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# ledereen spreekt hier Frans. On the AIM

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# **Iedereen spreekt hier Frans:**

On the AIM: a comparative study on writing skills



Master thesis Master Applied Linguistics Faculty of Arts University of Groningen Year 2010-2011

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# **Acknowledgments**

As a runner, I would like to start this thesis with a sport metaphor. Writing this thesis has been like training for a running event. For months I have been learning theories, which I have exercised throughout the year, with in my mind the objective of optimalizing my skills before the big race. And then, ready or not, the day of the event comes. Like in sports, each participant has to decide on his strategy. Some give all their energy to reach the finish line as fast as possible. They choose to race against themselves for the beauty of the ultimate physical performance. Others decide to enjoy the journey and have as their only goal to reach the finish line proudly. I admit that I belong to this second group. So, even though I have not reached the finish line at the same time as the other runners, I am kind of proud to admit that I have appreciated every milestone.

During this research, I have experienced the frustrations of missing data as well as the joy of a significant result. Designing the study has been a lot of fun. The writing part, on the other hand, has implied many confronting moments. If I had had a week more, my discussion and conclusion would have probably been very different. Fortunately, I had a deadline!

This being said, there are some people I would like to thank. First of all, thank you to Marjolijn Verspoor (my supervisor) for her support and brightness when I needed a new impulse. She has been the person that I needed to finish this race, the one next to the road handing me water and energy bars at the decisive kilometers. Thank you also to the Werkman College and particularly to Barbara and Hanneke. I know that it has been very challenging to plan the assignments regularly in the classroom therefore I would like to acknowledge your perseverance. I think that you are rewarded by the results we have found. I also thank Saskia Visser and Lieke van Maastricht for their feedback and for helping me during this process. And the last but not the least, thank you to my colleague Daan for his cooperation and his support. Thank you for coming once every two weeks to rate 384 assignments! I will be waiting at the finish line to cheer you on at the end of your race.

Finally, thank you to my personal trainer Rienk. He has literally been my personal physical and mental trainer, which is not easy when I don't listen! But he also has made my world easier, which allowed me to focus on the race only.

# Abstract

AIM (Accelerated Integrated Method) (Maxwell, 2001) is a highly input driven teaching method designed for the acquisition of French as a Second Language. Many studies have already stressed its positive effects on oral skills and attitude (Mady et al. 2007; Michels 2008, Vignola 2009, Arnott 2005), but few have paid attention to writing skills. The main purpose of this study is to compare the writing proficiency of AIM students and students who have learned French with a more traditional method. My goal has been to determine whether external resources (high input method vs. low input method) and initial conditions (aptitude level) have an effect on L2 development operationalized as holistic scores, complexity, accuracy and authenticity. Therefore I have collected 384 writing assignments from which 55 have been coded. In my presentation, I will show the results of the statistical group-study and graphs representing the development of the writing of 6 prototypical students. The outcomes of the holistic study show that the writing proficiency of AIM students is at all times better. The second study shows that higher complexity level and fewer mistakes can partly explain this result. It also shows that variability seems to be a factor of development and that each method leads to different developmental patterns. Furthermore we have seen that scholastic aptitude seemed to count in language development.

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#### 0. Introduction

In the field of Second Language Acquisition, much effort has been put in finding the most effective combination that would enhance second language learning inside a classroom (Ellis, R., 1997; Ellis, N. in press 2008). Since the 1980's, communicative-based teaching methods have gained popularity among teachers and researchers, particularly within the emergentist approach, with the underlying assumption that language learning emerges from meaningful input and interaction. Interestingly, more and more empirical studies (Boyd & Goldberg, 2009; Ellis & Collins, 2009) suggest that L2 input is the key to success whilst learning a second language.

However, few regular schools implement a method based exclusively on this idea. When they dare to do so, questions still arise. Could it have a bad influence on language skills? What if students do not understand? Does it really give better results?

This study will give new empirical results on these questions by comparing a highly L2 input driven method with implicit grammar instruction (AIM) to a more regular communicative method based on moderate to low L2 input and explicit grammar.

The Accelerative Integrated Method (AIM) was designed by a French teacher in Canada: Wendy Maxwell (2001, 2004). It is based on a "French only" rule and on the Gesture Approach. The basic principle of AIM is to provide an L2 context given by stories, plays or music. From day one, students are surrounded by the L2 and are not allowed to use their L1. Communication is made possible by the use of signs: one gesture corresponds to one word or to one grammatical structure such as word order. The first six months are devoted to listening and speaking skills. Students do not learn any explicit grammar rule but are rather stimulated to reuse chunks from the stories into plays. After that time, writing is slowly introduced in the form of story retelling. Feedback is given but the "no-explicit grammar' rule subsists.

This highly input driven method can be integrated into a 2 to 3 hours per week curriculum, which explains its success in regular schools, conquered by the positive results observed on students' motivation and oral skills. If both teachers and students are convinced of its benefits, few studies (mostly unpublished) give actual scientific insight (Mady, Arnott and Lapkin, 2007, Maxwell, 2001; Michels, 2008; Boudages and Vignola 2009; Arnott, 2005). We will see that mixed-results have been found concerning the potential benefits of AIM on linguistic proficiency. Furthermore,

nothing has yet been done on writing skills and particularly on the development of complexity in the writing of AIM students. Research to date suggests that AIM students deal differently with their L2 (enhanced creativity and fluency and more risk-taking). This could indicate that their writing development differs in some way from non-AIM students. The purpose of this longitudinal study aims at filling this gap.

In my study, I have looked at four classes of Dutch first year high school students learning French, two AIM groups and two non-AIM groups, during 5 months. In each class, three aptitude levels are mixed (VMBO, HAVO, VWO) therefore not only have I compared writing levels between the groups but also within the groups with a statistical analysis. On the other hand, I have closely followed 12 students in order to analyze in detail, from a DST perspective, how their writing develops and whether this development takes place differently.

Before presenting and interpreting the actual results of this empirical study, we will introduce the theoretical framework of this research, which can be associated with a Dynamic Usage Based approach to second language development. We will argue that AIM can be seen as communicative-based teaching method, which relies on the basic principles of Usage-Based theories. Then, accent will be put on the dynamic methodological tools adopted in the microgenetic study, which can be considered as being rather innovative in language development studies. Finally, we will draw our conclusion and answer the research questions. We will address possible follow-up studies as well.

# 1. A Dynamic UB approach to Second Language Development

In this chapter we will show that AIM contains many principles of communicative-based methods, whose underlying ideas on language development are supported by Emergentist theories. Those theories are very much in line with the Dynamic System Theory (DST), which helps to explain some of the phenomena that can be found in Second Language Development (SLD). Before going any further, the following section will provide an overview on communicative-based language teaching and SLD.

## Communicative approaches and AIM

For centuries, teachers and researchers have worked on finding the most effective ways to teach and learn second and foreign languages. Each new theoretical insight on language learning inspired a new approach or method to teach languages.

In the behaviorist approaches to SLD that were popular in the mid-20<sup>th</sup> century, the assumption was that repetition and habit-formation were essential to learning languages. Learning processes took place through imitation of input and grammatical rules were intensively practiced and repeated. Even though we cannot deny that these methods had some effect on learning a second language, translation and audio-lingual methods were replaced, mainly because the methods did not enable students to communicate in the second language.

Another reason for the demise was that Chomsky (1966) proposed a new theory stating that people were able to create sentences and generate patterns endlessly, an assumption that was not in line with behaviorism. His theory, on first and then second language acquisition has been very popular until the late 90's. According to him, language learning is a bottom-up process very much focused on syntactic rules. Functionalist linguists, who saw language acquisition as a bottom-up process in which input and language use are a key factor, did not adopt this assumption. Consequently, a growing number of studies have worked within this principle and have inspired teachers and researchers to think of new teaching methods.

Therefore, at the end of the 20<sup>th</sup> century the "Communicative Approach" or "Communicative Language Teaching" became popular in the field of language

learning. At about that time, teachers and researchers in Canada started putting effort in designing effective L2 teaching methods and started implementing immersion programs using the L2 as instruction medium in the classrooms based on Communicative Learning Theory (CLT). The underlying assumption of CLT is that language is a social activity and that learners should be able to communicate in the target language. The message is more important than the form and the role of interaction is stressed. In sum, CLT is the consequence of an evolution towards the acknowledgment of the importance of input within language development theories and an increasing need to be able to communicate in the L2. We will now tackle some of the theoretical claims of CLT and we will see whether they can be attributed to AIM.

CLT stresses mostly input and particularly what kind of input should be addressed to learners. It is believed that input has to be authentic but at the same time adapted to the learner's level; the features must be salient and comprehensible. These characteristics have been studied in input processing frameworks and acquisition outcomes (Larsen-Freeman and Long, 1991). The focus on meaningful input is the basis of the organization in the classes. L2 instruction is given through activities promoting frequent interaction among the learners, obliging students to help each other solve the problems they encounter. Proponent beliefs in authentic material and real-life situations as well as the relevance of the learner's background are key notions to those methods. According to CLT principles, teachers should have the role of suppliers of relevant input, and grammar learning should be inductive. We can retrieve these assumptions in more recent works that have been done in the field of language instruction, in particular in Long's notion of "focus-on-form".

In Long (1991), "focus-on-form" instruction is defined as following:
[In form-focused instruction] "lessons that focus on meaning are purely communicative [...]. Learners are presented with comprehensible, holistic samples of communicative second language use." (p. 183) Focus on form is the opposite of the more traditional "focus-on forms", where "learners are encouraged to master each linguistic item" (Long, 1991; p181). As Long mentions, this type of instruction focuses mainly on the mastering of grammatical rules. Learners talk about the L2 but not really in the L2. This type of instruction tends to be rather rigid and even though students acquire a certain knowledge of the grammatical rules of a language, the benefits of a "focus-on-forms" method in a simple one-on-one conversation are

questionable.

Most researchers agree on the rather ineffectiveness of focus-on-forms instruction, but debate still remains around the instruction of grammar in form-focused instruction. Some believe that it should be learned explicitly whereas others think that language acquisition would benefit most from implicit grammar instruction. The question is thus tackled differently in each CLT method. AIM is very clear on that matter: no explicit focus on grammar will be paid in class, however from time to time, some constructions - such as word order for instance - can be supported by a gesture.

In AIM's design a lot of other theoretical insights from CLT have been incorporated. Focus is put on meaningful L2 input which is an absolute key principle of the method. AIM aims at enhancing communication, focusing on oral skills. Students begin with a real immersion in the L2 environment as they are taught with a high level of L2 input. They are asked to produce speech in the L2 only, which provides a high amount of interaction and output. The focus is on a high-level of fluency in oral production and the consideration of second language learning as a mean to communicate rather than an object of study makes AIM a CLT method. Theoretically speaking, CLT methods provide a successful framework when it comes to second language learning. We will now present the emprical evidence supporting CLT and AIM. We will focus on the findings on oral and written proficiency.

Research on communicative approaches were mainly conducted in the 80's and 90's. Most of them concluded that communicative activities had positive effects on learning. Communicative activities led to higher accuracy in speaking and writing (Allen, 1989; Allen et al. 1990; Spada and Frohlich, 1995) and optimalize learning (Wesche,1994). Besides, willingness to communicate increases when learners are involved in such activities. Many aspects of communicative teaching were investigated such as negotiation of meaning, recasts and other feedback (Larsen-Freeman and Long, 1991; Pica, 1994). As we mentioned in the previous section, the past decade has seen a great amount of studies paying closer examination to this distinction between implicit and explicit focus-on-form (Long, 1991).

According to Long, implicit focus-on-form occurs only in a meaning and communication-based setting with attention on form. Harley & Swain, (1984) however, showed that although learners achieved a high level of fluency in this

"natural approach", they failed to master some French grammatical features, which might have been related to fossilization processes due to a lack of error-correction.

