the mean score of pupils of the 'traditional' method was 49,47.

These mean scores and statistical significance thus indicate that there is a connection between the type of education and the performance on the Vocabulary Knowledge Scale. The CLIL pupils received an overall higher rating of their vocabulary knowledge, and they demonstrated that they could use the test's lexical items productively and correctly.

4.1.2 Passive vocabulary knowledge: levels I, II, and III

The overall selection of the lower vocabulary knowledge levels for lexical items was relatively low, as many pupils from both groups opted for level V. As level IV and V were of more interest to this research, and as self-assessment in the lower levels lacks reliability (due to the omission of any answer), section 4.1 will focus mostly on the vocabulary knowledge scale items that were rated with levels IV and V. The aforementioned lack of reliability is evident from Wesche and Paribakht's research (1996, p. 23) in which 50% of the participants picked level I, indicating that they had never seen the item before, for words which they had been previously exposed to (as quoted in Bruton, 2009, p. 292).

4.1.3 Active vocabulary knowledge: levels IV and V

The most notable difference seen in Figure 4.1 is that the CLIL-pupils chose for a level 5 vocabulary knowledge more frequently than non-CLIL pupils. This difference becomes explicit when viewing this frequency in percentages; CLIL pupils rated that they knew 87.3% of the lexical items well enough to provide the meaning and an example sentence (level V), whereas non-CLIL pupils rated that they knew only 62.1% of the lexical items well enough to carry out the assignment on level V. This indicates that, overall, CLIL pupils are more confident than non-CLIL pupils in picking the highest level on the vocabulary knowledge scale; yet this does not confirm that this confidence is justified. In order to find out if the confidence of CLIL pupils is justified, the accuracy of the answers and example sentences to level V was checked.

Incorrect answers to level V could be found in all three BNC word frequency levels, albeit that the majority of incorrect answers by the CLIL pupils was found in the third frequency

level, which features the most infrequent lexical items used in this research (*amplify*, *wrinkle*, and *bribe*). The incorrect answers to level V by non-CLIL pupils are more widespread, but the majority of incorrect answers could also be found in the third frequency level. It is notable that *ignorant*, a word from the first frequency level (implying that it is a frequent item and thus has a higher probability of being known by the pupils), received a relative high number of incorrect answers to level V (4 out of 19). Figure 4.4 shows the overall incorrect ratings of level V by CLIL and non-CLIL pupils:

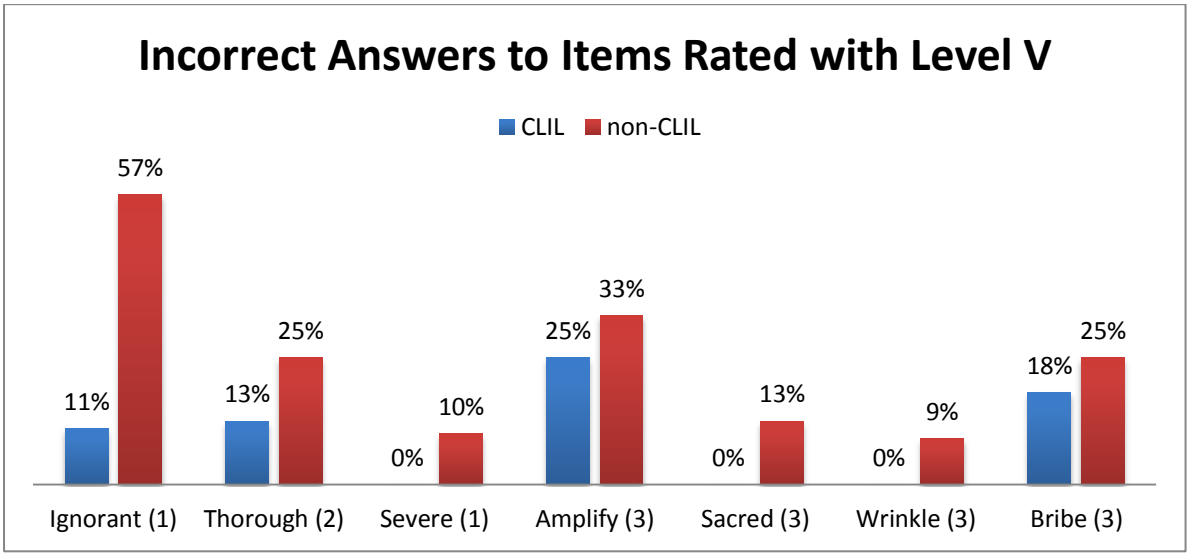

Figure 4.4 CLIL and non-CLIL pupils' item level V ratings with incorrect answers

The parenthetical numbers indicate the levels of the BNC word frequency list, where the range is frequent (1) to least frequent (3). The BNC frequency list contains more than three levels, but only its three most frequent levels are included in this research. Figure 4.4 shows that, overall, CLIL pupils define level V words more accurately than non-CLIL pupils do, as CLIL participants provide correct answers more frequently. This implies that CLIL pupils have a 'deeper' word knowledge of the tested lexical items in comparison to the non-CLIL participants, and the accuracy of level choices and correct answers by the CLIL pupils indicates an awareness of their own semantic knowledge in words out of context.

The overall performance of CLIL students in the first test can thus established to be better in terms of correct use and correct implementation of lexical items in example sentences (as discussed in 4.1.1; Appendix C). Schmitt (2008, p. 333) argues that vocabulary acquisition does not take place simply from exposure to language tasks focusing on e.g. linguistic aspects or on communication, but that it is of more importance that students are willing to be active learners over a long period of time, as this is crucial to attaining a substantial vocabulary size.

From this vantage point, the difference between CLIL and non-CLIL instruction could explain the discrepancy in the results discussed in Figures 4.1 and 4.4.

An explanation for the differences between the performances of the pupils is thus likely to be found in the different methods used for vocabulary acquisition, as the independent samples T tests have indicated that there is a connection between the pupils' performance and the type of received instruction. Non-CLIL pupils are offered English as a Foreign Language with a focus vocabulary exercises, text comprehension, writing and listening skills, and pronunciation; outside of the English class, they do not have the need to engage with English for e.g. writing assignments that focus on content. This thus results in a dry and limited approach to vocabulary acquisition in English. In comparison, the CLIL approach demands of pupils that they engage with English not only during English classes, but also during the time spent in other classes. In these other classes, they need to engage and use English in order to understand the content discussed in class. This approach is in line with the Involvement Load Hypothesis, discussed in chapter two of this thesis. In order for the pupils to perform well, it is of importance that they understand the English lexical items. This stimulates what Schmitt calls the "willingness to be active learners over a long period of time" (p.333), and could thus indicate that the longitudinal engagement with English contributes to the higher ratings and the higher number of correct answers in the first test.

4.2 Incidental learning and guessing from context

In the CLIL-approach to vocabulary acquisition, especially during the more advanced stages, pupils are no longer actively instructed on vocabulary – it is implied that the pupils should be able to understand contextual items and that they take initiative by looking up words in the dictionary, should they want to use them in writing assignments. As CLIL pupils are frequently in contact with reading comprehension for different subjects, this thesis assumes that they have developed strategies for incidental learning and guessing from context. It is expected that this is less the case for the non-CLIL approach, as instruction there is more explicit and contains less exposure (even though it does contain some exposure) to reading comprehension.

To elicit knowledge of words in context, the test requested the pupils to fill in several aspects of contextual knowledge. In order to gain insight into their contextual analysis, pupils were asked to assign a part of speech to the word, to provide a description of the function of the word within the sentence, and finally to state if they knew the word or not and to provide a guess (in case they did not know the word) or a translation (in case they knew the word).

4.2.1The recognition of the role of word function and parts of speech in context by CLIL pupils

In the second test given to them, the pupils were asked to read a text that had been used for a 2007 central exam in English. The content of the text focused on promotional strategies by pharmaceutical companies. Context played an important role in this test, and so did linguistic awareness of the sentence. The aim of this test was to see if pupils use context and linguistic awareness to their advantage in guessing. In order to determine whether pupils guessed or already knew the meaning of the word, they were asked to indicate if this word was familiar to them. Despite Breton's argument against self-report on word knowledge, this test component was deemed valid enough in the context of this test as it was backed up by the request of an actual translation.

Tables 4.5 and 4.6 show the test performance of the CLIL and non-CLIL groups. It becomes evident in Table 4.5 that CLIL pupils were fairly confident in their word knowledge as the majority claimed to know 6 out of 9 words. The remaining three (*tranquilizer*, *tapping*, and *papered*) are said to be known by a small majority and one minority. The same three words also received the lowest number of correct guesses/translations, indicating that these proved to be the biggest challenges in this test.

