Chunks & Cunks

A study of the development of chunk-errors in TTO- and Gymnasium-students written language

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0. Abstract

This research paper aims at showing the importance of errors in chunks (cunks) for understanding the language development in second language learners in TTO-schools and Gymnasiums. Small errors in chunks may lead to not being counted as a chunk and therefore they are not looked at in the language learning process. These cunks –transfer-, spelling- or grammar—show where the difficulty lies for the language learners and what can be done to improve their language more quickly. The differences between gymnasiums and bilingual schools prove to be an important factor and the differences in the cunks is mainly rooted in level of exposure to the target language. TTO-schools exhaustingly expose their pupils to English and this submersion results in a quicker development of chunks and a faster decrease in the number of cunks. While the gymnasium-students appear to be using target-like cunks for a very long period, the TTO-students quickly move on to using correct chunks. Not only is the development in the chunks quite different, the development in ‘cunks’ (chunks containing errors) is also different as well as of quite different types. TTO-students are forced to use English more often than Gymnasium-students and therefore use cunks of a different type: they use more transfer-cunks while the Gymnasium-students make much more spelling- and vocabulary-cunks.
1. Introduction

Traditional language teaching focussed on structures and grammar since the oldest taught languages still being taught in secondary school, Latin and Greek focus on these aspects. Usage-based theories (cf. Verspoor & Behrens 2011; MacWhinney 2004) however have shown that near-native language can best be reached by iteration and submersion. The present situation in secondary schools however is in a developing and changing situation. 2nd language learners now find themselves in the midst of a changing educational environment. Research is now focussed on the effect of bilingual education on the development of language (Smiskova & Verspoor 2011; Verspoor & Xu 2011). Research in the field of chunking has already given some interesting information about the 2nd language learning process and these results can be used in developing improved teaching methods. Interesting in this research is the mistakes the students make. Which external factors cause a language learner to make errors?

As they learn, students make mistakes. Whether it is in solving a math-problem or in learning a language, mistakes and errors are made in every learning process. Assuming that second language learners – the same as first language learners – learn how a language works from making mistakes, it is interesting to find out if the mistakes are of a grammatical kind or if the errors are made in using so-called ‘chunks’ of the target-language. In which aspect of the language do students make the most mistakes? Where lies the difficulty in learning a new language? It is generally assumed that the most difficult part of learning a language is the grammar of the language. However, when the student has mastered the grammar-part of learning a language, it can be applied almost perfectly to the new language.

In Dutch secondary schools the emphasis of learning a new language is therefore mostly put on learning the grammar of a language. The question is if the students actually improve their language-skills by learning only the grammar of it. Is there a clear development visible in the students’ use of language by knowing the grammar-rules of the language? According to various researchers listening to and using the target language intensely is much more efficient than learning language from a textbook (Hopper: 1998; Pawley & Syder: 1983). It is the same as learning how to drive a car: studying traffic rules and reading about
car-parts does not give a person the actual experience of how to drive a car, the person has to practice driving to become a competent driver. After all, practice makes perfect. As with learning to drive a car by practicing, the students’ speech becomes more like the speech of a native speaker as the student practices speaking more.

The English language is filled with formulaic sequences: chunks. If it is true that students become more proficient in the target language by listening to and using the language, the number of chunks used should be higher at the end of their lessons than in the beginning. The number of chunks should be higher than the number of chunks used by students who do not learn a language by using the language intensely. The chunks themselves are often not used correctly immediately; it might be the case that in the chunks mistakes are made or that the chunks are not used in the correct context. It is for example odd to hear a formal chunk in an informal situation. After a while the students will use the chunks correctly by being exposed to more input and learning from their mistakes.

While in many Dutch secondary schools the emphasis of learning a language is on learning the grammar, in TTO-schools (bilingual education) the emphasis is on being in contact with and using the target language intensely. To see whether or not this teaching-method is more effective, researchers look at the number of chunks while these students use the target language. If the students use more chunks of the target-language towards the end of their lessons, it is mostly the case that the language of the students is closer to that of a native speaker. The emphasis of this paper is not on what kinds of chunks students use while learning a second language, but the emphasis is on the mistakes students make in these chunks to discover more about the learning process. In this research paper it will partly become clear whether or not students actually learn from making chunk-errors, while learning a second language. The errors made in the chunks are divided up in groups and it will be possible to draw several conclusions from these findings; within the groups of students differences can be seen over time, but the results of one group can also be compared to those of the other group. It is my belief that external factors not only influence the speed in which the students start using more chunks, these factors also influence the type of errors made by the students.
Thesis statement
Relying on the belief that TTO-students will learn a new language quicker because they are exposed to the target language more than regular Gymnasium-students I believe that the errors TTO-students make in chunking are of a different nature than the errors made by the Gymnasium-students. The students’ background and the environmental factors such as other courses and the level of input of the target language would be the cause of the differences in learning English.
2. Theoretical Background Cognitive Linguistics

2.1. Dynamic Systems Theory
Using language is a means to an end: communication. It is not the case that humanity could already produce language before they really needed to communicate with others: the changing situation they were in required them to work together and required them to interact with each other in an easier way than using signs. Modern society relies on communication heavily and therefore is it unimaginable that this has not always been the case. While the outcome of human language development has been investigated thoroughly in the past centuries (Pawley & Syder 1983, MacWhinney 2004, Hopper 1998), the process of language development still raises numerous questions. Researchers discovered the relationship between language and specific brain-functions (Broca & Wernicke) and have traced the development of language throughout the ages, but the actual process of learning a language in the individual mind still raises some crucial questions (Granger & Paquot 2008, Smiskova & Verspoor 2011). The human cognition is thus so complex that it cannot easily be said how everything works.

Research in the field of second language development (Hopper 1998, Ellis 1999) has been in need of a means to address the shortcomings of earlier claims made as to how language comes into existence in the mind of a child. These earlier claims do not give satisfactory reasons for why it is that sometimes people go back to an earlier stage of language-development: mistakes that were made in a very early stage can sometimes re-occur when the language-learner has already learned the target language and used it without errors. According to the Dynamic Systems Theory (DST) language development is a dynamic process which can account for these lapses: the system each speaker develops for himself is never fully stable and settled, it can always change. As society and the environment people live in change, a language also has to adapt to newer situations and as a result, language-variation occurs in which earlier made errors can re-occur. Languages are never fully fixed, they are always in flux because the human species are always developing too. Language is subject to the changes in human cognition and therefore language changes accordingly. In a period when the human race goes through many changes, the language-system
also is in flux, while in a more stable period, the languages are also stable and more regulated.

According to Verspoor & Behrens (2011) ‘DST is a general theory’ which can account for the changes in languages since any complex system as a language is made up of variables that are interrelated. Instead of viewing language as a system which has clear boundaries for its phonology, morphology, grammar and syntax, DST describes language as a network of subsystems which interrelate accordingly. Language is not modular, the subsystems cannot function without each other: if one part is malfunctioning it affects the other parts. DST describes language therefore not as a top-down system, but as a bottom-up process (Verspoor & Behrens 2011). In order to create language, speakers need to be creative, they do not require a universal language faculty to govern these creative developments. In other areas of human life, people also need to be inventive to make sure they can cope with new situations, it goes the same for language development. Language development is individual and consequently not every speaker obtains the same level of fluency. Though people develop speech in order to have contact with others, language is very personal since one person’s mind-frame can be very different from another’s.

‘[The] human cognitive system is a complex dynamic system because it develops over time through many interacting variables, such as an individual’s wish to develop, his or her own abilities and experience, the interaction with caretakers, the teaching he or she receives, and so on’ (Verspoor, Lowie & De Bot 2007: 214)

DST is fully in line with this view: the individualistic need for developing one’s knowledge and the wish to stand in contact with others results in a certain level of language fluency. This need is at certain moments higher than other moments and therefore a person’s level of language development might fall back. DST is thus a general theory explaining these changes in language development however it lacks in giving precise reasons for why errors re-occur and earlier stages of development are never fully overcome.
2.2 Usage-based Theories

Because DST gives a global vision of how people develop their language-skills, a more precise theory is needed to account for the individual changes and differences in language development. Several more precise theories were developed in the last decades to give a more precise view on how children and second language learners learn a language, and these newer theories all base their research on the ground that a language is learned by using it.