However, until now, we can say that findings concerning focus-on-form are still inconclusive (Norris and Ortega, 2000). Many questions have remained unanswered, particularly concerning the effectiveness of the different form-focussed instruction methods. Our study is relevant in this respect as we will compare two different types of teaching, one with implicit focus-on-form (experimental group) and the other with explicit focus on form (control group).

Another important factor investigated in empirical research is the role of input. Van Patten (1996, 2002) compared the effectiveness of different input-based L2 methods. He concluded that input played a key role in L2 acquisition, particularly in the acquisition of grammar which should be exercised through activities with "reduced redundancy". In another study, he found that students were able to process that input and learn effectively (Van Patten and Cadierno, 1993).

However, most academic research on the role of input concerns the French immersion programs in Canada. In general, those studies find that students do attain a high level of communicative proficiency in French but that they rarely reach a native-like level (Genesee, 1983; Swain & Lapkin, 1981). Because of the success experienced through the use of high amount of input, students present a high level of motivation. In a study of 1972, Gardner & Lambert pointed out that a high level of motivation in learning a L2 could compensate for a difference in aptitude level.

The most striking finding concerns the development of the complexity of the language. One could wonder whether students are able to understand and handle L2 input that is much more complex than their own level. Can input sound so much like a blur that students would not be able to make sense of it? In Genesee (1987) and Swain& Lapkin (1982), it has been shown that immersion students are able to process increasingly complex academic language and develop complex language skills. The higher complexity of the L2 input does not seem to affect understanding and learning negatively.

AIM is inspired by such empirical findings as we saw previously but because of its relative novelty in the field of CLT, the number of empirical studies available is scarce, particularly on the effect of AIM on the development of writing skills. Studies on AIM have mainly been conducted in Canada between 2001 and 2009. Maxwell (2001) compared the oral fluency of two groups of 9 students (AIM/ non-AIM), who

were interviewed with a scaffolding questionnaire and who were asked to spontaneously create a story. Her results show that AIM students outperformed non-AIM students even though she was not allowed to perform a statistical analysis due to the limited number of participants. Quantitative results on inter-group interviews pointed out that AIM students of different aptitude levels performed more homogenously during the interview than non-AIM students. According to Maxwell (2001): "The results are interesting in that they indicate that this type of approach responds to the needs of a variety of the students and that the average learner may thrive as well or better than the academically strong" (p. 36) Interestingly, Michels (2008) found similar results in his replication study. However, it may be difficult to generalize these findings because they both had a very limited number of participants.

Although larger scaled studies with statistical analyses have been conducted on AIM, none have corroborated a significant difference in French proficiency between AIM and non-AIM students. Mady, Arnott and Lapkin (2007) compared six classes of 13 year-old grade 8 AIM (n= 125) with 6 classes of non-AIM (n=135). Using a mixed-method study composed by a test-package for proficiency (Harley, Lapkin, Scane, Hart & Trépanier, 1988) and a questionnaire on perception of French classes, they concluded that there were no significant differences between their language skills and their perception of French as a L2. However, on a qualitative level they found a major difference in the perceived factor believed to be the key to success in the L2. Non-AIM students attributed it to the teacher, whereas AIM students pointed out the method. Asked on their perceived development in the L2, AIM students answered that they felt "better than before" but their comments on writing skills were mostly negative. A follow-up survey revealed that, one year later, the continuation rate of AIM and non-AIM students was similar. In Boudages and Vignola (2009), results show no significant differences in linguistic or grammatical accuracy between AIM and non-AIM students. However, they noticed that AIM students seemed to have a wider vocabulary and that they talked significantly more French. In Arnott (2005), this difference in attitude was further investigated, particularly the amount of risk that AIM students dared to take compared to non-AIM students. Students shared during their interview that they were able to handle a French-environment.

Clearly, mixed results have been found concerning the potential benefits of AIM on linguistic proficiency. Some studies found no significant difference in the language skills and grammatical accuracy of AIM vs. non-AIM students whereas others found that AIM students outperformed non-AIM students in oral proficiency. A part of the problem could be explained by the fact that none of those studies have accounted for scholastic aptitude levels. As we will show later, this factor proved itself to be a predictive factor in written proficiency. However, all agree on the fact that AIM students do behave differently towards French, which could be due to higher motivation or unexplained improved attitude. Furthermore, no research has yet been done on written skills, and particularly on the development of complexity in the writing of AIM students. The only clear statement that can be made on AIM according to research to date is that AIM students deal differently with their L2.

In sum, we saw that AIM can be considered a CLT method because it is based on key factors to enhance L2 learning through communication, such as high amount of L2 input, frequency, repetition of patterns and constructions. As mentioned above, research does give credit to this way of teaching, particularly because it enhances communicative proficiency and develops complex language skills. These studies are in line with recent theoretical insights on language learning such as Usage-Based approaches to Second Language Development (SLD), which hold that language is a bottom-up process where input and language use play a key role.

# Usage-Based approaches to SLD

'Usage-Based' or 'emergentist' theories give an explanation on what language is and how the system of language develops. From their point of view, language emerges from the external input, as learners are able to recognize patterns (Hopper, 1998).

Contrary to Universal Grammar theories, which hold that language is innate and thus cannot be taught, emergentists consider language to be composed of utterances regularly repeated. Pushed to the extreme, it can be argued that language is in fact composed of frequent conventionalized utterances, some collocations or formulae, more commonly called 'chunks'. From an emergentist perspective, it could be considered that the input is in fact made of successive highly frequent authentic pieces of language.

If this perspective accounts for what language is, it also predicts how languages are learned. According to Usage-Based theories, language learning occurs because of the desire to communicate and emerges from the generalization of patterns, which are

processed from the input. Babies will start by using gestures to make their needs clear, but as soon as they are cognitively able to put their wish into words, they will use language because they realize that communication could help them faster. This is what emergentists call the communicative intention (Tomassello, 2000).

Then, the system of language has to be learned. Several studies argue that the rules of language are learned through the input (Boyd & Goldberg, 2009; Ellis & Collins, 2009). Children will first use holophrases (Tomassello, 2000), which are the utterances that they hear in the external input and which they repeat. These holophrases are phonological imitations of utterances rather than correct grammatical constructions. Because emergentists believe that language is composed by fixed or semi-fixed utterances that are constantly repeated, children will be able to remember those constructions in the long run and generalize the patterns that rule them. It is thus the frequency of the input that matters while learning a L1.

According to Usage-Based theories, SLD follow the same principles, except that other variables such as age, type of the input, influence of the L1 and the setting in which the L2 is learned, play a role. Ellis (2002, 2006) claims that frequency in the input is the essence of the developmental processes involved in second language learning. He convincingly argues that humans are naturally endowed with the capacity to 'acquire knowledge' of frequent elements in the language because 'language learners are intuitive statisticians' (Ellis, 2006, p.1).

So, according to emergentists, second language learners are also able to recognize and learn the chunks that compose language. Using chunks, any second language learner's oral or written production could approach native-like level. The more accurate chunks are, the more native you sound (e.g. Boers et al., 2006). Nevertheless, as Ellis (2006) pointed out, second language learners often experience failure in their quest of ultimate attainment.

As a consequence, we may conclude that there is a major difference between L1 and L2 acquisition. Researchers in the field of formulaic sequences (or Chunks) such as Wray argue that this discrepancy could be explained by the fact that L1 learners would process a chunk as a whole and then analyze them in terms of patterns, whereas L2 learners would pick up individual words without knowing that they form a whole. For instance, we can see that in later stages, second language learners often put chunks in a wrong combination. But, as their language becomes more complex, they will put more and more lexical items together until they use the right chunk.

So, for L2 learners, errors are more likely to occur while using chunks which will develop from simple (combination of one or two words) to complex (whole sentences or expressions). Acquiring chunks is very much related to acquiring vocabulary, and vocabulary learning is known to be a slow process, as it goes one word at a time. Chunk learning is thus even slower since it takes more time to pick up the right combination of words, which is in many ways related to saliency. If we look at all the steps chronologically, as described in Wray (2002), learning chunks starts from the very first contact with the language. A learner will directly be confronted with expressions such as "what's your name?" or "how do you do?". Because they are frequent or salient the learner will notice them and try to use them again, even though he may try out those pieces of language creatively. Then, as his proficiency level increases, he will pick up more and more chunks and most of the learners will be even able to recognize a pattern inside a chunk and reuse it. Some L2 learners however will never be able to go past this stage (e.g. example of Wes in Schmidt, 1983). Opacity of the chunks' meaning seems to minimize the problem.

From this perspective, the development of written language can be difficult when it comes to spelling. Some languages are more opaque than others. French does have an ambiguity concerning sound-spelling that has to be resolved by the learner. This phenomenon predicts a greater difficulty to learn how to read and write in those languages. However studies have shown that high frequency words are spelled more accurately than low frequency words (Barry & Seymour, 1988). The acquisition of low frequency words will thus take more time and trials.

In sum, emergentists hold that highly frequent combinations compose language and that language learning relies on the importance of frequency of the input and pattern recognition. They also believe that second language learning differs from first language learning in the way that more variables such as aptitude, age or context need to be taken into account. Those ideas of language as being a system composed by many variables is very much in line with the Dynamic System Theory (DST), which gives an analysis on how those variables, interact and influence each other. The next section will be devoted to the Dynamic System Perspective and particularly to its view on language development.

DST was first dedicated to mathematics. It was suitable for complex systems that change over time. Larsen-Freeman (1997) was the first to apply DST to second language acquisition. She argued that language could also be seen as a complex system because many different variables are involved and because these variables are interconnected, that is to say that any change within one variable has an impact on all the other variables.

In practice, DST sees language as a self-organizing system in which many variables interact with each other in a dynamic way. Looking at language development within this theory is challenging because nothing can be explained without taking into account all variables together. Language is believed to be in constant movement or non-linear and subject to attractor and repeller states. The system of language moves towards attractors, which can catch it temporally, but it will usually move to the next attractor. Fossilization represents the inability of the system to move to the next attractor, for example when a learner constantly repeats the same mistake.

In this way, it is crucial to know the initial state of the system. Even though this seems achievable, an exact prediction about the final state of development is almost impossible because of the interaction of all the variables (De Bot et al. 2007). Thorough examination of all variables, focusing on the way they interact and change over time, is needed to draw any conclusions about how language develops. In terms of language learning, DST offers a new framework and I quote: "learning [a language] is not the taking in of linguistic forms, but the constant adaptation of one's language resources in response to the communicative situation" (Cameron & Larsen-Freeman, 2007:232). In studying language development, it can be argued that the external environment provides the input and interaction necessary for the system to develop (Van Geert, 1991). This development can be seen as an act of emergence with ups and downs or in other words with moments of acquisition and attrition.

In sum, the picture of language development given by DST is very interesting. Pre-DST, language development was pictured as a steady line from one point to another revealing acquisition or attrition. DST allows us to discover what happens between those points.

We will now apply the key principles of DST to writing development. The

study of writing development concentrates on the emergence of written complexity. To watch how complexity develops in a DST perspective, it is necessary to look at many components of written language, such as types of sentences, errors, vocabulary, types of clauses and chunks. Not only is it interesting to watch how they develop or how they are distributed over time, but it is also relevant to know which ones compete with each other and then go back to a normal distribution as the writing becomes more complex. In other words, looking at the emergence of complexity in writing development in a DST perspective consists in observing and describing interrelated variables that compose writing productions. (Verspoor et al 2008, Caspi 2010, Spoelman & Verspoor 2010)

In order to enhance complexity, conventional structures are needed at one point in the learning process but those conventions also adapt and change with the external world's interactions. Therefore even the words, phrases and construction patterns are not regular or stable. According to Bybee and Hopper (2001: 19), "we create a language as we go, both as individuals and as communities".