Table 4.5
Overview of contextual test entries by CLIL pupils. (e)= empty, (w)= wrong, (c)= close to target translation/synonym semantically

CLIL pupils	Correct part of speech	Know the word	Correct functions	Correct guess/translation
tranquilizer	17	10	12 (8e)	8 (6c; 2w; 4e)
anxiety	19 (1e)	20	8 (11e; 1w)	16 (2c; 2w)
tapping	19 (1e)	12 (1e)	8 (11e; 1w)	4 (3c; 11w; 2e)
withdraw	17 (2e)	19 (1e)	14 (6e)	19 (1e)
treat	16 (3e)	18 (2e)	10 (10e)	17 (1c; 2e)
papered	4 (3e)	7 (3e)	13 (5e; 2w)	8 (9w; 3e)
bus shelters	17 (3e)	18 (2e)	8 (12e)	14 (4c; 2e)
drug	17 (3e)	18 (2e)	7 (13e)	17 (1w; 2e)
persuade	17 (3e)	18 (2e)	11 (9e)	14 (4w; 2e)

Tranquilizer was correctly labeled as a noun by the majority of the CLIL-pupils, and more than 50% correctly described the function of the noun and its relation to other words in the sentence. The distorted number here stemmed from two aspects: four empty answers, where pupils failed to provide a guess or correct translation, and six answers that were close to the meaning of tranquilizer (pupils provided the answer: 'geneesmiddel' – 'medicine'), but which were deemed inadequate as they did not cover the specific denotation as they left out the calming,

numbing feature of this specific type of drug which is of the essence to the phenomenon of anxiety discussed in the text.

The guess/translation of *anxiety* was performed accurately by the majority of the CLIL participants, which indicates that the incorrect answers to *tranquilizer* is not necessarily due to incomprehension or limited word knowledge. It could indicate that the incorrect answers are due to distraction by other syntactic functions in the context, e.g. by the agent of the sentence: pharmaceutical company Sandoz. It is possible that CLIL pupils regarded words as main landmarks of meaning (Laufer & Sim, 1985, 1986 as quoted in Laufer, 1996, p. 21), and neglected to rely on background knowledge and syntax, which would explain why they did not establish the in-text relationship between the denotation of *tranquilizer* to the denotation of *anxiety* (which the majority answered correctly). This hypothesis, however, is not confirmed by the featured tests of this thesis and thus needs to be focused on in further research.

Another challenging lexical item was found in *tapping*. Only four CLIL-pupils correctly translated/guessed this item, a stark contrast to the number of pupils who claimed to know this word: 12. Linguistic awareness was also indicated by the 19 correct labels of the part of speech and by the 8 correct word functions provided in the answers (one pupil gave an incorrect answer to word function and eleven pupils left this column empty). The majority of wrong answers to this item were associated with the economic market, and they did imply actions towards this selling market such as 'uitbrengen' and 'op de markt brengen' both meaning [introducing a product to the market]. Nonetheless, the actions described indicate that the verb was incorrectly inferred – something which could have been inferred from the second part of the sentence: "which forced the company to **withdraw** the drug". The pupil's attention was also drawn to that part of the sentence by the bold item which also required answering.

The third, and last, challenging item was 'papered', the word which received the lowest number of recognitions by CLIL pupils in this test. It was provided in the following context:

"The company sent out press releases describing the disease, provided reporters with lists of sufferers willing to speak about their condition, and **papered bus shelters** with posters and the slogan "Imagine Being Allergic to People."

Engelbert and Theuerkauf (1999) made a distinction between verbal and nonverbal context, and the sentence above is part of nonverbal context as it is comprised of situative context (bus shelters), descriptive context (the action undertaken; papering of bus shelters, and its role in a bigger plan; spreading the product for a promotional campaign), and global context (what do bus shelters look like, they often contain posters) (as quoted in Walters, 2004, p.244). The three

different types of context should theoretically provide enough support for the inference of the meaning of 'papered', yet this was not born out in this test. Only four out of twenty CLIL pupils correctly labeled this item as a verb, and thirteen incorrectly labeled this item as an adjective. While the interference of the recognition of the item as an adjective could contribute to the misinterpretation of the word, this is not completely supported by the answers the CLIL pupils provide. The pupils do not translate the item as adjectives in Dutch either; they often resorted to descriptions for this specific word. The choice of adjective by the majority seems to indicate that the linguistic awareness of this sentence is low, as 'adjective' implies that they fail to recognize the parallelism used in this structure and thus with it the agent of 'papered': 'the company'.

The overall relationship between unknown words and the pupils' guesses indicates that the inference of meaning is not the strongest suit of CLIL pupils. Out of 37 instances marked with 'never seen this word before', there were only fourteen correct guesses, which means that only 37.8 % of new words were guessed correctly. Although the word function column was frequently not filled out, the speech parts and word function of the lexical items did not seem to be of great help to CLIL pupils in the inference of meaning. The majority of new words were guessed incorrectly, despite being often labeled correctly in terms of part of speech and word function, with only *tapping* being the exception.

4.2.2 The recognition of the role of word function and parts of speech in context by non-CLIL pupils and the comparison to the performance of CLIL pupils

In comparison to the CLIL group, it is evident that the non-CLIL pupils showed strength in labeling the correct part of speech to the lexical items. For eight out of nine items, the vast majority of pupils – if not all of them – provided the correct label in their answers. In addition, they all provided correct word functions when they did provide a word function at all.

Throughout the exercise, the majority of non-CLIL pupils claimed to know the selected lexical items. This self-report should be heeded with caution, despite the translation, as the first test component indicated a higher rate of incorrect answers to supposedly known items. However, this component is concerned with the unknown words and the guesses that are provided for them. It is evident from Table 4.6 that for non-CLIL pupils *tranquilizer*, *tapping* and *papered* proved to be most challenging as well.

Table 4.6
Overview of contextual test entries by non-CLIL pupils. (e)= empty, (w)= wrong, (c)= close to target translation/ synonym semantically

non-CLIL pupils	Correct part of speech	Know the word	Correct functions	Correct guess/translation
tranquilizer	19	14	9 (10e)	10 (8c; 1w)
anxiety	17	18	7 (13e)	10 (4 c; 5w)
tapping	19	7	9 (10e)	5 (14w)
withdraw	17	15	9 (10e)	11 (8w)
treat	18	19	7 (12e)	16 (3w)
papered	7	8	8 (11e)	15 (4w)
bus shelters	19	17	5 (14e)	18 (1w)
drug	19	19	5 (14e)	16 (2c; 1w)
persuade	19	17	5 (14e)	12 (7w)

Twelve out of thirty-two new words were correctly guessed by non-CLIL pupils, which shows that 37.5% of new words were correctly guessed. This percentage is close to the 37.8% of correct guesses in new items by CLIL pupils, which shows a similar percentage of the success rate of inference of meaning by CLIL and non-CLIL pupils. In Appendix C, data analysis through independent sample T tests indicates that there is no statistical significance between the type of education and the overall performance on guessing from context.

Non-CLIL pupils were not specific enough in their answer to 'tranquilizer'. Similar to the CLIL pupils, the non-CLIL pupils opted to provide the umbrella term 'geneesmiddel' [medicine], rather than specify the type of medicine which was discussed in the text. The exclusion of an integral part to the denotation of 'tranquilizer' was marked as 'close' to the semantic meaning, yet incomplete – resulting in an incorrect answer.

All non-CLIL pupils correctly labeled *tapping* as a verb, and nine out of nineteen correctly described its function in the sentence, yet only five pupils were able to infer the correct meaning. Only two out of these five people marked this item as 'do not know this word', which would bring the number of correct inferences down to two. Due to self-report being a factor here, it is merely implied that a small minority of pupils were able to guess the meaning correctly. As this is far from being hard evidence, the relationship between linguistic awareness and correct guesses does not seem very strong and requests further, more detailed research in order to be conclusive.

Responses to *papered* indicate a slightly higher rating of correct answers compared to CLIL pupils, but the differences do not seem to be striking. The majority of non-CLIL pupils, like the CLIL pupils, incorrectly label this item as an adjective. Fifteen out of nineteen non-CLIL pupils, however, guess the meaning of this word correctly. This does bear out the supposed theoretical support of non-verbal context mentioned in 4.2.1, yet it is not evident from the

syntactic knowledge included in this research why the non-CLIL pupils were able to guess this correctly, especially in comparison to the CLIL pupils.

4.3 L1 sensitivity in lexical items

The last test aimed to reveal any L1 sensitivity in non-cognate and pseudo-cognate lexical items. Pseudo-cognates are words that are phonologically similar in two languages, yet do not show any semantic overlap and it is hypothesized that less fluent bilinguals are more affected by formal similarity than more balanced bilinguals (2002, Hall, p.70). It was interesting to see if formal similarity affected the non-CLIL group more than the CLIL group, as the former are supposedly less fluent in the L2 than the latter group.