Emergent Grammar (EG) as discussed in Hopper (1998), is in line with DST in that it completely rejects the view of language as modular. Language is definitely not independent but highly connected to the other functions of the human mind. EG goes on and proposes that there are no prerequisites for discourse: there is no ultimate language which is the correct one, since an emergent structure is never fixed. EG gives an opposite view of what Hopper called to be the A priori view on language, which highly depends on an innate grammar. Language is not learned by simply filling in the blanks in one’s mind left open for the rules of the language which is learned. There are no innate rules of a language, the rules are formed by each learner himself by listening to the information in his surroundings and applying it himself. Learning a language is an iterative process and this is very much in line with the concept of DST in that it also depends on the interaction of language with other internal and external structures (Verspoor & Behrens: 2010). EG is the outcome of repeating earlier heard utterances and as language learners use these themselves they form their own set of new utterances.

‘Children do not seem to learn sentences, but rather, they learn to adapt their behavior to increasingly complex surroundings. Previous actual utterances form the basis of new utterances’ (Hopper 1998: 162).

Although EG gives valid reasons for why people nowadays do not use language as they did 500 years ago, the theory is rather simplistic in stating that complex languages are the outcome of people’s urge to develop (Ellis 1999).

EG as described in Hopper gives a description of the process of language acquisition, but pays no attention to the outcome. It focuses highly on the process, not on the outcome of this process. EG does not account for the errors
made while learning a language, which is a crucial factor in understanding how language is learned. After all, no one has learned anything, whether it is speaking a language or driving a car, without making errors. Everyone makes mistakes.

The research done in the field of Usage-based language acquisition heavily relies on the counting of types and tokens. While analyzing data from a longitudinal and/or cross-sectional research, types and tokens show that word-knowledge of learners vary through either time and/or among learners. This type/token ratio is thus crucial in seeing the development in one’s L2 acquisition and gives interesting results.

Several other theories were developed which built further on the notions brought forward by DST, though these studies mostly were held in the field of L2 acquisition. One of these studies was the Activation Theory. This theory states that when learners hear specific words or concepts, they are stored in the human memory and the more frequent a learner hears that specific word or concept again, its meaning is founded stronger in the human mind and it is easier to access that concept again. Brian MacWhinney (2004) was the first to work out a comprehensive model which shows the route a person has to take to learn a language, both L1 and L2-learners. MacWhinney puts it quite clearly that by iteration a language-learner can built up a more complex system of the target-language:

‘By maintaining words and constructions in short-term sentence memory, learners can facilitate a wide range of additional learning and processing mechanisms’ (2004: 14).

This specifically holds for L2 learners, since L2 acquisition is easier to study than L1 acquisition in this case. MacWhinney describes that L2 learners heavily transfer their L1 knowledge to the L2 process. This view fits in with the view of Usage-based L1 acquisition which states that the L1 is crucial in the L2 learning process.

The Usage-based Theories all focus on one aspect of language development which gives away their weakness as a theory: they lack in giving reasons for all aspects of language development. A theory had to be developed
which does not need a complicated model as MacWhinney’s Unified Model, but which could account for all changes in the language learning process and all aspects of language development.

2.3. Chunking

Looking at formulaic sequences –chunks- in L2-research can give multiple insights in the development of a language. Not only does it show the development of chunks throughout the learning process, it also shows the different kind of chunks that are used, and when students start to use them. It is interesting to see whether or not chunks are of one particular type (compounds etc) and if there is development in their use of them (from noun+verb sunbathing to prepositions+particles nearby)(Smiskova & Verspoor 2011). This research is particularly difficult since a string of words does not have the same meaning in every context. A string of words can be seen as a chunk in one context, while in another it simply is a string of words.

‘[A]ll discourse is in some sense specialist discourse, molded to the speaker’s personality, the situation, the register, the genre, and the topic’ (Hopper 1998: 169).

Alison Wray (2002) states that formulaic sequences are a ‘major linguistic strategy’, yet up till the 1980 not that many research was engaged in looking at identifying and describing these chunks in detail. This will be looked at more closely later on in this section. First, the concept of chunking needs to be explained in more detail.

The field of ‘chunking’ was for a long time too vaguely defined and it needed to be developed further and research needed to be done in order to see if using chunks is a better way to learn a language than using stop-gap.

‘Phraseologie has only recently begun to establish itself as a field in its own right. The scope of the field is a function of the criteria used by linguists to distinguish phraseological units from non-phraseological ones’ (Granger & Paquot 1983: 27).
A precise definition of chunks proved to be a tricky task and the definition could not easily be given in one sentence since defining chunks is individualistic and relies heavily on intuition. Chunks could thus be seen as a group of words having a bond with each other which could be loose but also very tight. They often co-occur and are mostly non-compositional: their meaning changes when they are used together (Eyckmans et al; Granger). It is clear that since in the field of phraseology intuition has an important role, chunks are also not that easily defined. Granger underlines this fact by stating that ‘[t]he field with which phraseology has arguably the strongest – and at the same time fuzziest – links is semantics’ (Granger & Paquot 1983: 30). Intuition is therefore very important since the definition of chunks relies heavily on one’s own insights in words. If one can argue enough for a string of words to form a chunk, and there are enough examples to be found, then it most likely is a chunk. Without looking into specific questions raised by one’s intuition about a possible chunk, it’s status will not be discussed if anyone else does not have the same questions.

The learning of chunks is actually a prerequisite for obtaining a near-native level of fluency in the target language. Describing a chunk as a group of words belonging to each other is not quite enough to define what a chunk is. Granger and Paquot give an extensive list of phrases which can be seen as chunks, ranging from referential phrasemes like similes (to swear like a trooper) to textual phrasemes like linking adverbials (ex. In other words) (Granger & Paquot 2008: 43-44). Chunks are thus combinations of words belonging together as a unit which are used wide-spread and are in many cases only used in specific situations. Eyckmans et al state:

‘for learners to reach advanced L2 proficiency, they will need to master not only a vast number of individual words, but also a vast number of phrases’ (2).

As is said before, children learning their native tongue, learn through memory and imitation, the same goes for learning a second language. The children learn through listening to the people around them and imitating what they hear. Only learning vocabulary and grammar from a text-book will not cause the students to become proficient speakers of the language. ‘[..] raising students’ awareness of
phraseology through chunk-noticing activities will help them pick up useful chunks from the L2 discourse they happen to encounter outside the classroom’ (Eyckmans et al: 2). While they are unaware of what they are actually doing, the students learn from hearing chunks how to use the second language. The notion that the way of learning a new language in secondary school is the correct and only way is dubious. Students learning a second language at their secondary school are taught many words and many grammatical constructions, but their use of it causes many difficulties. The teaching methods are not effective enough. One of the main points made in Usage-based Theories is that iteration is crucial. Only by using the target language excessively and repeating what is learned will eventually lead to a higher level of fluency. Focussing more on using chunks –formulaic sequences- of the target language is then a powerful way to eventually reach a high level of fluency and proficiency in the target language.

It is interesting that one of the first steps students take in learning a second language in secondary school is uttering formulaic chunks of the target language. Standard greetings and other basic sentences to keep a conversation going are taught in classrooms, and these sentences could to some extent be regarded as formulaic utterances (e.g. ‘How do you do?’, ‘Thank you very much’) (Wray 2002). In learning formulaic sequences – which is more natural than learning vocabulary and grammar separately - students will eventually be closer to the target language. ‘Learning grammar and lexicon individually will cause the learner to delete the important information belonging to single words’ (Wray 2002: 209). Grammar and vocabulary should not be learned separately but together so the information will not be lost. Yet, Wray also states that ‘there is no other recognition that the learning of chunks might actually be the key to success for some learners, as opposed to a stop-gap’ (Wray 2002: 196). This question needs to be looked into in further detail since if research shows that students obtain a higher level of fluency by learning chunks, it is logically assumed that the teaching methods in secondary school should be redefined. How then, would it be possible to test these learning strategies UB assumes that students become more proficient in a language by iteration. If their fluency is more native-like than it otherwise would have been, there should be more
chunks in their use of language since phraseological utterances are highly used by native speakers.