Some researchers have pointed out that language development has "connected growers" such as grammar and lexicon. Van Geert (1991) emphasizes the role of precursors. According to him, the syntactic aspects of language are very much connected to the lexical development. Complexity in the grammatical system emerges when the learner has reached a certain point in the development of his lexicon. For an L2 learner it implies that his development curve is in constant movement with peaks and dips but it also means that every learner has different developmental patterns as the system can react differently to the procedures.

It is important to realize that learners practice many linguistic items in their writing at the same time and do not wait until one is mastered to start to learn another one (Larsen-Freeman and Long, 1991). In other words, variation can occur at all times. A great amount of variability is thus expected at the beginning stage of acquisition. It is only when the learner becomes more advanced that his development stabilizes. This aspect explains the great amount of variability in writing development. Looking at variability as a measure is relevant to the developmental process of different grammatical constructions because it could tell us a lot about the development of complexity in the language (Spoelman & Verspoor, 2009). This paper presented a case-study of a Dutch student learning Finnish and the authors focused on the analysis of complexity, accuracy and fluency measures over time. Results showed

that all the measures were dynamic and non linear, which indicates that those variables need to be observed over time, "across the full developmental trajection" (Spoelman & Verspoor, 2009; p.9).

In sum, writing development is complex. The picture of the development will show ups and downs because the acquisition of written constructions implies the mastering of many components of language such as lexicon or grammar. Learners need trials, which implies variability.

To summarize, we mentioned that language could be seen as a complex system in which many variables interact and influence each other. The study on the way those variables interact with each other over time gives a detailed picture on what language is and how it develops. The important idea is to consider all aspects of language development such as acquisition and attrition. Variability is not seen as noise within this paradigm but as a factor driving development. Once again it is challenging to look at language this way. In our case, we focus on the development of written language, which is in fact the study of the emergence of complexity; therefore written language is not the only variable that needs to be taken into account.

As we saw earlier, one of the key factors of studying language learning in a DST perspective is the initial state, which in the case of second language development is the individual. Also, external factors such as the type of instruction or the role of the teacher participates in the emergence of complexity. So, studying written development from a DST perspective does not only consist of accounting for the language system itself but also of including the internal and external context in which the language is learned. In the next section, we will elaborate on those factors playing a role at an individual level.

## Internal and external context

Learners do not all follow the same developmental path. Similar trends in learning do exist but that does not guarantee that learners will homogenously attain the same level. This is very much related to individual differences. For instance, even if two learners follow the same method and get the same amount of contact with the language, it would not be odd that one outperforms the other. This could be due to their initial state of aptitude or motivation.

Whilst studying second language development it is thus crucial to pay attention to those two factors. Research shows that three cognitive abilities are clearly linked to individual differences: intelligence, language aptitude and memory. In various studies (Skehan, 1990; Sasaki, 1996) it has been reported that the ability to generalize a linguistic feature (language aptitude) and intelligence were related. Also, some have found that on certain aspects of language, L2 proficiency correlated with aptitude (Horwitz, 1987).

Significant effect of scholastic aptitude and second language level was also found in the OTTO project (van Rein, 2010). This project concerning English bilingual education has compared three schools with different degrees of authentic input. In this study, three aptitude levels were also studied. Surprisingly, students with the highest aptitude level of the school with a medium input amount were almost at the same level as students of the bilingual school. In sum, their aptitude level was high enough to compensate the lack of input.

Obviously, this aptitude factor needs to be taken into account in this study as well as another important individual factor, namely motivation. Gardner (1985) for instance, developed a theory inspired by their work in the bilingual education system of Canada. They distinguished two terms: "orientation" which can be "integrative" (personal wish to understand and be part of the language's culture) or "instrumental" (need to learn that language to achieve some carrier purposes) and "motivation", the latter being "the effort learners were prepared to make to learn a language and their persistence in learning" (Rod Ellis, p.537) and concluded that both integrative and instrumental motivation had their importance in L2 achievement. Motivation is a variable that can in fact increase or decrease according to the kind of method used to learn the language. Teaching approaches are in this sense very important therefore a lot of research has been conducted on this matter.

Second language learning can take place in various types of contexts with various types of input. Several studies reported on classroom situated second language teaching and how the different types of teaching influence acquisition (Long, 1993). Those studies unanimously agree that instruction plays a great role in learning. But as mentioned in other sections, the debate on the place of grammar in instruction is very much actual. Even though most theories agree on the importance of meaningful input, few studies actually focus on the effect of input-only methods. Some suggest though that input only, without the involvement of any kind of

instruction is sufficient to improve English receptive vocabulary, grammar and reading comprehension (Verspoor and Winitz,1997).

To conclude, we saw that CLT is the consequence of an evolution towards the acknowledgment of the importance of input and language use within language development theories and an increasing need to be able to communicate in the L2. AIM is inspired by such empirical findings. We saw that AIM can be considered to be a form of CLT because it is based on key factors to enhance L2 learning through communication, such as high amount of L2 input, frequency, repetition of patterns and constructions. Research does give credit to this way of teaching, particularly because it enhances communicative proficiency and develops complex language skills.

CLT methods are inspired by functionalist approaches to Second language Development (SLD) and are in line with Usage-Based theories on SLD. Within this paradigm, it is believed that highly frequent combinations compose language. Language learning is considered to rely on the importance of frequency of input and pattern recognition. It is also believed that second language learning differs from first language learning in the way that more variables such as aptitude, age or context need to be taken into account.

Those ideas of language as being a system composed by many variables is very much in line with the Dynamic System Theory (DST), which gives an analysis on how those variables, interact and influence each other. Language can be seen as a complex system in which many variables interact and influence each other. All aspects of language development such as acquisition and attrition need to be considered, taking variability into account. Focusing on the development of written language comes down to studying of the emergence of complexity.

One of the key factors of studying language learning in a DST perspective is the initial state. So, studying written development from a DST perspective does not only consist in accounting for the language system itself but also in including the internal and external context in which the language is learned. At the individual level, internal factors such as scholastic aptitude or motivation are factors of the initial state. External context such as type of input or the role of the teachers are key components to explain different developmental patterns at the individual level.

In my study I will compare two different teaching methods. They differ in the amount of input and in the way they teach grammar. The traditional method (control

group) is a low L2 input explicit focus-on-form method, whereas AIM (experimental group) is an L2 input-only method with no focus on grammar. Besides, the L2 input-only method AIM is known to enhance motivation and creativity. In each group, three different scholastic aptitude levels (Atheneum, HAVO and MAVO) are mixed. Because the theory does stress on the effect of aptitude on learning, we have studied the development of each aptitude level. The question is to see how the writing of the students develops and whether there are individual differences due to aptitude in developmental patterns. In other words I will answer the following research questions: 1) Do external resources (high input method vs. low input method) have an effect on L2 development operationalized as holistic scores, complexity, accuracy and authenticity?, 2) Do initial conditions (aptitude) have an effect on development operationalized as holistic scores, complexity, accuracy and authenticity?, 3) Is variability an indicator of development?

#### 2. Methods

This longitudinal study was conducted during 5 months (from March to June 2010) and is divided into two parts. It first compares the two groups writing levels holistically, an approach with which a clear answer to research questions number 1 and 2 can be given to the school. To do so, participants were asked to write assignments of maximum 200 words on topics handled in class. Each writing assignment was graded on a scale from 0 to 5 by three Master students highly proficient in French. The scores were submitted to a T-Test and repeated measures analysis, which will be discussed the following sections. The researchers were given a detailed level grid with which they could decide on the grade.

The study focuses then on the development process over time, taking into account the emergence of complexity, as well as errors and chunks, in the writing of 12 students. These case studies focus on these three points because we suspect that they will change differently over time, indicating effects of low or high input amount.

Complexity concerns the way the learner elaborates sentences and how s/he uses the knowledge of the language to build up a text and try new linguistic constructions, including dependent clauses or more complex tenses. Errors also show the current level of learner, highlighting the points of struggle at that moment as well as the level of accuracy. Chunks are word combinations that reflect the authenticity of linguistic performance. These are the authentic constructions learned from the input that the learner reuses and with which native-like language can be attained. The more chunks in a text, the more native-like a text is and the fewer mistakes are made in the language (Verspoor & Xu forthcoming). The following sections are devoted to the discussion of the method of this study.

## **Participants**

In this section I will give information on the participants of study 1 and then I will present the participants of study 2.

# Study 1: the holisitic analysis

This study involves 107 native-speakers of Dutch who started to learn French as a second language 6 months before the beginning of the study. They were distributed in 4 classes with 2 different teachers. Two classes were taught French with AIM method and two with the more traditional "Carte Orange" method. Each teacher had one group of each method.

The average age of the participants is 12 and they were all beginners of French. At the time of the first data collection (March), they all had French lessons for 6 months, a time at which AIM students just started to learn how to write. Before that, no grammatical rules were explicitly given to them. Besides, they had not seen French words written. The other group started in September with learning how to write. They had thus 6 months of previous experience with written text and writing.

At this school groups have a mix of scholastic aptitude levels, so that each group contained VWO, HAVO and VMBO students. The school provided us with a list in which the scholastic aptitude level of each participant was mentioned, which we used in the analysis. We included the scores of dyslectic children (n=8) in the holistic part of the study.

# Study 2: the case-study

The analysis of the writing development of the case studies only involves non-dyslectic children. For the 12 students, we asked each teacher to nominate three children of each class who represented to them an average student for each aptitude level. The underlying idea is to be able to analyze in detail all written assignments over time of these individuals and to compare them. Our goal is not to generalize our findings but to observe and analyze the writing development of these students over time.

## Design

The data consists of 384 writing assignments written by 107 students. The original agreement was two assignments every three weeks. However teachers expressed very

fast that they had trouble to keep up with that rhythm. We decided first on this intensive rate to trace thoroughly the development of the students and also to avoid a difference in learning effect. Unfortunately, it was impossible to plan this in the lessons, particularly in AIM lessons. We thus adjusted our planning to a minimum of one assignment every three weeks per group.

The instruction was to write about a topic a maximum of 200 words. The samples can be seen as written spoken language, as they did not follow the strict rules of formal writing. Vocabulary and sentence constructions are rather casual. Our interest in this type of language production was stimulated by the fact that they were given enough time (15 minutes) to think about what they were writing. We believe that this gives us a good picture of their best at that moment. They were not allowed to use dictionaries and no feedback was given.

The topics were chosen according to the weekly program that teachers had provided us, so that all students had the vocabulary knowledge needed to answer the questions. The following table recapitulates the assignment topics.

	Topics		
Assignment	AIM	Control	
EE1	Talk about you, your school and your friends.	Who are you? What do you like?	
EE2	This is Padma from planet Samabava. How did he come to planet Earth?	What do you do in the weekends?	
EE3	Retell the beginning of the story: "Comment y aller"	Do you sport? Why do you like it? If you don't, why not?	
EE4		Are you a music fan? Who is your favorite singer and why?	
EE5	Have you ever been abroad? How did you go there?		
EE6		Tell about your family. Do you often have family reunions? Do you like it?	
EE7		What do you think of Queen's day?	
EE8	Retell the second part of "comment y aller"		
EE9	"Comment y aller?" Tell what happens next.		

#### **Procedures**

## Study 1: the holistic analysis

All the 384 assignments were graded by three Master students highly proficient in French, one of whom a native speaker. They decided on the grade according to a grid from level 0 to 5. This technique was also been used during the OTTO project (Verspoor & Xu forthcoming). This study concerns the English language and compared the writing level of students from bilingual schools and regular schools in the Netherlands. Their grid had 7 levels from beginner to native-like. We did not expect any of our students to attain native-like level; therefore we adapted our grid and used 6 levels, the highest of which corresponds to OTTO's level 4.

## Level 0:

All in Dutch or not able to understand in French

Example : J'ai dans à Saint Sylvestre

# Level 1:

Still a bit of Dutch but simple sentences are emerging in French with many mistakes. *Example : Je n'ai pas de reunion de famille. Je ne ce pas. Je qui.* 

## Level 2:

Sentences have emerged in French. They are longer and understandable. Vocabulary is used with variety, sentences are linked. Still many mistakes.