The answers of the CLIL group imply that there is some negative transfer for unknown words, and even for some words about which the CLIL pupils report that they did have prior knowledge of. The CLIL sample indicates that the pupils were not familiar with the test items in thirty-five instances, of which twenty-five were left unanswered. From the remainder, six out of ten items dealt with negative transfer:

Mop	Moot	Ramp
mop [joke]	stukje vlees [piece of meat]	ramp [disaster]
huisdier [pet]	mout [malt]	ramp [disaster]

Table 4.7 Instances of negative transfer in words that were self-reported to be unknown to pupils

'Huisdier' is a bit unclear and could be subject to debate, but the negative transfer here could have been caused by the Dutch word 'mopshond' which would support the association with a pet. [Piece of meat] could have thought to be the answer due to the association with Dutch [een moot zalm], used to refer to a cutlet of salmon.

4.3.1 The most challenging and unknown item: English 'moot'

Both CLIL and non-CLIL pupils were unfamiliar with the item 'moot' and none of them guessed the word correctly. Moot is an abstract, academic and low-frequency item which was offered to the pupils in isolation. These conditions rendered it difficult for the pupils to guess the meaning and this seems to stimulate L1 interference. Laufer (1989) mentions the difficulty with these conditions as well, and argues that synforms (malapropisms; the use of an incorrect word in place of a word with a similar sound) are identified because of insecure knowledge of the target form (as quoted in Hall, 2002, p.71), which in this case would be 'moot'. Nonetheless, more non-CLIL pupils attempted to guess the meaning of moot in comparison to the majority of CLIL pupils

who opted to leave this item unanswered. Figure 4.8 shows the distribution of the answers to English 'moot' by both pupil groups:

Figure 4.8 Different, incorrect translations of English 'moot' provided by both non-CLIL and CLIL pupils

The item 'moot' proved to be the only instance where none of the pupils was familiar with the denotation of the word. This unfamiliarity with 'moot' renders it a good candidate for deduction of L1 sensitivity. For 26.3% of the non-CLIL subjects, it seems that there was L2 interference rather than L1 interference, because they provided the translation of 'sfeer' or 'stemming' which corresponds to English 'mood'. This indicates that not only L1 sensitivity should be taken into account, but that Laufer's 'synforms' play an interfering role in this exercise as well. Whereas synforms are apparent from the answers to English 'moot', it is also evident that L1 interference did play a role in the answers of both pupil groups. Almost 10% of all students were subject to interference of Dutch 'moot', and 15% of the sample chose for phonologically similar items such as Dutch 'dood', 'noot' and 'mout'. Even though interference for English 'moot' is apparent for both the CLIL and the non-CLIL group, it is more frequent in the pupils who are taught EFL according to the 'traditional' approach.

4.3.2 Self-report on familiarity and negative transfer

It is striking that the CLIL pupils are subject to negative transfer for words which they do claim to have prior knowledge of. The item 'offer' is a concrete concept and 'brave' is a more abstract concept in sense of their denotation, and pupils incorrectly translated them to 'offer' [sacrifice] and 'braaf' [good, obedient]. For 'offer', 10% was subject to negative transfer and for 'brave' 15% was tricked by the pseudo cognate, and these numbers do indicate a relationship between the

type of word and interference. The non-CLIL pupils score differently on these two words: for 'offer', two out of nineteen subjects were also subject to negative transfer as they provided the answers: 'een gift', a synonym to Dutch 'offer' in the biblical sense and regular 'offeren' [to sacrifice]. A third non-CLIL pupil translated 'offer' to 'verzoek' [request] which has some semantic overlap with 'offer' [aanbieden] as it is an agentive verb too, yet there is no phonological overlap that could indicate L1 interference. None of the non-CLIL pupils made incorrect lexical choices for English 'brave', which indicates that interference for Dutch 'braaf' did not take place in non-CLIL pupils – whereas interference did occur in 15% of CLIL pupils.

It is thus evident that L1 interference occurs on a small scale in these two groups, and the majority of interference affects abstract concepts (English 'moot' and 'brave' versus concrete concepts such as English 'offer').

4.4 Correlation coefficient between overall test performance and extracurricular contact with English

Pupils were requested to provide information on their pastime activities that include contact with the English language. These pastime activities were circled based on a time scale, which allowed pupils to indicate how many hours per day they spent on these pastime activities on average. Figure 4.9 demonstrates the distribution of these pastime activities among CLIL and non-CLIL pupils:

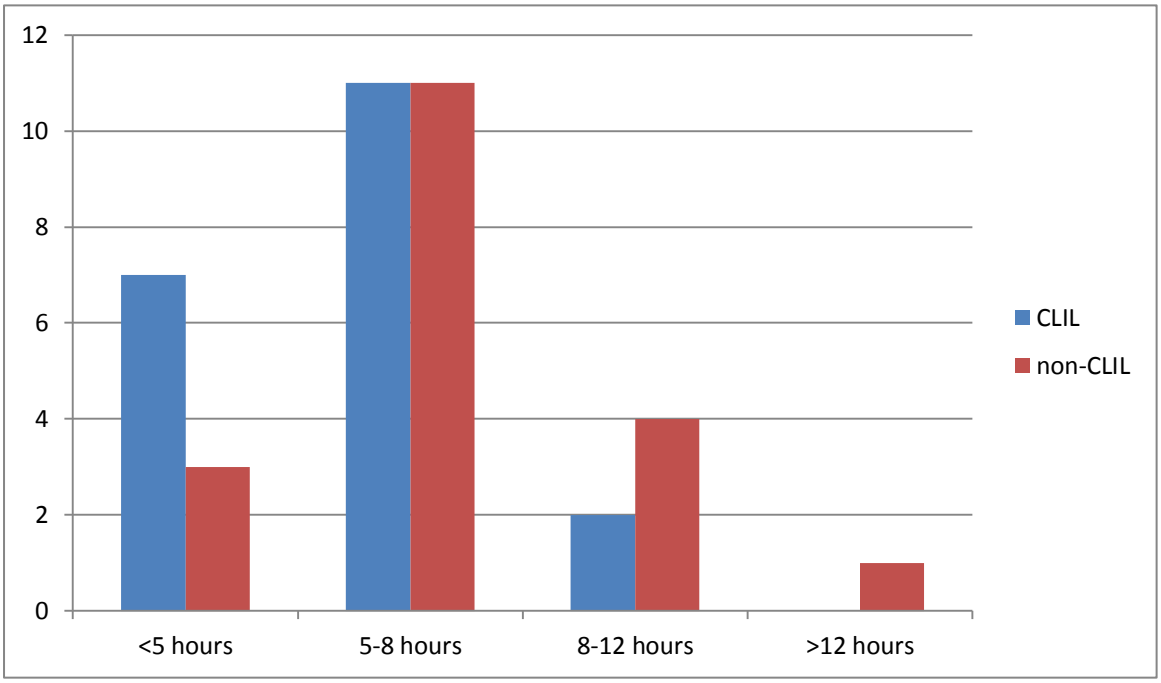

Figure 4.9 Average contact with English through pastime activities for CLIL and non-CLIL pupils

Figure 4.9 indicates that the majority of both types of pupils spend a similar amount of time in contact with English during their pastime activities. A higher number of non-CLIL pupils spend,

on average, a greater amount of time being in contact with English outside of the classroom: CLIL pupils spend an average of 5,45 hours per day being in contact with English outside of the classroom, whereas the average for non-CLIL pupils is calculated at 6,89 hours. This discrepancy could be due to a number of reasons, such as: unmentioned pastime activities or a higher workload of CLIL-pupils, which allows them less time for pastime activities.

It should be noted here, that pupils of both groups had a hard time providing an estimate for the time they spend in contact with English outside of the classroom. The mostly asked question was how they should approximate their answers, as their daily routine was not regular enough to easily estimate an average number of hours. The pupils were told to provide averages in how much time they spend with English through media such as Internet, books, newspapers, music et cetera (questions on the first page of Appendix A) and to take into account both periods in which they were very busy and periods where they had more spare time. The number of factors involved in the estimation of averages in this respect seem to be slightly problematic in certain cases, as a pupil indicated that they spent more than twelve hours per day on average in contact with English outside of the classroom. This is extreme, but can be accounted for partially by doing components simultaneously; for instance listening to music and playing games, or listening to music and reading. Overall, the averages provided by the pupils will be used for this research – but they should be approached with caution.