‘If native speakers make extensive use of a large repertoire of chunks, then learners will also need to master considerable numbers of chunks in order to start approximating native-like proficiency’ (Eyckmans et al 2007: 2).

However, within the field of phraseology, a typology of chunks is needed in order to see the language-development within the common areas of linguistics: syntax, grammar etc. (Granger & Paquot; De Vries; Smiskova; Wray). Granger & Paquot’s extensive list can be used to identify the types of chunks, but the chunks need to be defined more closely to see what the real nature is of these chunks. Though there had been numerous researches in the field of phraseology, none of these studies aimed at identifying the chunks, which is a crucial element in researching the development of using chunks as well as identifying the types of chunks. A continuum of formulaicity is needed to describe the features of chunks (Wray 2002). Granger discusses this continuum and goes on describing a list of categories. ‘No categorization of phraseological units has emerged from studies rooted in the distributional approach to phraseology’ (Granger & Paquot 2008: 38).

Through the years several researches have given lists of types of chunks, but until Granger & Paquot (2008) there had not really been a usable list. Granger & Paquot presented the so-called ‘Categories of referential, textual and communicative phrasemes’ (42-44) which differentiated between three groups of chunks. The extensive sub-categories ranged from collocations to phrasal verbs, from complex prepositions to textual sentence stems, and from speech act formulae to slogans, but these categories needed to be worked out further in order to be used in actual research. They based their lists on earlier definitions of of chunks, but none of these earlier researches presented a continuum like Granger & Paquot did.

In the same year, Wray’s Formulaic Language: Pushing the Boundaries gave a list which showed that intuition plays a huge role in the definition of formulaic language. Though not entirely applicable in the process of identifying chunks, it clearly shows that the person questioning the chunk-level of a phrase needs to
follow his own intuition. It is therefore logical to assume that not everyone might view a string of words as a formulaic sequence, since the context of the string of words and one’s own experience with the particular language are used while assessing this string. Smiskova (2010) proposes a solution for this problem. In earlier research it has been suggested that a continuum was needed to distinguish between the entirely open chunks (slot-fillers) to the fairly fixed chunks (idioms) (Wray 2002). Therefore, Smiskova added levels of chunks to the categories given by Granger & Paquot.

‘We take the perspective of a language as a complex, self-organizing system and refer to these organizational levels as higher- and lower-order chunks. [...] Its categories of formulaic sequences should be perceived as dynamic and open rather than fixed and mutually exclusive, a formulaic sequence can display the defining characteristics of several categories’ (14).

There are chunks which fit a category perfectly, but there are also chunks which may belong to several categories. UB states that language is learned through repetition and language learners will learn through making mistakes. It is therefore an easy leap to errors in chunking. Though learners have encountered and used the correct version of a word or chunk before, they can always relapse. Languages are learned through memory, imitation and repetition and it is much more logical to assume that one’s language can be influenced by one’s experiences rather than fitting the words one hears in a structure which is already in place.

Wray looked at earlier research and found that students using formulaic language make many errors. Wray found that for the students to make the errors, they must have heard the chunks before.

‘The examples seem close enough to their target not to be straightforward inventions. That means that the correct version has been encountered by the student, and that is has been recognized as formulaic’ (199).

The students do not simply make errors in single words, it is in the combination of the words that errors occur. Analysing the errors second language learners
make gives an insight into what it is the students are doing wrong. The students are trying to find out how words can be glued together and how they can combine chunks of language which are close to the target language. The sort of mistakes students make show that learning to become proficient in a language is not done through simply combining words, but in using chunks. ‘[W]ords do not go together, having first been apart, but, rather, belong together, and do not necessarily need separating’ (Wray 2002: 212).

The system of learning a second language in secondary school in the Netherlands heavily relies on teaching grammar and lexicon separately. In the first years students are to broaden their lexical knowledge while later on their grammatical knowledge is to be widened. However, keeping the importance of chunking in mind, this approach to L2 is not the most effective one. Research is therefore needed to assess this approach. In their L1, children learn different aspects of that language not after one another, but simultaneously and therefore become rapidly fluent in their native tongue. In L2 it is quite different.

‘While during L1A formulaic sequences are stored directly and holistically, post-childhood, classroom taught L2 learner often arrives at formulaic sequences via the fusion of individual words’ (Smiskova 2010: 7).

It is therefore argued that in secondary school the system needs to change in order to help the students reach a higher level of fluency. A number of secondary schools in the Netherlands offer bilingual education as a means to this end. When the students are constantly faced with for instance English in other courses than their English class, they will more easily pick up native-like phrases. By using the target language the students will find it easier to learn the language. If UB theorizes correctly that iteration is the key to reaching a higher level of fluency, bilingual education would be a success. In this paper, the focus will thus be on the English language-development of both regular classroom taught students and bilingual educated students in the Netherlands; by analyzing the errors made in both chunks - as defined by Granger & Paquot and further refined by Smiskova - and the grammar of English, this paper aims at giving a clearer picture of the acquisition of language in L2 learners.
Concluding, DST describes language as a dynamic system which adapts itself to the surroundings and the needs of the speaker and which accounts for the lapses in the language-development which earlier theories could not account for. Language is not modular, it is a network of dependent subsystems and is always ready to adapt to new situations. When a person is going through changes, his language is also bound to change accordingly. Usage-based Theories like EG add to this view that a language is learned by iteration. People learn languages by listening to the target language and using what they heard themselves. EG is a crucial concept in arguing that language has no specific system in the human mind which needs to be activated, but rather a structure which is interrelated with other developmental capabilities in the human mind. Chunking highly depends on the view that language development is a process rather than a system. L1 is learned by a child’s interest in his surroundings and his wish to be part of that world, L2 is learned by obtaining new information while relying on the structure of one’s L1.

By learning formulaic sequences – chunks – it is assumed that the L2 will become more native-like than by learning grammar and lexicon separately. The L2 development of both regular Gymnasium students who learn a language the classical way, by studying grammar and lexicon separately, and bilingual trained students who learn a language by being exposed to the target language extensively is therefore interesting to look at.

Felicity de Vries (2009) believes that ‘in the future, perform an error analysis with categories that more accurately reflect the lexicon-grammar continuum’ and now that Smiskova further developed Granger & Paquot’s categories of formulaic sequences, the time is here to actually look at the L2 development of students more precisely, which will be the focus of this paper. By registering the errors made in chunks by both regular classroom-taught English students and bilingual trained students over a longer period, more can be said about the actual use and development of chunks by both groups of students. The results will show whether or not it actually is the case that language is learned more quickly by exposing students more to the target language than by studying grammar and lexicon separately.

The research question of this paper is do bilingual trained (TTO) students make less mistakes in grammar and chunks than their monolingual counterparts,
the regular Gymnasium students? Do TTO-students show progress quicker and are the mistakes they make in learning the language of a different kind than the errors of the Gymnasium students?
3. Method

This study focuses on the chunk-usage of 2 regular gymnasium students and 2 bilingually educated students. The students who took part in the research went to a school in the middle of the Netherlands. Their CITO-score was very high (547 – up). Most students were 12, 13 years old when they went to the secondary school. The students were given the choice of going to a TTO-class or to a regular Gymnasium. Both groups were motivated to learn a language: the TTO-students were interested in learning English while the Gymnasium students were more interested in studying the classical languages (Latin and Greek). The students in the TTO-class had an average of 15 hours of English per week: they used English textbooks, had to speak to each other in English and took part in extracurricular activities in English. They learned English in a high-input situation. Besides the 4 hours of English, the Gymnasium students had in their first years 2 hours of Latin and from the third year onwards 2 hours of Greek. In the Latin classes the emphasis was often on syntax of the language and the students were encouraged to think critically.