Example: Je nais pas la reunion de famille. Seulement, nous feter un anniversaire. C'est trop bien! C'est chouette!

## Level 3:

Sentences are linked and tell a story that is easy to follow, even if the student does not know all the words. Tenses start to be more difficult (passe-compose, futur). At this level, students express their feelings, even if contrast is not mastered.

Example : Mes matieres preferees sont le dessin et l'art plastic mais je déteste l'anglais ! J'adore le cheval de Denise. J'habite à Bedum. C'est loin, 13 kilometres.

## Level 4:

Text is easy to follow. Dependent clauses appear as well as linking words. Vocabulary varies even though the student still knows a limited amount of words. Example: Il y a a la maison de Prince. « monsieur je veux entrer! » Mais le Prince n'entend pas parce qu'ilainze de la musique. Tout a coup le prince ouvre la port.

# Level 5:

The student is willing of communicate with the reader. There are still errors but the student can express his ideas and make himself clear.

Example: C'est l'histoire du Prince et de la princesse. Tu connais? Le chat court vers la maison du Prince. C'est un grand Prince! La belle princesse est dans la maison et bois la soupe magique de la sorcière! Tu viens avec moi? dit-elle.

All disagreements led to a discussion between the three graders until they took a unanimous decision on the grade.

After this process, all grades were computed into a statistical program. But because of missing data a standard repeated measurement analysis did not work. On the other hand all the measures seemed to be measuring the concept of interest. So, we used EE1 as the base line and computed for every EE variable the difference with EE1. So we computed EE2 minus EE1 and called this EE2\_EE1 and so on. Then an ANOVA on EE1 with Group as fixed factor and NiveauNum (aptitude level) as covariate has been run. We were interested especially in the development of the learners over time.

After this we have been able to test for every EE variable (other then EE1) if the experimental group gained more than the control group by using a t-test independent groups. We did not use NiveauNum as covariate because the groups sometimes were very small and because NiveauNum was not significantly related to EE1.

Then, it seemed that for EE1, EE3 and EE8, there were enough cases to do a repeated measures ANOVA. We had 19 subjects left in the Control Group and 29 in AIM Group according to SPSS. A lot of learners dropped out, but the effect was still big enough. According to Mauchly's Test, the data were not spherical therefore the Huyn-Feldt correction has been used.

## Study 2: the case study

In total, we coded 55 assignments written by 12 students, transcribing them into CHAT (Codes for the Human Analysis of Transcripts) files, which could be then analyzed by CLAN (Computerized Language Analysis). Those programs were part of the CHILDES (Child Language Data Exchange System) project of Mac Whinney and Snow (1990).

Each student wrote an average of four assignments from March until June 2010. We looked at three factors that change over time: emergence of complexity, accuracy and authenticity. Those factors are commonly used in Applied Linguistic studies because they develop together with the proficiency level. They are interesting to observe in a developmental analysis because they change over time and are not linear (Norris & Ortega, 2008). The third factor, which refers to the language

authenticity, is rather new in second language development studies but as Verspoor and Smiskova (forthcoming) mention, because authenticity operationalized by chunks can be ssen as a factor of fluency, which is usually analyzed together with complexity and accuracy measures in applied Linguistics (eg. debate on CAF-complexity, accuracy, fluency at AAAL convention 2008, Norris & Ortega). Our goal is thus to see how those students develop their linguistic competence using broad measures. We tracked any differences in the development of these three factors, which could be explained by the amount of input they are getting.

Emergence of complexity consists of the evolution of linguistic embedded constructions towards complex language. Besides, as Spoelman & Verspoor (2009) indicated in their case study: "it is interesting to look at complexity not as a single construct but as a complex one" (p.9). Therefore, we coded at the word, sentence and text level: finite verbs, words, lines, characters and tokens. Later they were used to calculate the finite verb ratio, which is a good measure to see how complex a sentence is: the higher, the more complex a sentence is. The average sentence length shows the development of the student toward more complex language. He can add complexity using compound sentences or dependent clauses, which will increase the number of word in a sentence. Therefore we have also accounted for the number of dependent clauses in an assignment. However, the increase of words in a sentence also impacts on the number of errors that are made. We can imagine that in an attempt of making longer sentences, the student will use more vocabulary and therefore increases his chances of making lexical errors.

The average word length is also a good indicator of complexity as basic words contain mainly 4 letters. An increasing number of letters in words indicate that the student acquire more complex vocabulary. Furthermore, we paid attention to tenses because they also show to which degree a student is able to combine and correctly use various tenses of the present, the future and the past. In French, some combination of tenses such as the passé-composé and the imparfait, are particularly challenging for second language learners. The correct use of the combination of those tenses show that the learner is able to conceptualize tenses in the past that do not exist in his language, which is again a sign of complexity.

Concerning accuracy, we have chosen to look at the type ratio, which concerns vocabulary frequency, and which calculates the variety in vocabulary. This variable indicates whether the student develop towards using more different types of

words, which would show a growing mastering of vocabulary. As a consequence, he would be more accurate expressing his ideas. However, counting types also shows the actual vocabulary intake. According to Ellis (2002), counting types instead of tokens 'would sway the balance of the central tendency' (p.148), arguing that human categorization could respond more to types than to tokens. Both methods have a prepared list of words that should be learned during a year. However they differ greatly in number. AIM method uses frequently 600 new words whereas the "Carte Orange" asks the students to learn 1000 words by heart throughout the year. It would be interesting to see how many of those words actually come back in the assignments.

Then we also coded various error types that participate in accuracy. Lexical errors most commonly concerned the use of a wrong word or a direct translation from L1, spelling errors included misspelling of target word. We also considered phonetic spelling of a word (particularly of a verb) as a spelling mistake and not as a grammatical mistake. We used the following rule: when a word sounds right but is misspelled, it is a spelling mistake even though it involves a grammatical rule (eg.: j'é trouvé bien [\*S]). Chunk errors corresponded to non-targeted chunk. The learner is trying out a chunk but misused it (eg. frappe at le porte [\*C]) It can be an error in meaning or in grammar. Word order errors were coded because French is a SVO language whereas Dutch is a SOV language; therefore, word order errors were expected to be common. Grammatical errors corresponded to errors in the use of grammar (eg. La princesse suit très content [\*G]), punctuation errors were associated to errors using full stops (eg. Le prince dit. Ouvre la porte [\*P]) and commas and gender errors in "le" or "la" which we expected to occur frequently because the Dutch system has a different distinction.

Finally we were interested in chunks and words in chunks. Chunks are authentic combination of words that are frequently used by native speakers of a language. Verspoor & Smiskova (forthcoming) argue that this measure accounts for the level of fluency of a learner because he has been able to recognize a combination of words that is more or less fixed and use it in his own output. However, coding chunks is rather challenging because some combination of words or constructions arise doubt. It is mostly due to their degree of fixedness as very fixed chunks are easier to recognize. For the others, we followed our native intuitions to select chunks in the texts, which is a good method according to Wray (2002). Though, we have followed a few rules to accept a combination of words as a chunk. A chunk has at

least two words and is high frequent in the input. It does not contain any errors and is used in the right context. We counted all the chunks as well as the number of words each one contains in order to analyze whether there is a difference in chunk length. This factor concerns the authenticity of the language as well as the amount of sentences or part of sentences picked up from the input. Because native language is mostly composed by chunks (Vespoor & Smiskova, forthcoming), we have considered that an increasing number of words in chunks would show a mastering of authentic language and fluency.

Since we had two students per method and per aptitude level, we made an average of their results to present one set of data per method and per aptitude level. Comparing 12 students with each other would have been too confusing and would not have given any added value in answering our research questions whereas comparing three times two students is a more realistic approach. This way we also decrease the teacher's effect in the results. Thus, this case study does not represent any existing student but an average of two students from the same method and aptitude group. Results will be shown with the means of graphs representing the comparison of each aptitude level. Our goal is to trace the development of each factor mentioned above in detail and the way they interact with each other. Different embedded components of language will be explored in order to find out how complexity, accuracy and authenticity (that accounts for fluency) emerge in the language system and whether there are developmental differences at the writing level between those students.

#### 3. Results

In this section the results of the study 1 and 2 will be given. We first ran statistical analyses. Then the development of 6 "average" students is represented by means of graphs.

# Study 1: The holistic analysis

This section will answer the research question 1), which is: do external resources (high input method vs. low input method) have an effect on L2 development operationalized as holistic scores, complexity, accuracy and authenticity? Our main interest is thus to follow the development of the learners over time but also to know which method enhances the most their level. In terms of development, a repeated measure ANOVA seemed to be the most appropriate test as it analyses two different factors: the effect within the groups and the effect between the groups over time. We only used assignment EE1, EE3 and EE8 because there were enough cases to run that test, which leads us to a total of 19 subjects left in the Control Group and 29 in the Experimental Group.

Table 1 shows the results of the within-subject effect, which analyses the trend of the development.

Table 1 Test of Within-Subjects Effects

Source	df	F	Sig.
Factor1	1.764	2.164	.127
NiveauNum	1.764	.046	.939
Group	1.764	.647	.508

We do not find a significant within subject effect. We can thus conclude that our learners did not become better or worse in general. It seems that there is no significant change over time.

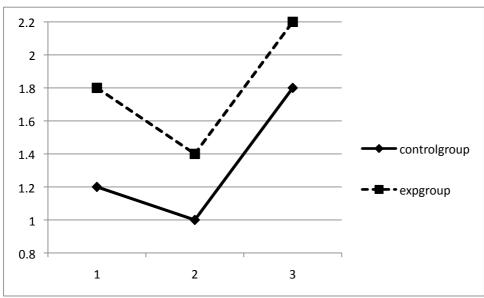
Table 2 gives an overview of the significance of the between-subject effect, which is related to the difference of scores and aptitude between the experimental group (AIM) and the control group (Carte Orange).

Table 2 Test of Between-Subjects Effects

Source	df	F	Sig.
Intercept	1	19.662	.000
NiveauNum	1	4.904	.032
Group	1	12.497	.001

Now, we do find a significant difference for the between-subject effect (F=12,497, p< .05). The experimental group and the control group differ thus significantly in proficiency scores. Aptitude also has a significant effect on scores. It will be interesting to investigate this closely in study 2. This plot tells us rather clearly what is happening.

Figure 1. Plot of within and between subject effects



# **Estimated Marginal means of time**

Covariates appearing in the model are evaluated at the following values : NiveauNum=1,969

The experimental group and the control group have a systematic difference: the experimental group is at all times better. Both groups show the same drop for assignment 3 and then their scores go up again at the last assignment. But as we can see, the gain in terms of progression with the experimental method is just about the same as the gain with the traditional method.

The repeated measures concluded that there was no significant change over time within both groups. In other words students did not progress nor regress greatly. However, the experimental group scored significantly better than the control group.

By comparing both groups on all EE variables directly, we can know exactly for each assignment which group performed better and where the difference in means between the two groups was significant. This table recapitulates the mean analysis. For each assignment, the best score was highlighted in bold:

Table 3 Group statistics on assignments

	Group	N	Mean	Std.
				Deviation
EE1 march 19th	Controlgroup	42	1.45	.550
	ExpGroup	51	1.68	.811
EE2 March 17th	ControlGroup	21	1.60	.539
	ExpGroup	15	2.03	.767
EE3 April 6th	ControlGroup	36	1.22	.603
	ExpGroup	43	1.26	.790
EE4 April 14th	ControlGroup	25	1.54	.539
	ExpGroup	0		
EE5 April 27th	ControlGroup	22	.86	.774
	ExpGroup	15	1.27	.594
EE6 May 12th	ControlGroup	20	1.33	.893
	ExpGroup	0		
EE7 May 28th	ControlGroup	13	1.54	.691
	ExpGroup	0		
EE8 Juni 2010	ControlGroup	24	1.71	.690
	ExpGroup	40	2.08	.694

We can see that the experimental group had a better mean for all the assignments. In table 4, the significance of the difference in means has been calculated.