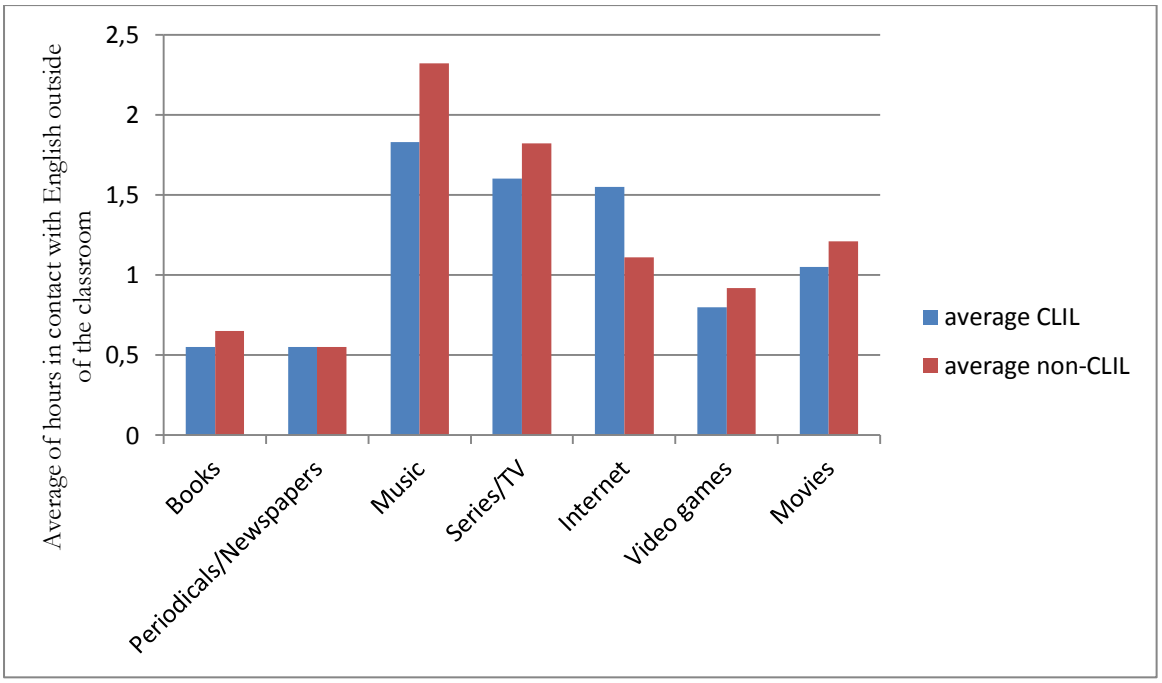

Figure 4.10 Average of contact with English in specific pastime activities for CLIL and non-CLIL pupils

Sundqvist (2009) uses the metaphor of an 'Extramural English House', in which the rooms represent activities that are effective for different aspects of vocabulary acquisition, as shown in Figure 4.11.

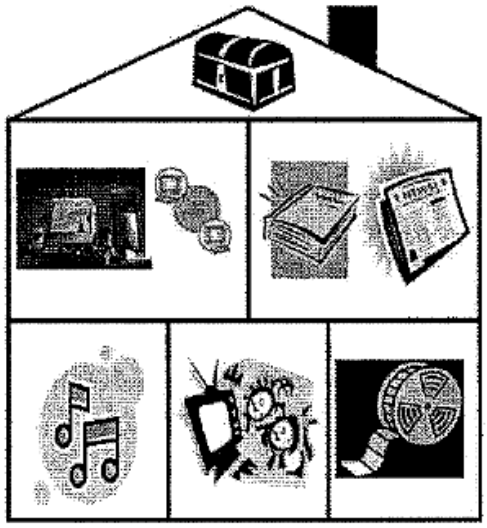

Figure 4.11 The Extramural English House

Sundqvist states that students spend most of their time on the first floor listening to music, watching television series and movies, as these activities are easily accessed and do not require any effort (2009, p. 73). Less time is spent on the second floor, as activities in the office (surfing the Internet and playing video games) and the library (reading) are fairly demanding and dependent on their language skills (2009, p.73). The distribution of the average contact with English in Figure 4.9 shows a similar amount of time spent in the respective 'rooms', or rather time spent on the corresponding activities, by both non-CLIL and CLIL pupils. For both groups the library (reading books, periodicals and/or newspapers) is least favoured, followed closely by the least time spent in the office playing video games. The majority of both groups spend their time being in contact with English through activities which do not require any effort (music and television series). A substantial number of CLIL pupils surf the Internet, whereas this activity is less favoured by non-CLIL pupils.

In order to research if the extracurricular contact is of significance to the number of overall mistakes made in the test components, it needs to be established if there is a correlation between the number of hours exposed to English and the number of mistakes made in the tests. A Pearson Correlation Test demonstrates in both Table 4.12 and 4.13 that both for CLIL and non-CLIL pupils, their amount of time being in contact with English is not of influence on their performance in the tests used for this research. Neither Pearson Correlation Test shows significance as for both $P>0.05$.

Table 4.12
The correlation coefficient of CLIL pupils' extracurricular exposure to English and their number of mistakes in the test

		Exposure	Mistakes
Exposure	Pearson Correlation	1	-,076
	Sig. (2-tailed)		,749
	N	20	20
Mistakes	Pearson Correlation	-,076	1
	Sig. (2-tailed)	,749	
	N	20	20

Table 4.13
The correlation coefficient of non-CLIL pupils' extracurricular exposure to English and their number of mistakes in the test

		Exposure	Mistakes
Exposure	Pearson Correlation	1	-,148
	Sig. (2-tailed)		,546
	N	19	19
Mistakes	Pearson Correlation	-,148	1
	Sig. (2-tailed)	,546	
	N	19	19

As no correlation is shown between pupils' extracurricular exposure and their number of mistakes in all three test components, it can be said that the differences between CLIL and non-CLIL pupils can be largely attributed to the type of education.

4.5 Summary

In this chapter it became apparent that there is a significant difference between vocabulary knowledge of CLIL and non-CLIL pupils, because CLIL pupils received an overall better test performance on the first test component compared to the non-CLIL sample. CLIL students chose level V for the majority of their answers, and provided correct translations and uses of the lexical items in sentences.

There is hardly any difference between the two groups of pupils when it comes to the inference of word meaning from context, as CLIL pupils guessed 37.8% of unknown words correctly and this percentage is calculated at 37.5% for non-CLIL pupils . Neither group outperformed the other in this test component, even though it was hypothesized that the CLIL-group would be likely to perform better due to the Involvement Load Hypothesis, and due to being more familiar with vocabulary acquisition through writing assignments and reading

comprehension (which is part of the CLIL-method of teaching vocabulary, as discussed in chapter three).

L1 sensitivity does not show dominance in either the CLIL or the non-CLIL group, but analysis of the type of words in terms of being concrete or abstract may suggest that L1 interference occurs especially in items which are of complete unfamiliarity and which are abstract concepts.

Last but not least the extracurricular activities with English contact were taken into account to assess to which extent the test performance could contribute to the teaching methods. This chapter indicates that for this test sample, extracurricular activities have are not significant to the pupils' test performance. A possible explanation for the discrepancy between extracurricular activities and test performance is that the most effective activities (playing video games and surfing the Internet) for vocabulary acquisition were not carried out by the pupils of both samples often in comparison to the other activities.

5. Conclusion and discussion

This thesis focused on vocabulary acquisition by both pupils of the content and language integrated learning approach and of the 'traditional' approach to learning foreign languages. In this chapter, the findings and analyses are combined to formulate answers to the research question and sub-questions of this thesis. The limitations and implications for further research will also be discussed.

5.1 Conclusion of sub-questions

Based on the results discussed in chapter four, this section answers the research questions presented in chapter one and two of this thesis.

1. Do CLIL-pupils have more word knowledge of words from the 1001-2000, 2001-3000, and 3001-4000 BNC word frequency levels than 'traditional' pupils?

The first test component indicates that CLIL-pupils indeed have a deeper word knowledge of frequent words. The results showed that the difference in vocabulary knowledge between CLIL and non-CLIL pupils was significant, and that CLIL outperformed non-CLIL pupils on both correct answers and providing these answers on a higher level of the Vocabulary Knowledge Scale. The depth of this word knowledge became evident in that the majority of CLIL pupils were able to translate lexical items correctly, and subsequently use these items in logical, meaningful sentences. The three different levels in word frequency indicated that both types of pupils were able to carry out level V on the most frequent words, yet when the frequency of words lowered it was evident that CLIL-pupils were competent enough to define words belonging to lower word frequency level 3001-4000 in level V, whereas a higher number of non-CLIL pupils failed to denote the words from frequency level 3001-4000 correctly.