All students took part in a larger OTTO-project. The OTTO-project started in 2007, the students were asked to write a small text 3 times per year. In addition to these assignments the students were asked to write extra assignments in a notebook in class. In the second year they submitted the writings. It should be taken into account that not all students submitted an equal number of texts, absence during class being one of the various reasons. A list of chunk-types was used (Smiskova 2010: 19-20) to determine what kind of chunks were used by the students. Not only the chunks were counted, difficult words were counted too as well as errors in spelling, grammar, mechanics, etc. Numbers were assigned to correspond with the type of chunk or error, which in turn were counted and used in charts from which the number of error-type and chunk-type could be read.

For this paper the data collected in the larger research had to be re-evaluated again and classified differently, since the main focus of the OTTO-project was not the errors made in chunks, but the overall chunk-use. Therefore, different classifications were used. Smiskova (2010) presented a list of chunk-types on which the classification used in this research is mainly based, but
simplified. Next to a chunk-list, language-errors in the data from the students needed to be looked at more closely to see whether or not the students were in the process of trying to use chunks. The categorization of these errors is as follows: First, the problematic string of words needed to be assessed on the type of error made in it; second, the degree of formulaicity of the string of words needed to judged; and third, it had to be established where the mistake came from: was the student thinking in their mother-language and therefore transferring the L1-knowledge to English or were they looking for a L2 solution for the sentiment they needed to express? For example, one of the 4 students discussed below, used the phrase *in the first grades* which is correct English, but not a correct chunk in the context. The type of error made in this string of words could only be known after looking at the example in the student’s L1 which would be *in de eerste klassen*. While the students meant *in the first grade* in general, he transferred the multiple ‘s’ from his L1. Therefore, the chunk is almost correct, but the ‘s’ keeps it from being entirely correct. This string of words is therefore marked with ‘transfer’.

To simplify the distinction between correctly used chunks and wrongly used ones, from now on these ‘learner-chunks’ are referred to as ‘cunks’. These cunks are missing one or more elements which keep them from being a true chunk. Since not all errors made in these cunks can be attributed to interference of the L1, other categories are also needed. The students might know the correct word already, but are using for instance a different tense of that word (grammar), the word is mis-spelled (spelling) or the student has made up a compound of two words which is a chunk, but not correctly used (vocabulary/wrongly used). These categories will be discussed in the section below, which will show several different graphs which are important in understanding the development in the students’ errors.

The results from 2 TTO-students and 2 Gymansium-students are presented in chapter 4. These results will be discussed in relation to the research question of this paper—whether or not TTO-students make fewer errors in using chunks of the target language—in chapter 5. In this chapter the results will be given in order of importance for this research. First, the sentence-length will be looked at; second, the number of chunks and errors of the Gymnasium-students will be discussed; third, the number of chunks and errors of the TTO-students
will be discussed; and fourth, the percentages & types of chunk-errors will be presented. These results will be further discussed in chapter 6.
4. Results

This section will discuss the results of 4 students who took part in the OTTO-research. First, the results will be shown in graphs after which the results will be explained and will be looked at in more detail. The graphs are given two by two; the results of the Gymnasium-students will always be discussed first. The graphs will be discussed in order of relevance, starting with the most general findings—the sentence-length—and ending with the most specific and important findings—the types of chunk-errors—which will be briefly discussed in relation to the research question.

4.1. Average Sentence Length

In order to know the overall development of students learning an L2, interesting changes could be seen in the development of a student’s average sentence length. Over time, the sentences should lengthen since the students learn words which would give them the ability to connect simple sentences and create complex ones. Most students learning a language start out with simple sentences like ‘My name is ....’ they should eventually be able to combine multiple shorter sentences into one by using textual connectors like linking adverbials. Whether or not the TTO-students show any significant progress in the lengthening of their sentences will be interesting to look at especially in relation to the results of the Gymnasium-students. It is expected that the TTO-students show a more rapid growth in the lengthening of their sentences since they are much more in contact with English.

graph 1 – average sentence length
Gymnasium-students

graph 2 – average sentence length
TTO-students
Interestingly, the students discussed in this paper do not go through a similar development. The two Gymnasium-students in graph 1 go through a very different development than their TTO counterparts.¹ Both lines in the graph represent a different student; the differences and similarities can be seen easily. While one of the Gymnasium-students visibly develops her shorter sentences into longer ones, the other student hardly shows any progress. Sometimes there is a peak, but most times the average sentence-length is between 10 and 12 words per sentence. Though the other students seems to progress in a more gradual way, the sentence-length in the various months do not differ dramatically. The two instances which show that the sentences are much longer than normal are mainly due to the fact that there were more comma’s in the entire text; long lists of hobbies were given by the student which were not present in the other texts. These peaks in the development of the sentences should therefore not be seen as crucial to the understanding of the sentence-development of the Gymnasium-students. The TTO-students on the other hand, do not show peaks in their development which are to be ignored since they are irrelevant to the development of the lengthening of their sentences. These two students also show a gradual increase in the average sentence-length, but looking more closely at the actual average number of words per sentence, it becomes clear that although they start out on the same level as the Gymnasium-students, the peaks in their development give away that their use of linking words is of a much higher level than that of the Gymnasium-students. For instance, in the first period of eight months both students show they use an increasing number of words per sentence. Though towards the end the average number of words per sentence has decreased somewhat, the students show that their awareness of the language is higher than that of the Gymnasium-students.

As is said before, not that many conclusions could be drawn from these two graphs. There are however a few important aspects of learning a second language which are brought forward in these two graphs. The TTO-students show a more rapid growth in the lengthening of their sentences and the overall number of words per sentence which can be related to the manner in which the students learn English. The TTO-students are in contact with the target language

¹ The data for graph 1 & 2 can be found in appendix 1.
much more than the Gymnasium-students which apparently has lead to a faster understanding of the sentences to be used. Another point which might influence the Gymnasium-students is the other languages they are in contact with. This will be discussed further in chapter 5. Next, graph 3 and 4 will discuss the number of chunks and errors of the Gymnasium-students while graph 5 and 6 will discuss those of the TTO-students.

4.2. Number of Chunks & Cunks

It is already said in chapter 2.3 that a person’s language is seen as more fluent and target-like when formulaic sequences are prominent in that person’s speech. It is therefore that these formulaic sequences—chunks—are also counted in the exercises the students had to do. From the number of chunks and cunks various conclusions could be drawn. While the language of the students would be considered more native-like if chunks are prominent in their language, the cunks are also important since they show whether or not a student is showing progress in the use of chunks. It is expected that the number of chunks increases over time while the number of cunks decreases. The development of the Gymnasium-students will be presented first after which the TTO-results will be given and some general conclusions which will be discussed into more detail in chapter 5.

In the two graphs above, the number of chunks and cunks in each text of the Gymnasium-students is shown. Though it would seem that the development the two students go through are completely different, this is not entirely the case, which is clearer after examining the different stages the students go
through. Graph 3 and 4 give the results of two students; each student has their own graph. The correct chunks are represented by the blue line, while the cunks are represented by the pink line. It would not have been logical to give the percentage of the texts which are chunks, since that is not what this study looks at. Moreover, the students discussed in this paper used approximately the same number of words per exercise (with a deviation of 10%) which is why the number of chunks per exercise is interesting to look at. Gymnasium-student 1 shows the development which would be expected throughout the months. The blue line goes from 1 chunk in oct-07 to 6 chunks in may-09, but the line is not rising steadily. Through highs and lows—from oct-08 to jan-09—the line eventually ends at a higher point than it has started. It should be kept in mind that the sudden rise in oct-08 is not as sudden as it comes across; there is a gap between the previous exercise and that of October of approximately four months. Yet, change can also occur quite fast as can be seen in rise in the use of chunks from jan-09 to feb-09. The blue line in graph 4 shows a similar chaotic development in the correct use of chunks. Change is quite rapid in the beginning—from oct-07 to nov-07—while at other moments there seems to be hardly any development at all—from march-09 to may-09—which is difficult to understand.