Table 4 T-test results on significance

	T-Test for equality of means (Alfa=.05)		
Assignments	t	Df	Sig. (2 tailed)
EE1	-1.524	91	.131
EE2	-2.016	34	.052

EE3	209	77	.835
EE5	-1.701	35	.098
EE8	-2.051	62	.045

We were unable to use the results of assignments 4, 6 and 7 because of missing data. However only assignment 8 appeared to be significantly different (t= -2.051, p< .05). We can also notice that EE2 is almost significant (t=-2.016, p=.052). We can thus argue that at the beginning of the experiment, the experimental group was better even though not significantly and it did outperform the control group at the end of the school year, which constitutes an interesting result that needs to be discussed.

However, before going any further we can already answer to the research question number 1. The main difference between our two groups of students was the amount of frequent, authentic input provided by their teaching methods in other words the external context in which the second language was learned differed in the amount of meaningful input. Results clearly show that AIM students are more proficient in their written language. This can only be attributed to the fact that they have been able to recognize and learn words and constructions in the input constituted by stories and play. This success is very much related to the high frequency of the constructions during the lessons. Repeating stories and rehearsing for a play offers a rich authentic context from which the students learn the second language. So, implicit grammar teaching does not jeopardize progress in terms of written language acquisition. On the contrary, providing a rich communicative context seems to be sufficient to acquire some basic language. It will be now interesting to pay closer attention to the interacting variables of the language system that participate in proficiency such as complexity, accuracy and authenticity.

# Study 2: the case-study

This section will answer research question 2 and 3: Do initial conditions (aptitude) have an effect on development operationalized as holistic scores, complexity, accuracy and authenticity? and, Is variability an indicator of development? Therefore, the development in complexity, accuracy and authenticity (chunks) of 6 average students representing each aptitude level and method will be analyzed and compared. Our analysis goes from the highest aptitude level to the lowest (Atheneum, HAVO,

MAVO). Importantly, we do not want to generalize our findings to the whole group; therefore, it is relevant to add that all our comments only apply to these average students.

The following graphs show measures tracing the development of complexity: Finite-verb ratio (FVR), average sentence length (ASL), average word length (AWL) and dependent clauses (DC). In our study on the development of complexity, we have also counted the tense of each conjugated verbs. We have chosen to look at tenses because a great variety in their use and particularly the way certain tenses are combined (passé-composé/ imparfait for instance) reveals how much a learner is advanced.

Assignments are mostly written in the present tense because students are beginners of French. However, we also expect other tenses to show up. Past and future tenses are very fast introduced in both methods, the only difference being that AIM method does not teach the form of those tenses explicitly and mix them very authentically. The traditional method deals differently with tenses as they are introduced one by one and practiced in exercises out of context.

Concerning accuracy, we have looked at two variables: vocabulary and errors. We know that AIM students are supposed to learn a total of 600 words in a year whereas the students following the Carte-Orange method count on 1000 words learned a year. Therefore we have chosen to mention the total number of word types used throughout the experiment for each prototypical student. This way we will also have a picture of the actual vocabulary intake.

We have also examined the total amount of errors and their distribution in detail. Seven types of errors have been counted, lexical errors (L), spelling errors (S), chunk errors (C), word order errors (WO), grammatical errors (G), punctuation errors (P) and gender errors (GE).

However, errors are not the only way to measure the level of a learner. The fact that a student makes fewer errors does not predict that his language will sound authentic and native-like. Therefore it is relevant to look at chunks, which give a positive picture of language learners' abilities. Chunks are formulaic constructions contributing to the authenticity of language.

Counting the number of chunks in a text can tell how advanced a learner is becoming. However, chunks also refer to basic sentences such as "my name is" which

usually hold three words. Therefore it is meaningful to count how many words are in the chunks as development towards native-language could be seen in their increasing number.

## Results of Atheneum students

March 5th March 19th

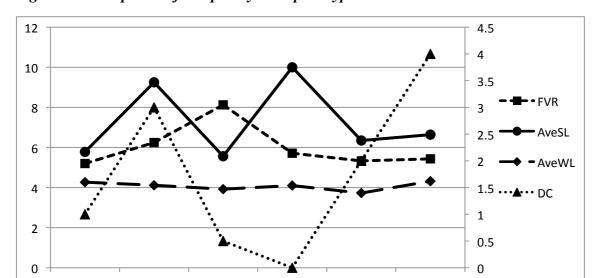


Figure 2 Development of complexity AIM prototype Atheneum

April 6th

In figure 2, FVR, ASL and AWL show very little progress from the March to June. The AWL stays stable at 4 letters per word while the FVR first increases until April 6<sup>th</sup> to go back to its initial rate in June.

April 27th

June 15th June 24 th

Even though the ASL progresses very slowly, it has an interesting development since it presents a lot of variability: there are two peaks of 10 words a sentence (March 19<sup>th</sup> and April 27<sup>th</sup>). However it stays at 6 words a sentence of average.

Dependent clauses on the other hand did increase, although non-linearly, until June reaching a peak in March, dropping to 0 in April 27<sup>th</sup> and then progressing steadily until June 24<sup>th</sup> to finally attain a number of 11 dependent clauses in an assignment.

Figure 3 Development of complexity Control prototype Atheneum

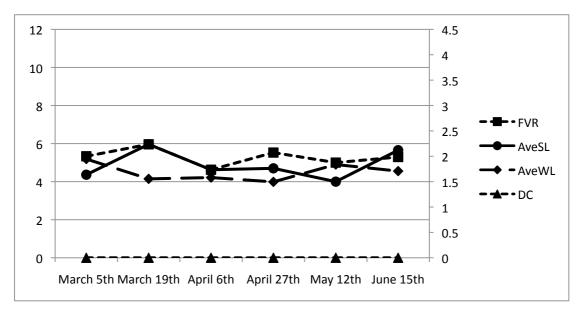
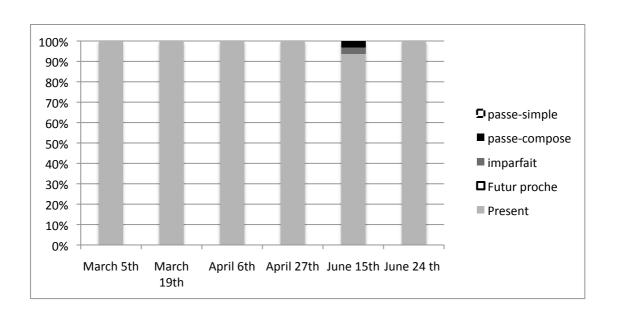


Figure 3 concerns the Control prototype (CP). It is clear that CP's development of complexity differs greatly from figure 2. At first we can notice that there is almost no variability. All measures are rather linear and stable. The ASL is at 6 words per sentence and the AWL goes from 4 to 5 letters per word. The most striking remark concerns the dependent clauses, which have not emerged from March until June. We will now look at the development of tense use.

Figure 4 Overview of tenses AIM prototype Atheneum



The AP uses mostly the present tense. However, from June 15<sup>th</sup> the passécomposé and the imparfait are combined with the present tense. At that time, three tenses alternates in one assignment.

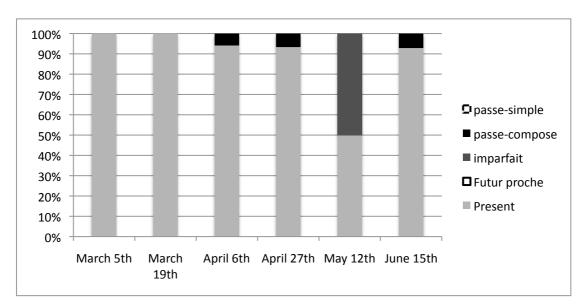
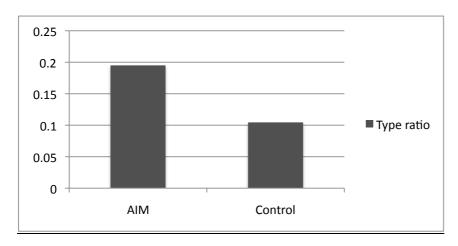


Figure 5 Overview tenses Control prototype Atheneum

In figure 5, we find back those three tenses but the two past tenses are never used in the same assignment. The passé-composé appears on April 6<sup>th</sup> and is used only with the present tense. In May arrives the imparfait, which is also used exclusively with the present tense. This prototypical student is not able to use them in a combination.

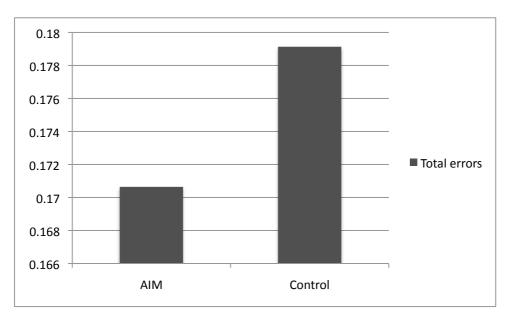
Now we will pay attention to accuracy. Our first accuracy measure is the word type ratio, which we calculated dividing the total number of types used throughout the five months on the total of words that each method handled.

Figure 6 Comparison word Type ratio AIM prototype Atheneum



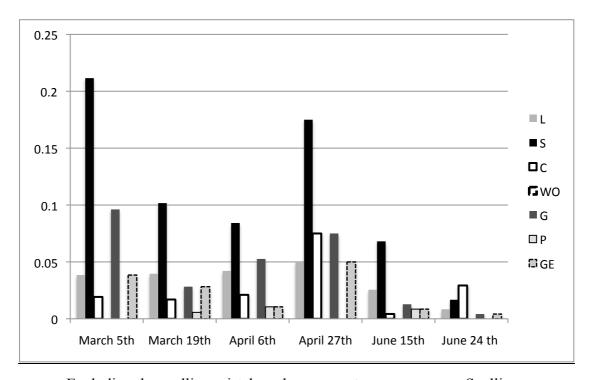
Out of 600 words learned in one year, AIM prototype vocabulary use was 117 whereas it was 104 out of 1000 for the control prototype. The ratio is higher for AP than for CP. The following graph gives a picture of the total number of errors made by the prototypical students in all their assignments.

Figure 7 Comparison total amount of errors



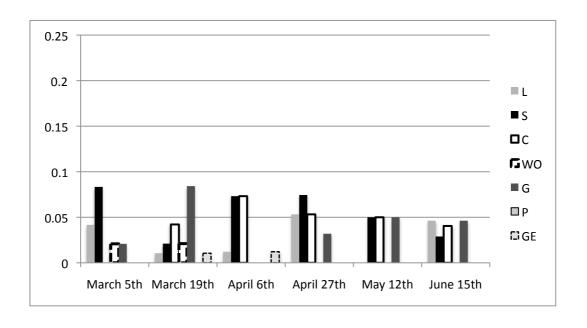
CP has a higher total errors ratio, which is almost twice as much as for AP. This graph is very general; therefore we have counted all the errors in each assignment. Those results are presented in the next graph.

Figure 8 Representation the development of errors AIM prototype Atheneum



Excluding the spelling mistakes, there are not so many errors. Spelling errors do stand out even though they decrease dramatically after the peak of April 27<sup>th</sup>. It is interesting to notice that no word-order mistakes have been made. The major problem concerns spelling errors, grammatical errors, lexical errors and chunk errors but they seems to have disappeared by themselves in June. Chunk related mistakes do remain.

Figure 9 Representation development of errors Control prototype Atheneum



Looking at figure 9, we can see that most mistakes concerns spelling but also grammar. All mistakes seem to decrease from April 27<sup>th</sup> but remain large until June. The main mistakes are lexical, grammatical and chunks related, the number of which remain high at the end of the school year. There are almost no gender mistakes. Word order is a problem until March but then disappears. The next graphs concern the use of chunks, which gives information on the authenticity of the language.