It can thus be said that CLIL-pupils are, overall, equipped with a more effective productive vocabulary. The hypothesis that the greater exposure of CLIL-pupils to English leads to higher rates of correct use of productive vocabulary can be confirmed in the context of this research.

2. Are CLIL-pupils better equipped with strategies (as a result of the Involvement Load Hypothesis) in incidental learning and guessing from context (due to their higher exposure to English)?

The Involvement Load Hypothesis suggests that the greater exposure of CLIL-pupils to English is linked to the use of the 'Need', 'Search' and 'Evaluate' components of this hypothesis. As CLIL-pupils acquire most of their vocabulary through writing assignments and text comprehension, it can be hypothesized that they are more likely to make use of the earlier mentioned components. 'Need', 'Search' and 'Evaluate' contribute to strategies for the inference of word meaning from context.

However, this hypothesis cannot be confirmed on the basis of the test results in this thesis. Neither group outperformed the other substantially in this test component, which provides no proof that CLIL pupils are better equipped with strategies for incidental learning and guessing from context than non-CLIL pupils.

3. Are CLIL pupils less sensitive to L1 interference in isolated words and pseudo cognates?

It is hypothesized that CLIL pupils are likely to be more fluent speakers than non-CLIL students, and according to Hall this would indicate that they are likely to be more confident about their L2 knowledge. This greater confidence in comparison to non-CLIL pupils could reduce the L1 sensitivity in CLIL pupils, which would contribute to a higher frequency of correct guess when confronted with pseudo cognates of English and Dutch.

The results to the final test component are not conclusive in stating that either group is more prone to being subject to L1 sensitivity than the other group. CLIL pupils are thus not less sensitive to L1 interference than non-CLIL pupils are. The test did indicate that especially abstract concepts which were unfamiliar to the participants provide the most trustworthy indications for L1 sensitivity.

5.2 Conclusion of main research question

The answers above can together form the answer to the main research question for this thesis which is:

"Does the CLIL approach result in pupils' more comprehensible word knowledge and lexical strategies for incidental learning and guessing from context?"

The answers to the sub-questions imply that the CLIL approach does not prepare pupils more thoroughly for using active vocabulary. The CLIL pupils displayed a deep and elaborate word

knowledge of words from different frequency levels, and they were competent enough to apply this knowledge to their active vocabulary correctly, yet this is the only test component in which the CLIL-pupils performed significantly better than non-CLIL pupils.

In addition, it cannot be stated based on the tests results in this thesis that CLIL are better equipped with strategies for incidental learning and guessing from context. The Involvement Load Hypothesis states that greater exposure corresponds to more exercise with the 'Need', 'Search' and 'Evaluate' components. The combination of these three components form a strategy for incidental word learning and guessing from context. However, this strategy is not apparent in the CLIL pupils nor the answers the CLIL pupils provide to the second test component of this thesis. CLIL pupils do not outperform non-CLIL pupils, who are not required to use the components of the Involvement Load Hypothesis to the same extent as CLIL pupils are.

5.3 Limitations

In the field of vocabulary acquisition, longitudinal research is recommended because this type of research is most effective to demonstrate influential variables which are of key importance to teaching methods. This research represents one moment in the development of vocabulary acquisition of CLIL and non-CLIL pupils, and attempts to infer causes (where possible) based on a static moment in the vocabulary development of pupils. Ideally, research into this topic would be conducted through a longitudinal study that notes actual class content and carries out regular tests with the knowledge of what has been taught, as this type of research is more capable of indicating which variables affect vocabulary development and how.

Also, the choice of lexical items suitable for the level of 5-VWO pupils could have been more diverse and could have covered a broader range of the word frequency lists, so that even more difficult items were included. Currently, the data seem to be slightly out of balance as difficult items seem to be in the minority – while the difficult items such as 'moot' and 'papered' have been very insightful into L1 sensitivity and inference of meaning.

5.4 Further research

Further research into vocabulary acquisition of CLIL and non-CLIL pupils could focus on strategies for guessing from context. Especially for the CLIL method this seems to be insightful, as the current approach to language learning is already dependent on this type of vocabulary learning (through text comprehension and writing assignments). Research into effective strategies

and class-based tasks could contribute to a more efficient and accurate manner of guessing from context, which in turn affects the overall language proficiency of the pupils.

5.5 Discussion

Based on both the test results and the conclusion of this research, the CLIL approach does not seem to be of great value in terms performance in guessing from context and L1 sensitivity. However, vocabulary knowledge which was tested in the first test component by means of word frequency lists, indicates that CLIL pupils outperformed non-CLIL pupils as CLIL pupils provided a larger number of correct answers on a more difficult level of the Vocabulary Knowledge Scale.

For this thesis, research was conducted on vocabulary knowledge as an indicator for general proficiency. The first test component served to demonstrate vocabulary knowledge, and the second test component demonstrated pupils' performance in reading comprehension. As vocabulary knowledge is crucial to reading comprehension, it was expected that CLIL pupils would do better in this test, yet there were no significant results found to confirm this hypothesis. This outcome suggests that CLIL pupils do have a good base vocabulary knowledge for the inference of meaning in texts, yet that they lack the strategies or practice to put this vocabulary knowledge to their advantage in text comprehension and guessing new words from context.

In terms of effectiveness, this thesis indicates that the CLIL teaching method is not exploiting its full potential. After the initial stages in which the base for vocabulary is taught, CLIL should focus on teaching strategies for the inference of meaning to the pupils. Teaching these strategies is likely to contribute to the further development of vocabulary knowledge, and also to develop reading comprehension further. This is relevant for CLIL objectives in language proficiency, as this method is intended to achieve higher language proficiency than the 'traditional' method. As CLIL pupils do not outperform non-CLIL pupils significantly, it can thus be said that the CLIL teaching method is not as effective as it could be.

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Appendix A – Test Components

Leiden University Assignments **Marloes van Duijvenvoorde**

Beste student,

bedankt voor je deelname aan deze opdrachten. Voordat je begint, zou ik je willen vragen om hieronder je gegevens in te vullen:

Naam:

Leeftijd:

Geslacht: Man Vrouw
(Omcirkel wat van toepassing is)

Gemiddeld cijfer voor Engels dit jaar:

Hoeveel tijd besteed je dagelijks aan onderstaande activiteiten?

Engelse boeken lezen:
Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelse tijdschriften/kranten lezen:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelstalige muziek beluisteren:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelstalige series/tv-programma's kijken:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelse webpagina's bekijken op Internet:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelstalige video games spelen:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

Engelstalige films kijken:

Minder dan één uur 1-2 uur 2-3 uur Meer dan drie uur

1. Geef voor elk onderstaand woord aan of je deze kent (en hoe goed je deze kent) door gebruik te maken van de genoemde niveaus I-V. Lees elk niveau grondig door, sommige niveaus vereisen dat je een synoniem of een vertaling geeft en een voorbeeldzin.

Niveaus:

I: Ik kan niet herinneren dat ik dit woord eerder gezien heb.

II: Ik heb dit woord eerder gezien, maar ik weet niet wat het betekent.

III: Ik heb dit woord eerder gezien en volgens mij is de betekenis: _____
(synoniem/vertaling)

IV: Ik ken dit woord. De betekenis is: _____ (synoniem/vertaling)

V: Ik kan dit woord in een zin gebruiken, namelijk: _____
_____
(als je niveau V doet, graag ook IV doen)

Woord	**Niveau** **I/II/III/IV/V**	**Synoniem/vertaling/zin** **(If this is required by the scale level you chose)**
Appreciate	_____	_____ _____ _____
Challenge	_____	_____ _____ _____
Embarrassed	_____	_____ _____ _____
Ignorant	_____	_____ _____ _____

Woord	Niveau I/II/III/IV/V	Synoniem/vertaling/zin (If this is required by the scale level you chose)
Thorough	_____	_____ _____ _____
Refuse	_____	_____ _____ _____
Severe	_____	_____ _____ _____
Vague	_____	_____ _____ _____
Throat	_____	_____ _____ _____
Smooth	_____	_____ _____ _____
Amplify	_____	_____ _____ _____
Objective	_____	_____ _____ _____

Woord	**Niveau** **I/II/III/IV/V**	**Synoniem/vertaling/zin** **(If this is required by the scale level you chose)**
Sacred	_____	_____ _____ _____
Wrinkle	_____	_____ _____ _____
Bribe	_____	_____ _____ _____

2. **Lees onderstaande tekst en let goed op de dikgedrukte woorden. Na de tekst is een tabel waarin je in moet vullen wat de woordsoort van het dikgedrukte woord is, welke rol het woord in de zin heeft, en als laatste wat je denkt dat het woord betekent (indien je het woord niet kent) of wat je weet dat het woord betekent (indien je het woord wel kent). Ook als je niet weet wat het woord betekent, is het belangrijk om toch de betekenis te gokken, dus zorg ervoor dat je de laatste kolom invult.**
De woordsoorten die je kan gebruiken voor de tweede kolom vind je onder de tabel. Het woord 'pharmaceutical' dient als voorbeeld, zodat je kan zien hoe je de kolommen in moet vullen.