The pink lines in both graph 3 and 4 show a different development and together with the blue lines, some conclusions can be drawn. At first it would seem that the pink lines go through the months as chaotic as the blue lines, but looking more closely at the interaction between the two lines, other things can be said about the development of the chunks and cunks. Before moving onto the belief underlying the seemingly chaotic use of formulaic language, a few examples are needed to rule out other possibilities. Both the blue and the pink line go through highs and lows and it is expected that in the end the number of cunks is lower than the number of cunks in the beginning. Graph 3 and 4 both show this development—be it not in a gradual manner—but it is not the beginning and the ending which show the interesting elements. It is evident in these two graphs that when a student uses few chunks, the number of cunks is also low while when a student used more chunks, the number of cunks varies. Of course, there is always one exception to the rule; the student’s first entered exercises (both graphs) and dec-07 in graph 3. The latter of the exceptions is
easily explained: in dec-07 of graph 3 the student keeps making similar mistakes which leads to a higher number of cunks. The same goes for the first exercises in oct-07 (both graphs): the sentences contain similar mistakes, which were all counted as different mistakes. Therefore, the number of cunks did in fact decrease over time. The number of chunks on the other hand did not grow as would be expected. In fact, the two students differ greatly in their use of chunks; while graph 4 shows an increase towards the end, graph 3 stabilizes and does not show any more progress.

The results of the TTO-students are presented in graph 5 and 6. Immediately there are a few developments visible which differ from the results of the Gymnasium-students. First, the development of the use of chunks and cunks is much more gradual than the development of the Gymnasium-students. Though there are several highs and lows to be pointed out, the blue and the pink line correlate more than the Gymnasium-counterparts. While the pink lines vanish towards the end, the blue lines are stable and show an increase in the use of chunks. There are moments of rapid development in the use of chunks and cunks, but these are quite similar in both graphs. Dec-08 shows a peak in the use of cunks in both graphs while at the same time the blue line also is at a high point. Though the lines are not similar in graph 5 and 6, both students do show a

2 Note: chunks and cunks which appeared more than once in the same text were not counted every time they appeared; the different chunks and cunks (types) were counted, not the entire number of chunks and cunks (tokens).
similar development throughout the months. This needs to be pointed out since it would be assumed that for students to go through similar learning stages it would also show similar patterns in the graphs; these patterns are visible, but more evident in the progress of one student than in the progress of the other student.

Second, the number of chunks is much higher than the number of chunks in graph 3 and 4 while the average number of words per sentence do not differ that much. If the average number of words per sentence would have been higher in graph 2, it would be logical to assume that the number of chunks would also be higher; however, this is not the case. Over time, the TTO-students use more chunks than the Gymnasium-students while the number of chunks in the texts of the Gymnasium-students does not go above 7, the TTO-students easily reach between 8 and 15 chunks per text. In the period from oct-08 to dec-08 the number of chunks is at its highest in both graphs. Both TTO-students show a lapse in their use of chunks only once; only in nov-09 in graph 5 and june-08 in graph 6 these students use fewer chunks than they used in the beginning of the measuring of their use of chunks.

Third, the development in the TTO-students’ use of cunks is interesting to see; over time, both students show a decrease in the number of cunks. In the beginning the students differed from each other in their use of cunks, but their line of development is quite similar; after slipping only once in their use of cunks, towards the end the cunks have disappeared while the number of chunks is quite high. Only twice do the students have many cunks in their use of language which are almost in the same period, therefore showing that the development the students go through is rather similar.

Would there then be an interaction between the use of chunks and cunks? It is definitely possible that there is. While graph 3 and 4 show hardly any similarities, the development of the two TTO-students in graph 5 and 6 can be compared much better to one another. The number of cunks decreases over time, but the number of chunks slightly increases and is much higher than the number of cunks. Not only is the number of chunks much higher in graph 5 and 6 than in graph 3 and 4, the number of cunks is much lower than those in the other graphs. The use of chunks and cunks appears to develop much more independantly than those in graph 5 and 6.
Several reasons can be given for this development. Not everything can be related to the higher level of input the TTO-students have to work with, but graph 5 and 6 definitely give the results and strong points of bilingual education. While after a longer period of no contact with the target language the Gymnasium-students are struggling to use the target-language, the TTO-students more easily use the target-language again since the input is much higher in their bilingual education. Their number of chunks is much higher and the development of their chunks and cunks much less chaotic than the Gymnasium-students.

4.3 Types of Cunks
Not only are the numbers of chunks and cunks interesting to look at; the types of cunks might also give better insight in the process of language-learning. While the types of chunks will give more information about which parts of a language the students learn easiest and fastest, the types of cunks will show which parts of the language give the most problems. If a student has the least problems with the vocabulary of a language, it would be expected that the number of cunks is highest in another area. The number of cunks is expected to decrease over time in the vocabulary part since that area would cause the least problems. An area such as grammar would on the other hand present the students with the most problems since it is generally assumed that a grammar of a language is the most difficult part—and at the same time the most important part to sound native-like—to learn. Since TTO-students are in contact with the target-language much more than the Gymnasium-students, it is expected that the TTO-cunks are of a different type than the Gymnasium-cunks.
Graph 7 and 8\(^3\) show the different types of cunks which were found in the texts of the students. Graph 7 shows the results of the Gymnasium-students while Graph 8 shows the results of the TTO-students. The percentages of the error-types in the use of chunks are shown: these are the percentages of the entire number of cunks which occurred, not the entire number of errors (grammatical, lexical, spelling etc). This paper only focuses at the chunks and cunks within the texts, therefore it should be kept in mind that the cunks are not the only errors made by the students. The students also made errors not related to chunks, which are not relevant and therefore not discussed in this paper. Having discussed the development of the chunks and cunks by both Gymnasium and TTO-students, it is wise to keep in mind that the number of cunks has decreased over time and therefore graph 7 and 8 are to be read accordingly.

The first aspect which is clearly visible is that graph 8 has more different types of cunks than graph 7 which shall be explained in more detail. The category ‘wrongly used’ had to be inserted in the case of the TTO-students for several reasons. The few instances which occurred that the students used a correct chunk while it did not fit in the context and it could not be fit in the other categories, they were added to the category ‘wrongly used’. This also holds for the instances when there was overlap with one of the other categories, but it could not convincingly be said that this was the only reason why the student had used this cunk. For instance, \textit{tutorlesson} would be correctly transformed into \textit{tutoring lesson}, but it does not fit in the context and the exact intention of the student can only be guessed at. Therefore, this cunk belongs to the category ‘wrongly used’. The other instances in which this situation occurred had the same problem. The ‘wrongly used’ category can therefore also be seen as ‘undefined’. The reason why it was necessary to only make this distinction for the results of the TTO-students will be discussed in chapter 5.

While vocabulary plays a crucial role in the development of a student’s L2 it seems to present the learner with many difficulties since the percentage of cunks in the category vocabulary is not high; both the Gymnasium-students and

\(^3\) From graphs 7&8 onwards the graphs show the developments of the 4 students in the same months to make the discussion of their development equal.
the TTO-students seem to use the correct vocabulary in their chunks which leads to the low number of cunks which belong to the category of vocabulary. When students use chunks and make mistakes which lead to the formation of cunks, they are bound to rely on what kind of language they use in their L1. Transfer would therefore be a problematic feature in the acquisition of chunks. However, the cunks in the ‘transfer’ category would not suggest as much. Only in jun-08 the Gymnasium-students used a transfer-cunk, while the TTO-students show many more instances of using transfer-cunks. The transfer-cunks are particularly interesting to look at, especially since the TTO-students are supposed to speak English much more than the Gymnasium-students who are much more concerned with the structures of languages resulting from their knowledge of other languages as Latin and Greek. There seems to be no logical structure in the TTO-students’ use of transfer-cunks throughout the months.