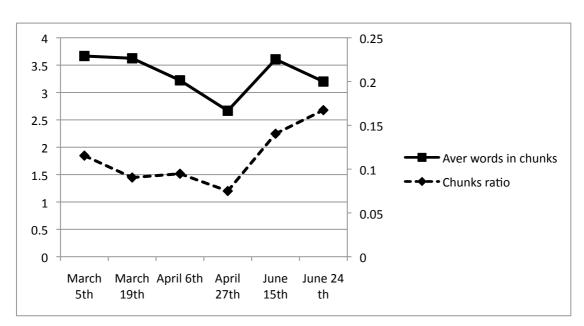
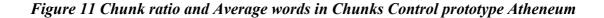
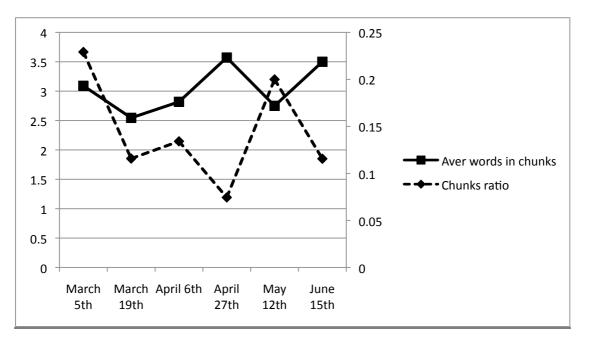


Figure 10 Chunk ratio and Average words in Chunks AIM prototype Atheneum

Figure 10 shows that the chunk ratio progresses from 0.11 until 0.17 which means that AP do use more chunks throughout the five months. There is a drop on April 27<sup>th</sup> but the curve goes up steadily until June. The average number of words in chunks goes from more than 3.5 to almost 3 with a drop at 2,5 on April 27<sup>th</sup>. Chunks stayed more or less the same length.





There is more variability for CP (figure 11) and the curve really shows regression. The chunk ratio started at 0.23 and plummets at 0.11. On average there are three words per chunks with a peak at 3.5 on April 27<sup>th</sup>.

In sum, AIM prototype (AP) has more variability in its development and its complexity measures are on the whole higher. The words he uses are at about the same length but AP 's sentences are longer and more complex due to the use of dependent clauses. CP uses the past tense (passé-composé) earlier than AP but the latter is able to mix the two past tenses (passé-composé/ imparfait) already, which adds to the complexity of his language. Concerning accuracy, relative vocabulary use is greater for AP than for CP. In general, AP has made fewer mistakes than CP, although AP started with many errors particularly in spelling words. Grammar seems to be understood faster by AP as well as the use of the right chunk. There is a dramatic drop in errors for AP in June whereas CP's total number of errors seems quite stable. AP uses more chunks than CP even though CP began with a higher ratio. For AP, the trend in chunk use is in real progress. On average their chunks are comparable in relation to length. Both chunk ratios dropped for the assignment of April 27<sup>th</sup>.

## Results of Havo students

In this section, the results of the HAVO prototypical student will be presented.

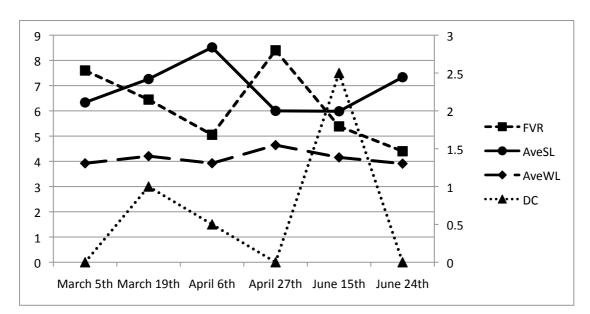
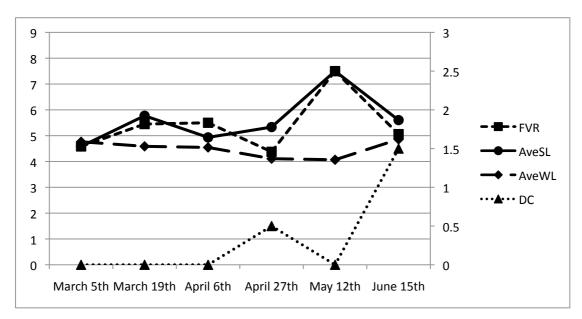


Figure 12 Development of complexity AIM prototype HAVO

Again we can notice movement due to variability like in figure 2. If the ASL progresses slightly from 6 words per sentence in March to 7 words per sentence in June, with a peak of almost 9 words per sentence on April 6<sup>th</sup>, FVR on the other hand seems to have a trendline in regression. FVR starts at 2.5 and ends at 1.5 in June with one peak at almost 3 on April 27<sup>th</sup>.

The AWL stays at 4 letters per words from March until June. DC are used three times in March, April and June, There is a peak in June at 2.5 but this variable varies greatly from assignment to assignment. Dependent clauses do show up rather early in the development (March 19<sup>th</sup>, assignment 2).

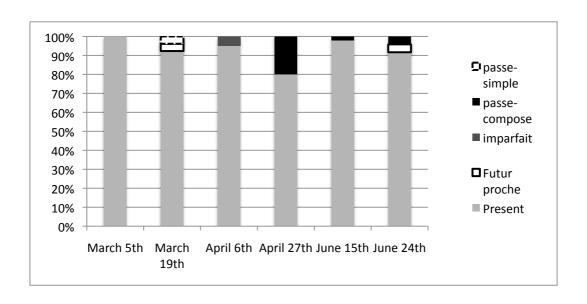
Figure 13 Development of complexity Control prototype HAVO



In figure 13, FVR, ASL and AWL measures come out rather stable. ASL does progress from 4.5 to 5.5 words per sentence but FVR remains at around 1 and AWL at 4.5 letters per word. However there is a peak on May 12<sup>th</sup> where FVR reached a maximum of 1.5 and ASL of 5 words per sentence.

An average of 2.5 dependent clauses are used for the first time on April 27<sup>th</sup> (assignment 3). Then, no dependent clauses show up in the data until June 15<sup>th</sup> where their number skyrockets to 7.5 in an assignment. We will now take a look at the tense use.

Figure 14 Overview of tenses AIM prototype HAVO



In figure 14 we see that there is also variety in tenses from assignment 2 (March 19<sup>th</sup>): verbs are conjugated in passé-simple, futur proche and present. In April the imparfait appears and April 27<sup>th</sup> the passé-composé. In June there are 3 tenses again (present, future and past).

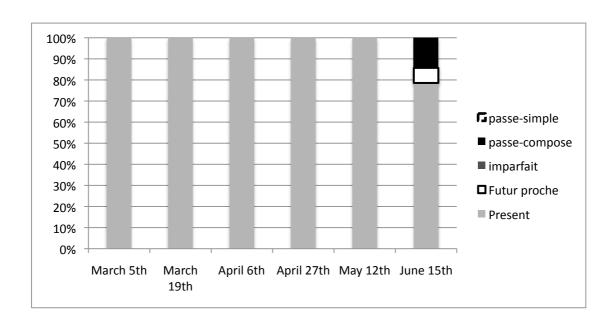


Figure 15 Overview of tenses Control prototype HAVO

CP mostly writes in the present tense until the last assignment (June 15<sup>th</sup>) where he finally mixes the present, future and past. The next graph is related to accuracy, it deals particularly with vocabulary intake.

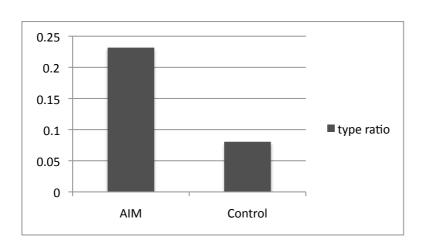


Figure 16 Comparison word type ratio HAVO

Throughout the five months of testing, AP used 139 types out of 600 and CP used 80,5 types out of 1000. AP's ratio is two times higher than CP. The difference in vocabulary use is rather obvious. Comparing the total number of errors, we see that although AP makes fewer mistakes than CP, the difference is smaller here (see figure 17).

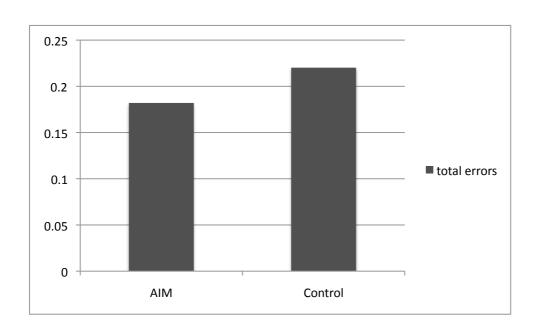


Figure 17 Comparison total number errors HAVO

In the next graph, a detailed view of those errors is given:

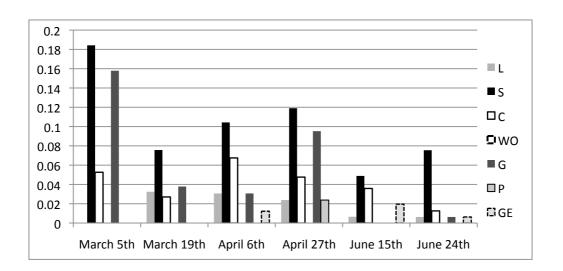


Figure 18 Representation development of errors AIM prototype HAVO

As for the Atheneum prototype, spelling, grammatical and chunk errors seem problematic at the beginning. They start very high but decrease steadily until June. At the end of the school year, only spelling errors stand out. Except for a peak on April 27<sup>th</sup>, grammatical errors almost totally disappear.

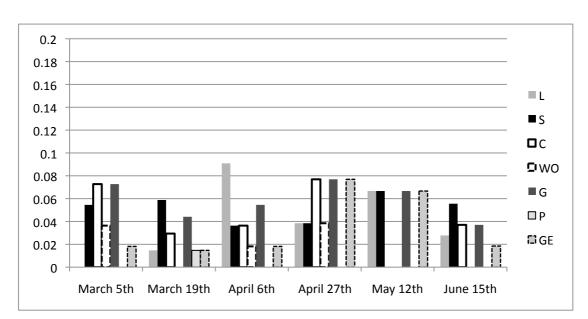
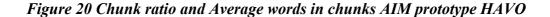
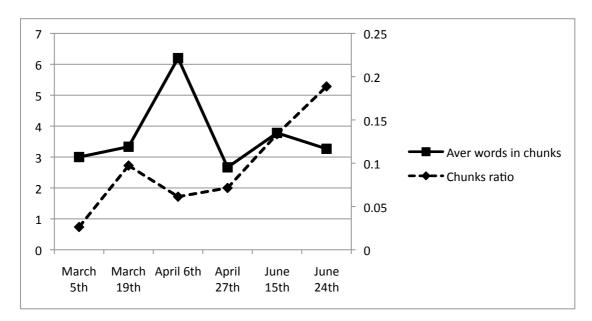


Figure 19 Representation development of errors Control prototype HAVO

Even though figure 19 shows that CP starts out making fewer errors, they do not seem to decrease dramatically at the end. There is a lot of variability particularly for the most common errors, which are spelling, word order, chunk, lexical, grammatical and gender errors. In June, grammatical, lexical and chunk errors remain important.

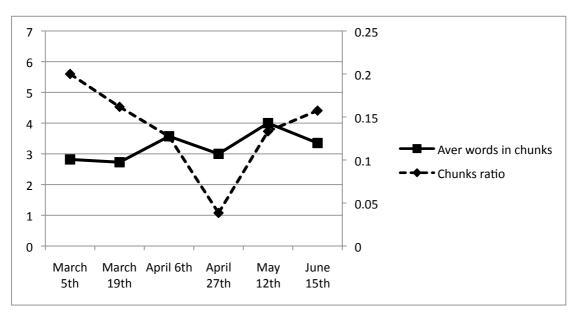
For both prototypical students, chunk errors are very present. In the next graph, we will give an overview of chunk use and in the number of words in each chunk.