"**1** In the late 1960s, the pharmaceutical company Sandoz introduced Serentil, a new **tranquilizer**. Serentil, according to the ad, could ease the "**anxiety** that comes from not fitting in," a feeling that practically every person on the planet has undoubtedly experienced. But Sandoz was prevented from **tapping** this potentially enormous market by the U.S. Food and Drug Administration, which forced the company to **withdraw** the drug and issue a statement to the effect that Serentil was not intended for use in everyday, anxiety-provoking situations.
2 Thirty years after Serentil flopped, GlaxoSmithKline launched its own ad campaign for Paxil, an antidepressant that could also be used to **treat** "social phobia." The company sent out press releases describing the disease, provided reporters with lists of sufferers willing to speak about their condition, and **papered bus shelters** with posters and the slogan "Imagine Being Allergic to People." The promotional campaign hardly mentioned the **drug**, let alone the manufacturer, notes author Carl Elliott, because pharmaceutical companies have learned the lesson of Serentil: if they want to sell a drug that will "take the edge off some sharply uncomfortable aspect of American social life," as Elliott puts it, they first need to **persuade** Americans that their discomfort is due to a bona fide medical problem. "SmithKline does not need to sell Paxil," he writes. "What they need to sell is social phobia." – From 2007 VWO exam;

Word (woord)	**Line (regel)**	**Part of speech (Woordsoort)**	**New? (Nieuw?)**	**What does what? (Wat doet het woord?)**	**Guess the meaning (Doe een gok naar de betekenis)**
Pharmaceutical (example!)	1-1	*Adjective / Bijvoeglijk naamwoord*	***Yes**, the word is new to me* Or ***No**, I know this word.*	*Pharmaceutical says something about the word 'company'. It defines what type of company it is.*	*Geneesmiddelen; farmaceutisch*
Tranquilizer	1-1				
Anxiety	1-2				
tapping	1-4				
withdraw	1-5				
treat	2-2				

papered	2-4				
Bus shelters	2-4				
drug	2-5				
Persuade	2-8				

Woordsoorten: Noun (Zelfstandig naamwoord), Adjective (Bijvoegnlijk naamwoord), Verb (werkwoord)

3. **Vul de tabel in door de onderstaande vragen voor elk woord te beantwoorden.**

1. Ben je bekend met dit woord?

2. Zo ja, geef de Nederlandse vertaling van dit woord. Zo nee, doe een gok naar de betekenis van het woord.

Engelse woord	**Ben je bekend met dit woord? (Ja/Nee)**	**Nederlandse vertaling / betekenis**
1. Dope		
2. Addiction		
3. Offer		
4. Basement		
5. Mop		
6. Interfere		
7. Brave		
8. Wallet		
9. Moot		
10. Relief		
11. Slim		
12. Ramp		
13. Rent		
14. Spring		
15. Experience		

Appendix B – Test Key

1. Geef voor elk onderstaand woord aan of je deze kent (en hoe goed je deze kent) door gebruik te maken van de genoemde niveaus I-V. Lees elk niveau grondig door, sommige niveaus vereisen dat je een synoniem of een vertaling geeft en een voorbeeldzin.

Niveaus:

I: Ik kan niet herinneren dat ik dit woord eerder gezien heb.

II: Ik heb dit woord eerder gezien, maar ik weet niet wat het betekent.

III: Ik heb dit woord eerder gezien en volgens mij is de betekenis: _____
(synoniem/vertaling)

IV: Ik ken dit woord. De betekenis is: _____ (synoniem/vertaling)

V: Ik kan dit woord in een zin gebruiken, namelijk: _____
_____
(als je niveau V doet, graag ook IV doen)

Woord	**Niveau I/II/III/IV/V**	**Synoniem/vertaling/zin (If this is required by the scale level you chose)**
Appreciate	_____	http://www.oed.com/view/Entry/9787?redirectedFrom=appreciate#eid b. To assess the worth, quality, etc., of; (also) to estimate the quantity or extent of 2. *trans.* a. To recognize as valuable or excellent; to find worth or excellence in; to esteem b. To be grateful for or appreciative of (kindness, a favour, etc.). 3. *trans.* a. To apprehend or understand clearly or correctly; to recognize or grasp the significance or subtleties of. Also with clause as object. b. With reference to the senses: to be able to detect or perceive (sound, light, sensation, etc., or a distinction between similar sensory impressions). 4. *orig. U.S.* Opposed to depreciate. a. *trans.* To raise in value. b. *intr.* To rise in value. http://pakket7.vandale.nl/zoeken/zoeken.do# "appreciate" 1. appreciëren (naar waarde) schatten, waarderen, evalueren, taxeren 2. zich bewust zijn van beseffen, begrip tonen voor, begrijpen, gevoelig zijn voor, erkennen 3. dankbaar zijn voor dankbaarheid tonen voor, appreciëren, op prijs stellen

Woord	Niveau I/II/III/IV/V	Synoniem/vertaling/zin (If this is required by the scale level you chose)
		4. bewonderen 5. verhogen (prijs)
Challenge	_____	(noun) http://www.oed.com/view/Entry/30298?rskey=qbNFRI&result=1&isAdvanced=false#eid 4. A calling in question or disputing; the state of being called in question. 6. a. An invitation or summons to a trial or contest of any kind; a defiance. b. In weakened use: a difficult or demanding task, esp. one seen as a test of one's abilities or character. (verb) http://www.oed.com/view/Entry/30299?rskey=qbNFRI&result=2#eid 2. a. To find fault with, reprove, reprehend; to call upon to answer for something, or to give account of oneself; to call to account. 4. To call in question, dispute. 7. a. To summon or invite defiantly to a contest or any trial of daring or skill; to defy, dare. (Often to do something, or to an action.) Freq. in fig. contexts, esp. in weakened sense 'to present a challenge to'. http://dictionary.reference.com/browse/challenge?s=t van Dale: 1. uitdagen, tarten, op de proef stellen 2. uitlokken, opwekken, prikkelen 3. aanroepen, aanhouden 4. aanvechten, betwisten, in twijfel trekken, vraagtekens zetten bij 5. opeisen, vragen
Embarrassed	_____	Dictionary.Reference.com: verb (used with object) 1. to cause confusion and shame to; make uncomfortably self-conscious; disconcert; abash: His bad table manners embarrassed her. 2. to make difficult or intricate, as a question or problem; complicate. 3. to put obstacles or difficulties in the way of; impede: The motion was advanced in order to embarrass the progress of the bill. 4. to beset with financial difficulties; burden with debt: The decline in sales embarrassed the company. verb (used without object) 5. to become disconcerted, abashed, or confused. Van Dale:

Woord	**Niveau** **I/II/III/IV/V**	**Synoniem/vertaling/zin** **(If this is required by the scale level you chose)**
		1. in verlegenheid brengen, verwarren, verlegen maken, van zijn stuk brengen, uit het veld slaan, embarrasseren 2. in geld verlegenheid brengen, in financiële moeilijkheden brengen 3. hinderen, belemmeren, beletten, embarrasseren 4. compliceren, ingewikkeld maken, bemoeilijken
Ignorant	_____	Dictionary.reference.com: adjective 1. lacking in knowledge or training; unlearned: an ignorant man. 2. lacking knowledge or information as to a particular subject or fact: ignorant of quantum physics. 3. uninformed; unaware. 4. due to or showing lack of knowledge or training: an ignorant statement. Van Dale: 1. onwetend, onkundig, onbekend, niet op de hoogte 2. Dom, onontwikkeld, onnozel (bij uitbreiding; informeel) achterlijk, lomp
Thorough	_____	Dictionary.reference.com: adjective 1. executed without negligence or omissions: a thorough search. 2. complete; perfect; utter: thorough enjoyment. 3. extremely attentive to accuracy and detail; painstaking: a thorough worker; a thorough analysis. 4. having full command or mastery of an art, talent, etc.: a thorough actress. 5. extending or passing through. Van Dale: Grondig, degelijk, diepgaand, volledig, volkomen, gedetailleerd, nauwkeurig, nauwgezet
Refuse	_____	Dictionary.reference.com: verb (used with object), re·fused, re·fus·ing. 1. to decline to accept (something offered): to refuse an award. 2. to decline to give; deny (a request, demand, etc.): to refuse permission. 3. to express a determination not to (do something): to refuse to discuss the question. 4. to decline to submit to. 5. (of a horse) to decline to leap over (a barrier). Van Dale: Weigeren, afslaan, afwijzen