Another category which would lead to problems in using chunks is the spelling of these chunks. Would the students have been asked to tell their story without writing it down, there would have been much fewer mistakes in the spelling of the words. Their pronunciation of the words could have given other difficulties which is why the category spelling is interesting to look at. When the students do not know a word, they tend to spell it by listening to the phonetics of that word. Therefore, a word like ‘quiz’ could be spelled as ‘guiz’ since they know a sound similar to ‘g’ is in that word. A chunk like ‘except if’ would therefore be considered a cunk when it is written as ‘exept if’. The Gymnasium-students tend to make more mistakes in the spelling of words and chunks than the TTO-students. However, the largest group of cunks belongs to the grammar category, which shows some very interesting results in graph 7 and 8. Throughout the months, the students show that they make the most mistakes in the grammar of the chunks. Though the results of both the Gymnasium and the TTO-students show they have the most difficulty with the grammar of the chunk, the Gymnasium-students are much more persistent in creating these cunks. In other words; though the TTO-students also show they have difficulties in mastering the grammar of chunks, their learning-process is quite different since they show a development in their use of grammatical chunks, while the Gymnasium-students are still struggling with grammar in the end as much as they had been in the beginning.
By looking at the several different graphs the main point which is evident is positively that the Gymnasium and TTO-students go through different processes while learning the L2. The TTO-students are much more stable in their development of L2-chunks while their cunks gradually grow less. As for the types of cunks, some general conclusions can be drawn. While vocabulary-cunks are not that prominent in the language of either the TTO- or the Gymnasium-students, which shows that the vocabulary-chunks are the easiest to learn for both groups. The main difference—and also the most important one—is in the percentage of grammar-cunks. The Gymnasium-students create many more grammar-cunks than the TTO-students and though it would be expected to be the other way around, it is quite crucial in assessing the effectiveness of language-learning system in modern secondary schools. The next chapter, chapter 5, will discuss this in more detail, as well as other findings presented in chapter 4.
5. Discussion

This chapter discusses the results presented in chapter 4. Not only will these results be discussed in general, they will also be related to the theoretical background of this paper and it will eventually become clear whether or not TTO-schools are indeed more thorough and effective in bringing across the information needed for a student to become proficient in a second language. Looking more closely at the chunks and cunks, it can possibly be pointed out in what area bilingual education appears to be more efficient than the regular school-system in the Netherlands. Brief conclusions were given at the end of each section in chapter 4, which are worked out into more detail in each of the sections in this chapter. This chapter will give specific conclusions drawn from the results but it is necessary to keep in mind the limitations of this research. The results of only two TTO-students and two Gymnasium-students which were used in this paper can give a general view of the differences in language development but give the specific language-development of only these students. It is not wise to view the results of these students as representative of an entire group of learners but the results from this research can be a foundation of further research in the field of second language development.

As far as it is possible to estimate the students’ wish to fulfil the exercises as they were supposed to, it is rather important to rule out different sources for the results discussed in this paper. The reasons for a peak in a graph is not necessarily a swift development in the student’s speech; it might also be the case that the student relied on a certain method and repeated it multiple times which lead to this rapid increase. For example, there is a clear distinction between rapid development and exhaustingly using the same words. The latter of these two has been taken into account in the results but it might also be the case that similar situations occurred. The student might have added a list of hobbies and therefore created several compounds which would lead to a higher number of compounds which are not the same one repeated but similar compounds in one text; for instance school-uniform, school-bus etc.. The overall level of the text will in these cases show whether or not these compounds were created because the student really wanted to tell a story or to make sure that the student had enough words to complete the exercise. Each instance was
therefore looked at closely to rule out the latter possibility. This chapter will thus not consider these possibilities since the results did not incorporate these weak constructions; the four students were on the whole rather willing to do the exercises.

Though generalizations for the larger groups of TTO-students and Gymnasium-students can hardly be made, the discussion of the results will give some insights in the language development of four very different students. Each section below will discuss the results and relate back to the theoretical background of Cognitive Linguistics. In the final chapter (chapter 6) the main conclusions will be given.

5.1 Average Sentence-length

As is already said in chapter 4.1, not that many conclusions can be drawn from the sentence-length of the students. There are however some interesting and important aspects of learning a second language which are visible in these results. Over time, the TTO-students show a more rapid growth in the lengthening of their sentences and the overall number of words per sentences than the Gymnasium-students. The reason for this development can be traced back to the manner in which the students learn English. The TTO-students are in contact with the target language much more than the Gymnasium-students which apparently has led to a faster understanding of complex sentences and how to use them. As Verspoor & Behrens (2010) state, language is a bottom-up process, which means that in order to create language, a learner must be creative and in order to be creative, there needs to be a certain level of input from the target language. This can be seen in these first paragraphs. The TTO-students are in much more contact with the target language which results in longer and more complex sentences than the language of the Gymnasium-students. The more input a student gets, the higher the chance is that this student will develop more interesting sentences than someone who has not been in contact with the target language intensely.

Though this accounts for the results of the TTO-students there also must be a reason why the Gymnasium students need more time to create these longer and complex sentences which are not only caused by the level of input. As is said in chapter 3, the TTO-students have more classes in English per week, but the
Gymnasium-students have other courses which influence their mode of thinking about languages accordingly. Languages like Latin and Greek—which are part of the curriculum of these students—are quite different from English and rely heavily on structures. When the students try to learn a new language, they use their knowledge of other languages and try to apply this knowledge to the new language. Whether or not there is transfer from a language as Latin or Greek is questionable and not visible in the results of the students but it should be kept in mind that whatever a student is learning at the same moment he is learning a language like English, it is definitely possible that he is looking for examples in Latin or Greek. Considering the differences between the TTO- and Gymnasium-students, it is likely that not only the contact with the target language but also contact with other languages will influence the learning process. Students who only have to deal with Germanic languages like English, German and Dutch will therefore have a different mind-set and create different sentences than students who also have to learn Latin and Greek. As quoted in chapter 2.2, MacWhinney argues that learners heavily transfer their L1 knowledge to the L2 process. It is logical to assume that this is not a one-way street; why should a learner not transfer knowledge from other languages as well? It is very well possible that language-learners transfer knowledge from other languages as well. Then, the Gymnasium-students who participated in this research might then find it more difficult to transfer their knowledge from Greek and Latin since these languages rely highly on structures. UB-theories can therefore account for the differences in sentence-length between Gymnasium and TTO-students, since Gymnasium-students have to deal with more different sentence-structures than the TTO-students.

5.2 Differences in Chunks & Cunks

Knowing whether or not students transfer knowledge from other languages and incorporate non-linguistic knowledge in their language learning process can be discussed with more certainty after looking at the differences in cunks and chunks. Using chunks shows that a student successfully remembered and used

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4 An overview of numbers of chunks and cunks can be found in appendix 2.
knowledge from the target language, but using cunks shows that the student either has heard new information and used it wrongly or tried to create chunks while having an example of what he thinks is a chunk. The results of the Gymnasium- and TTO-students show a very different pattern which can be explained accordingly. It is already said that the development of the Gymnasium-chunks is quite chaotic and the development of cunks is chaotic in a similar way. The fact that the Gymnasium-students only had a few hours of exposure to the target-language per week can account for this development, but the fact that there appears to be a linking pattern in this development asks for another explanation. When there are few chunks there are also few cunks while when there are more chunks, the number of cunks varies. This means that the Gymnasium-students do not see and apply the pattern of the chunks to new situations. When a student for instance hears *hanging up* he finds it difficult to see the same underlying pattern of verb+preposition to a new similar situation like *looking down* or *walking by*. He has difficulty transferring the knowledge of similar chunks because he is not in contact with the target language as much as TTO-students. As is stated in chapter 2.2 of this research paper MacWhinney states that, ‘by maintaining words and constructions in short-term sentence memory, learners can facilitate a wide range of additional and processing mechanisms’ (2004: 14). This short-term sentence memory is much more developed in the minds of the TTO-students. When someone is forced to use a language more than in regular Gymnasium-classes, he will eventually find ways to simplify the language learning process by applying earlier learned rules and structures. Because the Gymnasium-students do not have as many contact-hours in English as the TTO-students the need to improve their language is not as crucial as in the language learning process of the TTO-students. This also explains the lack of improvement in the cunks. The number of cunks decreases somewhat but the number of chunks does not visibly increase. Solely because of the lack of need to improve their English rapidly the students show little development in their use of cunks and chunks.