Chunks ratio started lower but it has a constant progressing trendline. The use of chunks increases from 0.03 to almost 0.2. There are moments of variability between March and April but from June, the number of targeted-chunks increases dramatically. AWC stays at 3 except for April 6th where it reaches a peak at 6.

Figure 21 Chunk ratio and Average words in chunks Control prototype HAVO



The CP, on the other hand, has a decreasing number of chunks, particularly on April 27<sup>th</sup>, but interestingly, he started with a higher ratio than AP.

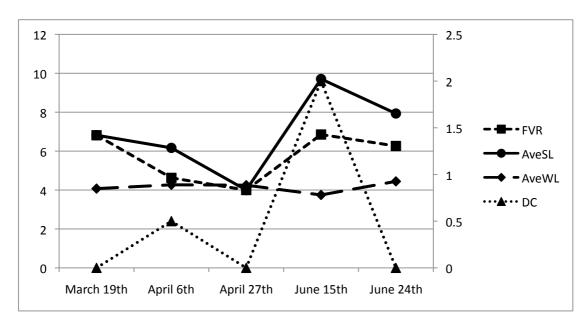
On figure 21, AWC varies from 2.5 until 3.5 words in chunks. It is slightly under AP's results. The main difference relies on the fact that there is no prominent peak in figure 26, which means that there was no attempt to making longer chunks.

In comparison, AP does show more movement in its data and its writing is earlier more complex than CP. AP has longer sentences, FVR is higher although in regression and dependent clauses are used more often and very early in the development. However, CP reached that complexity level using DC from April 6<sup>th</sup>. Both have an AWL of 4. AP uses two tenses more (passe-simple and futur proche) and CP only has variety in his tenses at the last assignment. Vocabulary use is better for AP. However his spelling errors stand out at the beginning even though his number of errors is in general smaller. There is a dramatic drop in errors for AP. CP does not make so many errors but they do not decrease drastically. Lexical errors and grammatical errors are not dropping at the end for CP. AWC is more or less the same for both prototypical students, expect from a peak on April 6<sup>th</sup> for AP. However chunk use differs greatly. AP progresses towards more chunks whereas CP's trend goes towards fewer chunks.

### Results of MAVO students

MAVO is the lowest scholastic aptitude. These students usually have difficulties with learning fast. We expect to see here a different developmental pattern, which would reflect the difference in aptitude mentioned in study 1. However, we also expect to find the most obvious difference in development between AP and CP because AIM could be very stimulating for this kind of students. We will first look at the complexity measures.

Figure 22 Development of complexity AIM prototype MAVO



In figure 22 FVR and AWL are rather stable. FVR starts at 1.25 and ends at 1.25, however it plummets at 1 on April 27<sup>th</sup>. AWL is at 4 letters per sentence such as for Atheneum and HAVO prototypical students. ASL on the other hand progresses in two parts from 7 to 8 words per sentence. It first decreases at 4 words per sentence on April 27<sup>th</sup> to go up again until June 24<sup>th</sup>. Dependent clauses are used early on (April 6<sup>th</sup>) but they only come back one time more on June 15<sup>th</sup> although at a greater rate.

Figure 23 Development of complexity Control prototype MAVO

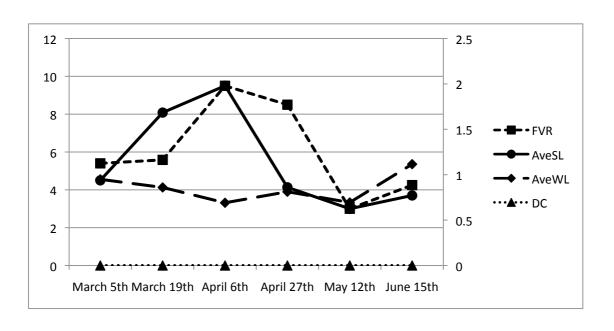


Figure 23, which concerns CP, is very unlike the other students. There are also two parts in the development but they are the mirror image of AP. CP first progresses until April 6<sup>th</sup> and then regresses, particularly concerning FVR and ASL. AWL goes slightly up from 4 to 5 letters per word.

ASL goes from 4.5 to almost 4, with a peak at 9 on April 6<sup>th</sup>. FVR starts at 0.55 and ends at 0.4. There is a lot of variability but there is no progress. On the contrary, complexity seems to regress a little bit at the end of the school year.

Interestingly, dependent clauses never show up in the assignments, which contribute to the fact that the development of complexity of CP does not go up. Concerning the tenses, AP and CP differ greatly.

100% 90% 80% 70% **□** passe-simple 60% passe-compose 50% **■** imparfait 40% ■ Futur proche 30% Present 20% 10% 0% March 19th April 6th April 27th June 15th June 24th

Figure 24 Overview tenses AIM prototype MAVO

This time other tenses than present are used from the first assignment (passécomposé). In June AP writes in the passé-simple, which is a very complex tense from the past exclusively employed for story telling. AP combined 3 tenses 2 of which are the past.

100% 90% 80% 70% **□** passe-simple 60% passe-compose 50% 40% **■** imparfait 30%

Figure 25 Overview tenses Control prototype MAVO

CP on the other hand has variety in tenses only in the last assignment, where there is a present, past and a future tense. On figure 26, we can see that as far as accuracy is concerned (particularly vocabulary use), AP is better than CP.

April 6th April 27th May 12th June 15th

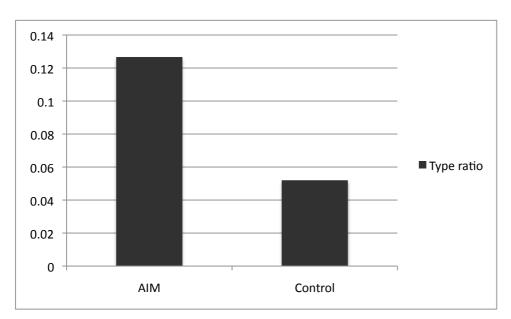


Figure 26 Comparison word type ratio MAVO

March 19th

20%

10% 0%

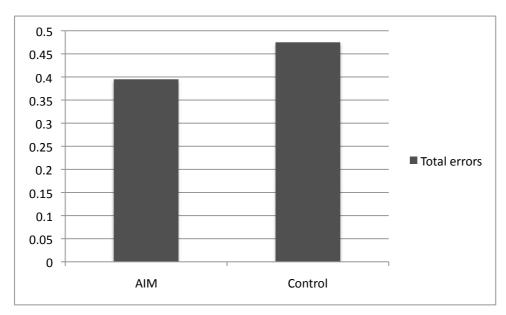
March 5th

AP used 76 types and CP used 52 out of 600 and 1000 respectively. As for the Atheneum and HAVO prototypical students, the total number of errors is higher for CP than for AP. We will now examine the total number of errors.

■ Futur proche

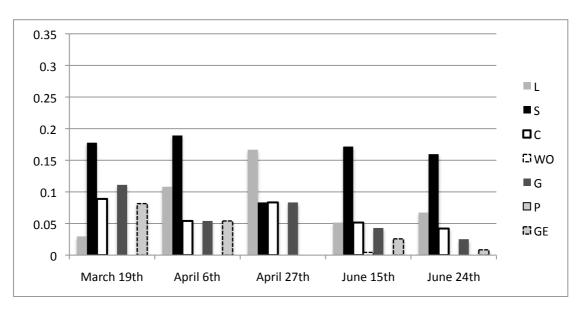
Present

Figure 27 Comparison total number of errors MAVO



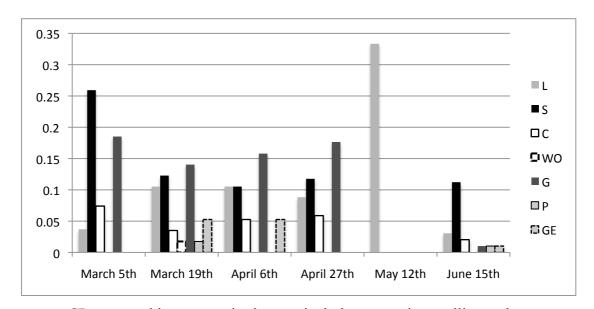
This time again, the trend is clear: in total our three-prototypical AIM students outperformed the Control students from an error point of view. Let us now look at the detail of those errors.

Figure 28 Representation development of errors AIM prototype MAVO



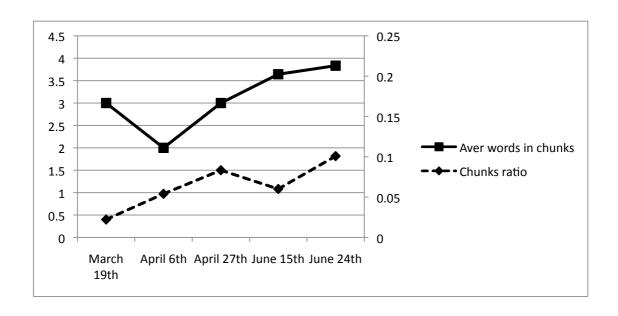
Here, spelling and lexical mistakes stand out. Spelling mistakes do not decrease with time but others dramatically plummet (GE, C, G). There are no word order or punctuation mistakes. However mistakes related to chunks are very present until the end but do decrease.

Figure 29 Representation development of errors Control prototype MAVO



CP starts making more mistakes particularly concerning spelling and grammar. But those errors do decrease over time and on May 12<sup>th</sup>, the main problem is lexical mistakes. However, the results from May reflect the very short length of this text. This explains why few mistakes have been made. Grammatical errors subsist until April 27<sup>th</sup> where they reach their highest point. Spelling mistakes do go down until the end but are still present. Figure 30 and 31 give an overview of chunk use and of the number of words in chunks.

Figure 30 Chunk ratio and Average words in chunks AIM prototype MAVO



The chunk ratio of figure 30 suggests that AP did not really write with chunks in the first assignment. However the number of chunks constantly increases until June with a little drop on June 15<sup>th</sup>, going from 0.01 to 0.1, even though it is not as high as the Atheneum or HAVO APs.

On average, this AP writes 3.5 words in chunks. The AWC curve progresses steadily from April 6<sup>th</sup>, starting at 2 and ending at almost 4.

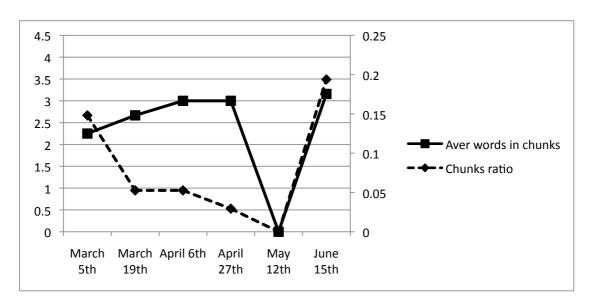


Figure 31 Chunk ratio and Average words in chunks Control prototype MAVO

On figure 31 we see that the chunks ratio starts higher than by figure 30 but then plummets until 0 on May 12<sup>th</sup> (assignment with a very limited length). In the last assignment we see progress again, chunk ratio is at 0.2, which is even better than by AP. AWC goes from 2 until 3 with a big dip on May 12<sup>th</sup> because there were no chunks at that moment.

In sum, AP is more complex than CP, particularly because of the use of dependent clauses and an earlier variety in tenses. There is progress for AP, but CP stays stable or regresses slightly. Those results suggest that CP reached its maximum development on April 6<sup>th</sup> and then regresses from that moment. AP uses different tenses earlier than CP, whereas the latter shows what he knows only at the end. AP knows more complex tenses from the past and can combine them. However, there is no combination passé-composé/imparfait, which is the next step in the development of complexity of tenses.

Vocabulary intake appears to be better for AP than CP. On the whole, AP makes mistakes in spelling, lexicon and chunks. Lexical mistakes are made more by

CP. Grammar errors steadily decrease for AP whereas they are still very present for CP until the end of April. After that, the main concern of CP is linked to the lexicon.