Woord	**Niveau** **I/II/III/IV/V**	**Synoniem/vertaling/zin** **(If this is required by the scale level you chose)**
		(bridge) weigeren, duiken
Severe	_____	Dictionary.reference.com: adjective, se·ver·er, se·ver·est. 1. harsh; unnecessarily extreme: severe criticism; severe laws. 2. serious or stern in manner or appearance: a severe face. 3. grave; critical: a severe illness. 4. rigidly restrained in style, taste, manner, etc.; simple, plain, or austere. 5. causing discomfort or distress by extreme character or conditions, as weather, cold, or heat; unpleasantly violent, as rain or wind, or a blow or shock. Van Dale: 1. Streng, strikt, onverbiddelijk 2. hevig, heftig, bar, streng 3. Zwaar, moeilijk, ernstig, hard, scherp 4. gestreng, strak (bouwstijl), kaal, sober, eenvoudig 5. bijtend, sarcastisch 6. Precies, nauwgezet, strikt (in de leer)
Vague	_____	Dictionary.reference.com: adjective, va·guer, va·guest. 1. not clearly or explicitly stated or expressed: vague promises. 2. indefinite or indistinct in nature or character, as ideas or feelings: a vague premonition of disaster. 3. not clear or distinct to the sight or any other sense; perceptible or recognizable only in an indefinite way: vague shapes in the dark; vague murmurs behind a door. 4. not definitely established, determined, confirmed, or known; uncertain: a vague rumor; The date of his birth is vague. 5. (of persons) not clear or definite in thought, understanding, or expression: vague about his motives; a vague person. Van Dale: 1. vaag, onduidelijk, onbepaald 2. onzeker, vaag 3.onscherp, vaag

Woord	Niveau I/II/III/IV/V	Synoniem/vertaling/zin (If this is required by the scale level you chose)
Throat	_____	Dictionary.reference.com: noun Anatomy, Zoology . 1. the passage from the mouth to the stomach or to the lungs, including the pharynx, esophagus, larynx, and trachea. 2. some analogous or similar narrowed part or passage. 3. the front of the neck below the chin and above the collarbone. 4. the narrow opening between a fireplace and its flue or smoke chamber, often closed by a damper. 1. hals (ook figuurlijk)smal gedeelte 2. keel, strot
Smooth	_____	Dictionary.reference.com: adjective, smooth·er, smooth·est. 1. free from projections or unevenness of surface; not rough: smooth wood; a smooth road. 2. generally flat or unruffled, as a calm sea. 3. free from hairs or a hairy growth: a smooth cheek. 4. of uniform consistency; free from lumps, as a batter, sauce, etc. 5. free from or proceeding without abrupt curves, bends, etc.: a smooth ride. Van Dale: 1. glad 2. soepel, gelijkmatig, ritmisch, vloeiend 3. gemakkelijk, probleemloos 4. vreedzaam, rustig, minzaam 5. overmatig vriendelijk, uiterst beleefd, glad, vleiend, poeslief 6. zacht smakend 7. zoetvloeiend, zacht, strelend (van stem, klank) 8.(slang) aangenaam, voortreffelijk
Amplify	_____	Dictionary.reference.com: verb (used with object), am·pli·fied, am·pli·fy·ing. 1. to make larger, greater, or stronger; enlarge; extend. 2. to expand in stating or describing, as by details or illustrations; clarify by expanding. 3. Electricity . to increase the amplitude of; cause amplification in. 4. Archaic. to exaggerate. verb (used without object), am·pli·fied, am·pli·fy·ing. 5. to discourse at length; expatiate or expand one's remarks, speech, etc.

Woord	Niveau I/II/III/IV/V	Synoniem/vertaling/zin (If this is required by the scale level you chose)
		(usually followed by on): The preacher amplified on the theme of brotherly love. Van Dale: 1. vergroten, vermeerderen, verzwaren, verhogen 2. (elektriciteit)versterken 3. Uitbreiden, aanvullen, toelichten, uitweiden over 4. Amerikaans-Engels)overdrijven, opblazen
Objective	_____	Dictionary.reference.com: noun 1. something that one's efforts or actions are intended to attain or accomplish; purpose; goal; target: the objective of a military attack; the objective of a fund-raising drive. 2. Grammar . a. Also called objective case. (in English and some other languages) a case specialized for the use of a form as the object of a transitive verb or of a preposition, as him in The boy hit him, or me in He comes to me with his troubles. b. a word in that case. Adjective 4. being the object or goal of one's efforts or actions. 5. not influenced by personal feelings, interpretations, or prejudice; based on facts; unbiased: an objective opinion. 6. intent upon or dealing with things external to the mind rather than with thoughts or feelings, as a person or a book. 7. being the object of perception or thought; belonging to the object of thought rather than to the thinking subject (opposed to subjective). 8. of or pertaining to something that can be known, or to something that is an object or a part of an object; existing independent of thought or an observer as part of reality. Van Dale: 1. doeloogmerk, doelstelling 3. (taalkunde)voorwerpsnaamval, accusatief 4. (militair) doel(wit), operatiedoel Bijvoeglijk naamwoord 1. objectief, onpartijdig, feitelijk, echt
Sacred	_____	Dictionary.reference.com adjective 1. devoted or dedicated to a deity or to some religious purpose;

Woord	Niveau I/II/III/IV/V	Synoniem/vertaling/zin (If this is required by the scale level you chose)
		consecrated. 2. entitled to veneration or religious respect by association with divinity or divine things; holy. 3. pertaining to or connected with religion (opposed to secular or profane): sacred music; sacred books. 4. reverently dedicated to some person, purpose, or object: a morning hour sacred to study. 5. regarded with reverence: the sacred memory of a dead hero. Van Dale: 1. Gewijd, heilig, geheiligd, sacraal 2. religieus, kerkelijk, geestelijk 3. plechtig, heilig, oprecht 4. veilig, gevrijwaard, heilig, onschendbaar
Wrinkle	_____	Dictionary.reference.com: noun 1. a small furrow or crease in the skin, especially of the face, as from aging or frowning. 2. a temporary slight ridge or furrow on a surface, due to contraction, folding, crushing, or the like. verb (used with object), wrin·kled, wrin·kling. 3. to form wrinkles in; corrugate; crease: Don't wrinkle your dress. verb (used without object), wrin·kled, wrin·kling. 4. to become wrinkled. Van Dale: 1. Rimpel, plooi, vouwtje, kreuk 2. (informeel)foefje, kunstje, handigheidje, kneep 3. (informeel)tip, wenk, idee 4. (slang)schoonmoeder 5. (slang)stijlmode 6. (slang)slim idee, ongewone benadering (van probleem)
Bribe	_____	Dictionary.reference.com: noun 1. money or any other valuable consideration given or promised with a view to corrupting the behavior of a person, especially in that person's performance as an athlete, public official, etc.: The motorist offered the arresting officer a bribe to let him go. 2. anything given or serving to persuade or induce: The children were given candy as a bribe to be good.

Woord	**Niveau** **I/II/III/IV/V**	**Synoniem/vertaling/zin** **(If this is required by the scale level you chose)**
		verb (used with object), bribed, brib·ing. 3. to give or promise a bribe to: They bribed the reporter to forget about what he had seen. 4. to influence or corrupt by a bribe: The judge was too honest to be bribed. verb (used without object), bribed, brib·ing. 5. to give a bribe; practice bribery. Van Dale: Zelfstandig naamwoord 1. steekpenning, omkoopsom, smeergeld 2. lokmiddel Werkwoord 1. (om)kopen, steekpenningen geven, smeergeld betalen

2. Lees onderstaande tekst en let goed op de dikgedrukte woorden. Na de tekst is een tabel waarin je in moet vullen wat de woordsoort van het dikgedrukte woord is, welke rol het woord in de zin heeft, en als laatste wat je denkt dat het woord betekent (indien je het woord niet kent) of wat je weet dat het woord betekent (indien je het woord wel kent). Ook als je niet weet wat het woord betekent, is het belangrijk om toch de betekenis te gokken, dus zorg ervoor dat je de laatste kolom invult.
De woordsoorten die je kan gebruiken voor de tweede kolom vind je onder de tabel. Het woord 'pharmaceutical' dient als voorbeeld, zodat je kan zien hoe je de kolommen in moet vullen.