The results of the TTO-students support this view. While the Gymnasium-students show little development in the cunks and chunks, the TTO-students show the pattern a teacher would like to see. The overall number of chunks is much higher and the development in these chunks is much better than the
development of the Gymnasium-chunks. Not only do the chunks develop, the cunks also show a visible decrease. The lines of development are quite similar, while the number of chunks rises, the number of cunks decreases. The few instances in which this development is not visible can be explained by means of other factors. While the development of chunks and cunks mostly correspond, it can only be guessed why both graphs show a lapse in the decrease of cunks. It might for instance be the case that the subject the students had to write about was particularly difficult or not interesting for the students to write about. It, however, might also be the case that after the start of the new year the students experienced and overwhelming amount of new information which made them question their previously acquired knowledge.

Comparing the development of the Gymnasium and TTO-students to one another gives a unique insight. While the Gymnasium-students do not experience enough input to see and use underlying structures which results in an unstructured development, the TTO-students, while showing a steady development, can be thrown off-guard by new rules and new situations which lead to irregular points in their development. The next paragraph will show a further insight in the development of the use of cunks by both the Gymnasium- and the TTO-students. This paragraph will also discuss the differences in development in more detail.

5.3 Types of cunks

The results of the cunks-research already showed that there are different types of cunks and that the TTO-students required an extra category for identifying the cunks. This paragraph aims to explain why there needed to be an extra category as well as looking more closely at these different categories. It immediately is clear that there are not that many vocabulary-cunks and the reason for this low number of cunks seems obvious. In their first years of learning a new language, the students are overwhelmed by the new vocabulary. One can logically assume that this would be a reason for a high number of vocabulary-cunks but since vocabulary is fairly straightforward, the number of cunks stays low. Learning and

\[\text{A longer list of cunks can be found in appendix 3.}\]
using vocabulary merely exists of learning the vocabulary and repeating it over and over again without over-applying rules. When there are mistakes in vocabulary-chunks they mainly appear on the level of spelling, which is a different category in this research. Using vocabulary-chunks is straightforward which does not present both Gymnasium- and TTO-students with problems.

A second category, the transfer-cunks, does show differences which can be explained by the differences in learning English. While the Gymnasium-students do not use that many transfer-cunks, the TTO-students do use many transfer-cunks. The need to communicate in English is much higher which results in looking for structures which are familiar to the students but not necessarily correct English. When a student needs to say something but does not know how, he will look at his L1 for help. Whether or not it is correct English does not seem to matter, the need to express what he wants to say is much higher. Though this research does not use speech as a source, it is likely that the students used this system in both spoken as well as their written English. Gymnasium-students will try to avoid situations in which they do not know which words to use since they are known to work very structural (since they also take other courses highly based on structure as Latin and Greek). While the focus of TTO-students mainly lies with communication, the Gymnasium-students’ focus lies with structures. The reason for the higher number of transfer-cunks can thus be traced back to the differences in the students’ education. Some examples of the transfer-cunks are the following: ‘In the first grades’, ‘In group seven’ and ‘pianolesson’. These cunks were considered transfer-cunks since they are not logical in English, but when they are translated to Dutch, they all of a sudden make sense. ‘In the first grades’ would in correct English simply be ‘In the first grade’ but the errors is made since in Dutch someone could refer to the first grade by using the plural of grade. ‘In group seven’ can also literally be translated to Dutch (correct English would be ‘in the seventh grade’) as well as ‘pianolesson’ (this would be ‘piano lessons’ in the correct English context). The handicap for these students is thus literally translating the Dutch equivalents of what they want to say in English, resulting in awkward cunks.

The third category, the spelling- or phonetic-cunks, is a category on its own because without the spelling-error in the cunk, it would have been a perfect chunk. The difficulty with this category is defining what a spelling-cunk is and
what is not. To make sure that it could not possibly be a transfer-cunk, the cunks were compared to their equals in the L1 of the students. Ruling out the possibility that it could be a transfer-cunk immediately showed that the spelling category was needed to account for these ‘simple’ spelling-errors. The Gymnasium-students show much more errors than the TTO-students which can again be explained by the amount of target-language input the students experience. Not only do the TTO-students use English in their English classes, they also use English in other courses, not only in speaking, but also in reading English textbooks. They therefore see how English is supposed to be written much more than the Gymnasium-students. The Gymnasium-students not only have to learn the English spelling, they also have to learn the spelling of the other languages they are taught. A spelling-mistake is therefore easily made. This category also shows the limitations and at the same time the importance of this research, since it only looks at written language. When the research would have looked at spoken language, the outcome would be completely different. Still, the examples in this category prove that when students are not exactly sure what the spelling of the words is they aim at the most likely spelling of the words. Therefore, it is a combination of spelling and phonetics; what are the sounds? For instance, ‘exept if’ is a cunk because of the missing ‘c’, but because the learner does not hear the specific ‘c’ he leaves it out. The same goes for ‘very moch’ (very much), ‘nest to’ (next to) and ‘we stay a weak’ (we stay a week). It is hard for someone learning a new language to get the spelling of the words instantly correct. As is said earlier, were this research conducted verbally, the results would most probably be completely different.

The fourth category is probably seen by traditional teachers as the most important category. The grammar-cunks are important in showing the overall development of the language-use because traditionally grammar was seen as the most difficult part of a new language and at the same time the most important part because knowing the most difficult part of language usually shows one’s knowledge of that language. While the Gymnasium-students are much more concerned with the structure of a language and the TTO-students would be expected to make more errors in this department, they actually make less errors than the Gymnasium-students. Most of the cunks used by the Gymnasium-students are of a grammatical nature, while the errors are more evenly spread
over the other categories in the TTO-group. Possibly because the Gymnasium-students are much more concerned with the grammar of a new language they make more mistakes in this area. TTO-students also show a development in their grammar-cunks, while the percentage of grammar-cunks is quite even in the Gymnasium-group throughout the months. Repetition is possibly an important factor for learning the grammar rules of a new language correctly. Since the TTO-students use the language much more than the Gymnasium-students, the Gymnasium-students are possibly more aware of the grammar-rules when they use the language. The examples of the grammar-cunks can be divided in two groups; purely prepositional cunks and grammar cunks. Some of the prepositional cunks are the following ‘at my rapport’ (ignoring the spelling-cunk for now, focussing on ‘at’ correct English would be ‘on my report-card’) and ‘at my shoulder’ (would be ‘on my shoulder’ in correct English). Examples of the remaining grammar-cunks would be ‘stand up’ (instead of ‘stood up’) and ‘love to going’ (which should have been ‘love to go’).

As is said earlier in this paragraph, the TTO-students need an extra category for their cunks. It is certain that the TTO-students learn a language much quicker than the Gymnasium-students because they use English much more in their daily schedule. Yet, TTO-students also have to learn from their mistakes, though they learn faster than the Gymnasium-students. It was striking to see that since the TTO-students needed a way to express themselves in English, they started using chunks which were not appropriate to use at specific points. The chunks themselves were correct but in their context they did not make any sense. That is why the wrongly-used-category needed to be inserted. The reason for wrongly using chunks is obvious as is already explained above. Since the TTO-students needed a way to explain themselves they used words and chunks they already knew and used before. It might not cover the extent of what they wanted to say completely but it was close enough for them. Again, the Gymnasium-students did not need to express themselves in English a large part of the time and therefore did not incorporate this in their everyday pattern. Examples of cunks in this category are ‘we have got’ (does not fit in the context of a ‘a party next week’) and ‘may not fight’ (correct English but not correct in the context).
Concluding, the use of cunks gives an interesting insight in the differences between the Gymnasium-students and the TTO-students and the differences in their need to express themselves in the target language. The different categories show that the focus in the language-learning process has a different effect on the language the students use, but also where these differences lie and what it actually boils down to. A lot can be learned from chunks, but possibly even more from cunks. While in regular Gymnasium-classes one of the main goals is to perfectly understand and use the grammar of the target language, it appears that it much more effective to use the rules than simply learning the rules. It is in this field that the TTO-students gain an advantage. They exhaustingly use English and they may make more mistakes, but because they are forced to speak and practice using the target-language much more they develop much quicker. Though the percentages shown in the cunk-graph show that both groups still make errors in using chunks, and though the grammar of the language appears to be the main source of cunks, Gymnasium-students have more difficulty with spelling and vocabulary while the TTO-students use many transfer- and wrongly used-cunks. However, these are percentages and not actual numbers, which means that the number of cunks are not even in both groups. It appears that the TTO-group as it were ‘invent’ language (looking at the transfer- and wrongly used-cunks) while the Gymnasium-students stick to the rules and words they have learned. It thus mainly boils down to the conclusion that TTO-students in order to make sure they are understood have to be inventive, they learn the language in a similar way as they learned their L1 through practicing the language and consequently making errors, while the Gymnasium-students use everything they have learned to create logical sentences, though they may contain spelling- and vocabulary-cunks. The Gymnasium-students approach the new language from a theoretical viewpoint while the TTO-students do so from a practical viewpoint.
6. Conclusion