"**1** In the late 1960s, the pharmaceutical company Sandoz introduced Serentil, a new **tranquilizer**. Serentil, according to the ad, could ease the "**anxiety** that comes from not fitting in," a feeling that practically every person on the planet has undoubtedly experienced. But Sandoz was prevented from **tapping** this potentially enormous market by the U.S. Food and Drug Administration, which forced the company to **withdraw** the drug and issue a statement to the effect that Serentil was not intended for use in everyday, anxiety-provoking situations.
2 Thirty years after Serentil flopped, GlaxoSmithKline launched its own ad campaign for Paxil, an antidepressant that could also be used to **treat** "social phobia." The company sent out press releases describing the disease, provided reporters with lists of sufferers willing to speak about their condition, and **papered bus shelters** with posters and the slogan "Imagine Being Allergic to People." The promotional campaign hardly mentioned the **drug**, let alone the manufacturer, notes author Carl Elliott, because pharmaceutical companies have learned the lesson of Serentil: if they want to sell a drug that will "take the edge off some sharply uncomfortable aspect of American social life," as Elliott puts it, they first need to **persuade** Americans that their discomfort is due to a bona fide medical problem. "SmithKline does not need to sell Paxil," he writes. "What they need to sell is social phobia." – From 2007 VWO exam;
http://oud.digischool.nl/en/examens/vwo/vwotekstboekje2007-2.pdf

Word (woord)	**Line (regel)**	**Part of speech (Woordsoort)**	**New? (Nieuw?)**	**What does what? (Wat doet het woord?)**	**Guess the meaning (Doe een gok naar de betekenis)**
Pharmaceutical (example!)	1-1	*Adjective / Bijvoeglijk naamwoord*	***Yes**, the word is new to me* Or ***No**, I know this word.*	*Pharmaceutical says something about the word 'company'. It defines what type of company it is.*	*Geneesmiddelen; farmaceutisch*
Tranquilizer	1-1	Noun		It serves as the explanation for Serentil; it is modified by new. The actual noun does not actually modify other elements in the sentence.	Kalmeringsmiddel, kalmerend middel, verdovingsmiddel (Van Dale)
Anxiety	1-2	Noun		Another noun that does not modify other elements in the sentence. Serentil is created and distributed in order to help with anxiety.	1. bezorgdheidongerustheid, zorg, vrees 2. (psychische) angstbenauwdheid (Van Dale)
tapping	1-4	Verb		Tapping says something about its subject and object; Sandoz was prevented from tapping (passive) the market (object).	6. (informeel)(om geld) vragen/bedelen, (proberen) los (te) krijgen van (2. (af)tappen, afnemen) (van Dale)

Word (woord)	Line (regel)	Part of speech (Woordsoort)	New? (Nieuw?)	What does what? (Wat doet het woord?)	Guess the meaning (Doe een gok naar de betekenis)
withdraw	1-5	Verb		It is a verb that describes an action with 'the drug' by 'the company'.	2. terugnemen, intrekken, herroepen (van Dale)
treat	2-2	Verb		A verb that describes the use of an antidepressant.	2. behandelen, een behandeling geven (van Dale)
papered	2-4	Verb		Describes an action by 'the company', also provides a location -> bus shelters.	2. behangen met papier bekleden/beplakken/bedekken (van Dale)
Bus shelters	2-4	Noun		The object of papered, demonstrates where advertisement is located.	1. Wachthuisje, abri, schuilhuisje (van Dale) [A different informal use of abri is 'bushokje']
drug	2-5	Noun		A noun that does not modify any other elements in the sentence, but is described as unmentioned in the ads as companies have learned their lesson.	1. geneesmiddel, medicijn, medicinaal kruid, drogerij (van Dale)

Word (woord)	**Line (regel)**	**Part of speech (Woordsoort)**	**New? (Nieuw?)**	**What does what? (Wat doet het woord?)**	**Guess the meaning (Doe een gok naar de betekenis)**
Persuade	2-8	Verb		Describes which action companies have to undertake in order for Americans to buy the products mentioned in this article.	1. overreden, overhalen 2. overtuigen, klemmen, bepraten

Woordsoorten: Noun (Zelfstandig naamwoord), Adjective (Bijvoeglijk naamwoord), Verb (werkwoord)

3. Vul de tabel in door de onderstaande vragen voor elk woord te beantwoorden.

1. Ben je bekend met dit woord?

2. Zo ja, geef de Nederlandse vertaling van dit woord. Zo nee, doe een gok naar de betekenis van het woord.

Engelse woord	**Ben je bekend met dit woord? (Ja/Nee)**	**Nederlandse vertaling / betekenis**
16. Dope		1. (informeel) drug(s), spul 2. (informeel) doping, dope, stimulerende middelen 3. (informeel) geneesmiddel(en) 4. (the)(informeel) info(rmatie)nieuws(bij uitbreiding) roddel 5. (the)(informeel) tipvoorspelling 6. (informeel)dikke vloeistofsmeer, smeersel, smeermiddel, saus, zalfje, vernis(luchtvaart) spanlak (van Dale)
17. Addiction		1. verslaving, verslaafdheid (van Dale)
18. Offer		1. aanbod, aanbieding, offerte, bod, voorstel 2. poging 3. (juridisch)wetsvoorstelwetsontwerp 4. (dierkunde)onontwikkelde geweitak (van Dale)
19. Basement		1. fundering, fundament, grondmuur, grondslag, sokkel 2. kelderverdieping, souterrain, kelder (van Dale)
20. Mop		1. zwabberstokdweil, raamwasser 2. afwaskwast(borden)kwast, vaatkwast 3. (informeel)(dichte) haarbos (van Dale)
21. Interfere		1. hinderen, in de weg staan, belemmeren, (ver)storen, in botsing komen, tussenbeide komen, ingrijpen (van Dale)

		2. Bemoeien
22. Brave		Zelfstandig naamwoord 1. dapper, moedig, onverschrokken, koen Werkwoord 2. Trotseren, weerstaan, uitdagen (van Dale)
23. Wallet		1. Portefeuille, portemonnee (van Dale)
24. Moot		1. onbeslist, onuitgemaakt, betwistbaar, discutabel voorbeelden: a moot point/question een onopgeloste kwestie/openstaande vraag/onuitgemaakte zaak (van Dale)
25. Relief		1. reliëf, verhevenheid (figuurlijk) → levendigheid, contrast, het naar voren brengen/treden 2. verlichting, opluchting, ontlasting, verademing (van Dale)
26. Slim		1. slank, tenger, dun 2. klein, gering (van Dale)
27. Ramp		1. helling, glooiing, steilte, talud (verkeersbord) gevaarlijke helling 2. oprit, afrit (ook van vrachtwagens e.d.) hellingbaan 5. verkeersdrempel 6. bocht (van trapleuning) 7. (waterskiën)(spring)schans (van Dale)
28. Rent		1. huur, huurgeld, pacht, pachtgeld (van Dale)
29. Spring		1. (vaak meervoud) bron (ook figuurlijk) wel, oorsprong, herkomst 2. (metalen) veer, springveer 5. springtij, springvloed 6. drijfveer (beweeg)reden, motief gewelf) 11. lente (ook figuurlijk) (van Dale)

30. Experience		Zelfstandig naamwoord 1. ervaring, belevenis 2. religieuze ervaring Werkwoord Ervaren, beleven, ondervinden, ondergaan, gewaarworden (van Dale)

Appendix C – SPSS Tables

Section 4.1.1: Independent Samples T Test on type of education and overall first test performance

Group Statistics

	Educationtype	N	Mean	Std. Deviation	Std. Error Mean
Numbercorrect	CLIL	20	65,40	6,082	1,360
	nonCLIL	19	49,47	14,789	3,393

Independent Samples Test

			Correct answers	
			Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F		11,718	
	Sig.		,002	
t-test for Equality of Means	t		4,440	4,357
	df		37	23,670
	Sig. (2-tailed)		,000	,000
	Mean Difference		15,926	15,926
	Std. Error Difference		3,587	3,655
	95% Confidence Interval of the Difference	Lower	8,658	8,377
		Upper	23,195	23,476

Section 4.2.2: Independent Samples T Test on education type and overall second test performance

Group Statistics

	Educationtype	N	Mean	Std. Deviation	Std. Error Mean
Guesscorrect	CLIL	9	27,78	9,391	3,130
	nonCLIL	9	26,67	7,874	2,625

Independent Samples Test

			Correct guesses	
			Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F		,578	
	Sig.		,458	
t-test for Equality of Means	t		,272	,272
	df		16	15,528
	Sig. (2-tailed)		,789	,789
	Mean Difference		1,111	1,111
	Std. Error Difference		4,085	4,085
	95% Confidence Interval of the Difference	Lower	-7,549	-7,570
		Upper	9,771	9,793