It is stated in the introduction of this research paper that the specific focus of teaching a new language can influence a person’s level of language-proficiency: a language-learning-style which involves much vocabulary will most likely result in a language which is highly based on vocabulary, while a language-learning-style focussed on grammar will most likely result in language with reasonably good grammar structures. This presumption has been proven to be partly true by earlier research in the field of second-language learning: students who are extensively exposed to the target language will eventually become more fluid in the language itself. Students who are exposed to many grammar-rules are much more aware of the grammar of a language than for example the sound of the language, which may lead to correct grammar, but wrong pronunciation. It has been proven that English is highly formulaic; near-native speakers produce more chunks than beginners in the second-language-learner-process. Research conducted in secondary schools have shown that learning a new language through submersion is very effective if the required result is a high number of chunks: the number of chunks in English would show whether or not a student is becoming more native-like.

The types of chunks are interesting to look at to see where the differences lie, but the cunks are interesting to look at to see what part of language learning should be focussed on more to make either type of school more effective. The differences and the similarities in the results of this research are quite peculiar. Do the different results contribute to an answer to my research questions?

‘Do bilingual trained (TTO) students make less mistakes in grammar and chunks than their monolingual counterparts, the regular Gymnasium students? Do TTO-students show progress quicker and are the mistakes they make in learning the language of a different kind than the errors of the Gymnasium students?’

The TTO-schools focus exhaustingly on exposing the students to the target language while the Gymnasium-students focus mainly on grammar and language-structures. Recent research has shown that the level of the TTO-students is much higher and contains much more chunks; this research has
shown that the type of cunks the TTO and Gymn-students use is of a different kind from which various conclusions can be drawn.

‘Relying on the belief that TTO-students will learn a new language quicker than regular Gymnasium-students, I believe that the errors TTO-students make in chunking are of a different nature than the errors made by the Gymnasium-students. The students’ background and the environmental factors such as other courses and the level of input of the target language would be the cause of the differences in learning English.’

The sentence-length results already answer part of the research question and support the view given in the thesis statement of this paper: the environmental factors influence the development of longer and complex sentences. TTO-students are taught in modern languages, while the Gymnasium-students are also educated in Latin and Greek. These languages are highly based on structure and would influence the way the students are trying to create sentences in English. If, for instance, they encounter short sentences in one language, they would subconsciously transfer their knowledge to other languages.

The development in the chunks and cunks also answer a part of the research question. Not only do the TTO-students develop their chunks faster than the Gymnasium-students, they also show a visible decrease in the number of cunks. Submersion is an effective means to increase the number of chunks. It is crucial for the short-term sentence memory of TTO-students to develop quicker because the students rely on their knowledge to make sure that they know how to speak their mind in English. The need to express themselves is much higher in the TTO-group which eventually leads to a higher number of chunks. When the students know how to say something, they store it in their short-term sentence memory to use it again until it is stored in their long-term memory. Iteration and a high level of input therefore leads to a quicker understanding and use of chunks in the target language. TTO-students thus do use less cunks and more chunks because the need to use them is much higher.

The most important result from this research is the differences between the types and cunks and the reasons why these cunks differ. The Gymnasium-group is focussed on using the correct rules – they think from a theoretical
viewpoint – while the TTO-students focus on make sure they are understood. This small difference eventually makes all the difference. Transfer-cunks are hardly visible in the development of TTO-students because they know that their mother-tongue vocabulary will not help solve their language-problem. They have to look in the new language for a way to make sure the message comes across. Spelling-errors and grammar-errors are inferior because this eventually will not keep them from getting the message across. Gymnasium-students focus too hard on learning the rules of the target-language while they should focus more on using the rules of the language.

It is obvious that external factors such as other languages, level of input and the need to develop influence the development of English as an L2. Other languages like Latin and Greek obviously influence the development of English as an L2, and I think that it would be interesting to find out if it also works the other way around. A question for further research would then focus on finding out whether or not students use knowledge of English and apply it to Latin and Greek? Does an L2 influence multiple language acquisition? Another interesting point for further research was coined in chapter 5.3. The OTTO-research has been conducted in a written-form. Especially in the case of deciding whether or not a string of words is a chunk or not, it might be interesting to see what the outcome is of a similar research conducted in an oral form. Would the cunks which contained small spelling errors be considered chunks in an oral research? Would other cunks present itself which could not be measured in this research? It might for instance show that prepositional phrases with the wrong preposition are actually treated by the students as chunks and should therefore be registered by the research. After all, the other way around goes for the OTTO-research. Strings of words which were considered to be chunks by the researchers might not necessarily be seen by the students as chunks. It may be far-fetched, but there is a chance that the students coincidentally put those words together. A comparison between oral and written research could answer these questions by giving some entirely different but nonetheless interesting results.

TTO-schools prove to get the results which are closest to the target language. Not only is the level of fluency higher, the mistakes the students make will hardly be seen as unacceptable. As long as someone can manage to make himself understood while making grammar-errors, it is accepted by the British.
As is said in the introduction, learning the rules of a language, like learning the theoretical aspects of driving a car, is not enough to make sure someone can actually speak the language or drive the car. The rules should be learned, but more importantly, they should be used exhaustingly. Iteration, trial and error is the key in the language learning process.
References


Verspoor, M. & Xu. X. (2011) A Dynamic Usage Based Perspective on L2 Writing Development. (forthcoming)


## Appendix 1 – Sentence Length

### Average sentence length

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Appendix 3 – A selection of Cunks

TTO-students

100114

The best thing that is happened to me
(gramm)
I can't wait 'till the next year
(transfer)
He ran through my legs
(transfer)
next te the camping (spelling)
my father want to make something right (gramm)
previous years we just got a bag full of presents
(transfer)
that's only in the first grades
(transfer)
At my birthday I get less presents
(spelling)
Except if there is a sign
(spelling)
I hear that a lot and it is a fun hobby
(transfer)
If you are not able to make free any time (word order)

100117

I have also mutch friends
(gramm)
we have got next Friday a schoolparty
(gramm)
I see her not very much
(spelling)
At my rapport I had a 9,2 for this subject
I just stand up and walked further to my classroom (transfer/gramm)
We also make a poem
(transfer)
We only celebrate it at the day himself
(gramm)
I wouldn't spend all the money for only this
(gramm)
I could also get around with the other girls
(gramm)
I asked in her face what the matter was (word order/transfer)

Gymn

101102

My basics school are the […]
(transfer)
It is not te much
(spelling)
but the rabbit going to the childrenfarm
(transfer)
I heave got all a chocolate-letter
(spelling)
the fifth of December whit the class
(spelling)
from six hour to eight hour
(transfer)
with the open day, I go help with gymnastics
(transfer)
We going to eat by my uncle and aunt
(gramm)
we do a party in the […]
(transfer)
I am the only one child at home
(transfer)
They are very special for me
(gramm)

101107

Some teachers are a littel bit weard
(spelling)
my front final name
(transfer)
they are long Ears Rabbits
(transfer)
We stay a weak
(spelling)
I really love to going to Australia
(gramm)
I like all kind of sports
(spelling/gramm)
But if we pass the line, and something that...
(gramm)

We don't have very much rules at home (gramm)
Pink, Taylor Swift and Carrie Underwood par example (transfer)
I don't know what I want to be when I am grown up
(gramm)