Comparing chunk use, it is obvious that their development is different: AP's chunk ratio starts at a lower rate but increases steadily until the end whereas CP first plummets and then restores the situation at the last assignment. CP uses more chunks at the end but they are in general shorter.

To answer research question 2 (Do initial conditions (aptitude) have an effect on development operationalized as holistic scores, complexity, accuracy and authenticity?), we must focus on one aspect that has been tackled in this study, which is scholastic aptitude. Because we have looked at the writing development of students of different aptitude levels, we can conclude that scholastic aptitude definitely plays a role in second language development. In the data of both AIM and non-AIM students, high aptitude correlated very much with faster progress in complexity. However, these are case-study data, therefore it is impossible to generalize these findings. We will elaborate on this comment in the discussion but further investigations are needed to corroborate this trend.

Concerning question 3 (Is variability an indicator of development?), we can say that given the fact that AIM students appeared to have more variability in their data, especially concerning complexity measurements, we can wonder to what extent this variability indicates progress. Theory on variability does emphasize the presence of variability in the beginning stages of development. In practice, it does make sense that learners who experiment more with the L2 will have more variability in their writing, simply because they will explore new horizons, increasing the chance of instability of the system. We argue that the variability is needed in the development towards complexity as this study suggests that there could be a correlation between higher complexity and greater variability.

#### 4. Discussion

In this paper, we have presented the data of an empirical study composed of a holistic analysis performed on 107 first years and a microgenetic study on 12 Dutch high school students learning French. Our aim has been to compare the written language development of two groups of students, one being taught by a traditional method for French as a second language, with low French input an explicit focus on grammar. The other group was taught with AIM, a high input driven method with implicit focus on grammar. Our goal was to see how external (high vs. low input) and internal (aptitude) context participate in L2 development. After having summarized the results in each study, we will discuss some of the interesting findings.

#### Study 1: holistic analysis

Study 1 has shown that the development of the writing skills of the AIM group and of the Control group did not progress significantly throughout the five months, even though both groups did end with a higher mean for their last assignment. It also brought into light that AIM students in average always scored higher than the Control students. This difference turned out to be significant only for the last assignment. Interestingly, both groups experienced a drop in their scores for assignment 3. Another important point mentioned in study 1 was the fact that aptitude levels had a significant effect on scores if included as a covariate.

The first striking result is that neither group had a significant progress throughout the five months. In fact, we can explain it by the fact that five months might be too short to witness a clear progression. We do see an increasing trend in the results but we argue that five months is too short period of time to be significant.

If we look at the figure 1, representing the within and between subject effect, we can notice that at the moment of the first assignment of the study, AIM students were already better than the control students. Some could argue that the initial state of both groups differed and that it would explain why that AIM students were significantly better. We reject this assumption, as we know that at the beginning of the school year, all students were taking French for the first time. This difference in proficiency in February is the result of the previous six months of input. The input given to the students from September to February was sufficient already to have an

effect on the scores from the moment of our first measurement. It seems rather obvious that high input is a key factor to this success, which has been found in other studies (Verspoor & Winitz, 1997).

Referring to the drop of all grades for assignment 3, we could consider that the assignment itself could have been a problem. If we look at the instructions, AIM students needed to answer the question: "Retell the beginning of the story: comment y aller" and the control students needed to answer the following: "Do you sport? Why do you like it? If you don't, why not?". It is difficult to see if those instructions could have influenced the drop in scores. It is more likely that it is a sign of variability, caused by the fact that they are beginners as suggested in DST perspectives on language development or maybe because students had the feeling that they had already given their best for assignment 1 and 2.

However, both groups particularly differed on the last assignment. Our hypothesis is that the answer can be found in the complexity, accuracy and authenticity measures. We suppose that a combination of fewer errors and more authentic language could have been the reason for the higher scores. Study 2 is therefore important to validate these hypotheses.

In sum, the group results suggest that AIM students received better scores on all their assignments and particularly on the last assignment in June. This implies that their level became more advanced than that of the control group, but it does not specify how. Our next goal is to investigate how their language differs from that of the control students over all and especially at the moment that they outperform them in their development in June. Furthermore, because the statistical analysis brought into light the importance of aptitude, texts of students of different levels will be examined as some studies also suggest that L2 proficiency correlates with aptitude (Howitz, 1987).

### Study 2: case study

Then we saw the written development of 6 protoypical students over time in study 2. Results suggest that AIM students are faster more complex, accurate and authentic even though there are disparities related to their scholastic aptitude. Concerning complexity, we saw that there was more variability for AIM prototypical students than for the CP. The writing of APs was in general more complex. They had longer

sentences, a higher finite-verb ratio and they used dependent clauses earlier. They were able to use a varied range of tenses. However, it is noticeable that the average word length of all the prototypical students stayed stable at around 4, as well as the average number of words in chunks, which had an average of 3 words per chunk (except from a peak on April 6<sup>th</sup> HAVO AP). Yet, the results were very different on other aspects of the study. AIM prototypical students did better on vocabulary intake. They also made fewer errors but the distribution of those errors differs greatly. AIM students made mostly spelling mistakes. Grammatical errors, on the other hand, decreased greatly by the end of the school year (except for a peak on April 27<sup>th</sup>).

Another striking finding is that AIM prototypical students did not make word order mistakes. In general, they started with more mistakes than the control prototypical students but their number drastically dropped at the end of the year. The Control prototypes started with fewer errors, which stayed rather stable. Mostly, spelling, grammatical, lexical and chunk related mistakes were made but there were not many gender mistakes. But the most relevant findings are the results concerning authenticity, which, even though unclear on the quantitative level, show an opposite developmental pattern. Those findings will be now discussed.

The first discussion point we will thus tackle is the following question: what in the AIM method seem to work better? Regarding the fact that input is the real difference between both methods, we can say that complexity emerged from the input they got. AIM students used what they have heard and practiced. They did not need any explicit explanation to find the recurring pattern in the input. The stories they are exposed to are getting more complex, following their development in fact. They are exposed to simple stories, which are adapted to their level. They are able to recognize the patterns and complex tenses as they are constantly repeated. This repetition factor can explain many other results concerning the development of their writing such as accuracy.

However, before the beginning of the study, we knew that AIM students would make more spelling mistakes, simply because they had never seen written words until then. The first six months consisted of hearing stories and getting as much input as possible. Therefore we have found many words written phonetically. However, those mistakes should not be worrying as the graphs show that all three prototypical students steadily became better at spelling words. It is important for the

teacher to be aware of those spelling mistakes, particularly for the MAVO student, for whom individual attention and feedback could be necessary to solve the problem.

Interestingly, AIM students do not seem to have a problem with grammar nor word order even though they are never explicitly exposed to it. This comes back to the frequency of the input. We thus follow Ellis (2006) when he says that frequency in the input is how languages are learned. The fact that the control students do not make mistakes with gender can be explained by the fact that they have to learn to words with their article from the beginning. An unexpected and original result that corroborates this assumption concerns the type ratio. It is very unexpected that students who are exposed to fewer words (total 600) have a higher vocabulary use. Even more striking, AIM students did not have to memorized words by heart. Again, they have learned them by frequency of input.

Results also show that the proficiency level of AIM students reaches a higher level faster than Control students students on complexity, accuracy and fluency. The next point of discussion concerns the question: is this finding the result of a difference in developmental speed or in developmental pattern? In other words, are the Control students left behind in their L2 development or do they simply follow a different developmental pattern?

On complexity measures, the main difference in the developmental pattern of AIM and Control prototypical students was the great amount of variability. According to the DST perspective, this is a normal phenomenon when dealing with beginners. Studies in variability have already mentioned that at the beginning of the learning process, more variability was likely to be found. This can be explained by the fact that the patterns and structures are not yet fixed. As a learner is becoming more advanced, those patterns will stabilize. Besides, increasing variability could even be the sign that the system moves to another state (Goldin-Meadow, 2002). If we look at the complexity measures at a sentence level, we see that AIM students have more variability, which could reveal a certain creativity in the writing. As in Spoelman & Verspoor (2009), this study reveals the importance of the dynamic of complexity measures and well as the observation that complexity development is non linear.

The Control students, on the other hand, seemed to always apply the same pattern, which they have learned from the book. They tried to answer the question with what they knew but very quickly realized that they had limited knowledge and that they could say what they wanted. Then they turned back to what they have

learned in class, which was very secure and standardized. Consequently, their complexity measures had less variability.

Graphs also show a very different developmental pattern in errors for AIM and Control students. The difference in the development of errors can be easily explained by the fact that AIM students had first many errors which then steadily decreased until reaching a very low number, whereas the errors of the Control students stayed in general rather stable. Some errors did disappear, but other remained quite frequent. If we look at how students learn a language, we see that AIM student's development follow a very different path that is mostly due to the frequency in the input.

But the most relevant finding that accounts for this difference in developmental pattern are the results concerning authenticity. As in Verspoor & Smiskova (forthcoming) we found that chunks gave information on the development of fluency because it needs a certain degree of proficiency to be able to use an increasing number of chunks containing an increasing number of words. Even though it is difficult to draw any conclusion on the number of chunks that AIM and Control prototypical students used because they differ per prototypical student, there are some recurring trends that can be illustrated by the following graph representing the average chunk ratio for all AIM prototypical students compared to the average chunk ratio of the Control prototypical students.

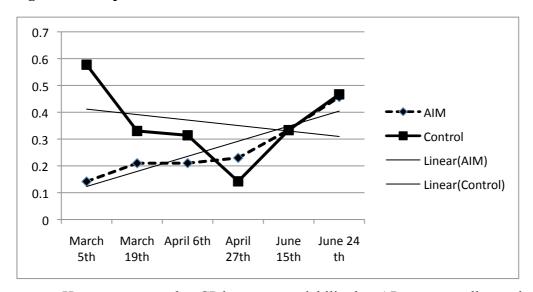


Figure 32 Comparaison chunk ratio AIM/Control

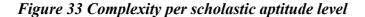
Here we can see that CP has more variability but AP starts usually at a lower rate and then increases steadily. CP on the other hand shows a decreasing trend. This

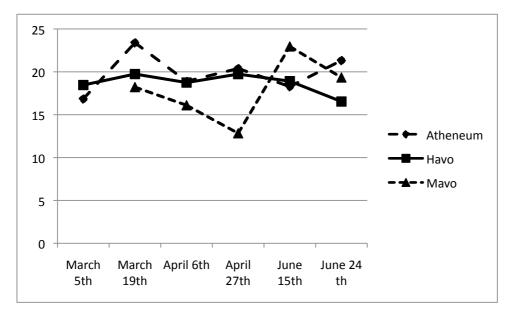
is probably due to the fact that beginners are entitled to learn beginning of phrases such as "my name is" or "I live in". Apart from those little sentences learned directly from their book, they are not able to produce authentic sentences in French. The more assignments they wrote, the more difficult it became to be creative and use different structures than the ones learned at school until they learn new combinations. AIM prototypes on the other hand showed a steady increasing curve. This could be the sign that they pick up authentic language from the input they get and that their writing becomes more and more authentic. However, even if we can see a general difference in the developmental pattern, the learning of chunks seems to be related to individual abilities, as the results on the chunk ratios were very unclear.

Individual differences thus have to play a great role in L2 development. As we saw, each prototypical student showed distinctive curves and a great difference in the amount of variability. The last discussion point of this thesis therefore tackles individual differences and the factor aptitude. As we saw in the previous section, the statistical analysis has shown that aptitude was a significant covariate in the results. Study 2 has shown that our prototypical students differed greatly in their complexity, accuracy and authenticity development. What is the role of internal context in L2 development according to those results?

The effect of scholastic aptitude on language development has already been mentioned in the OTTO project and these findings reappear in this study. If we look at the effect of the AIM method on students with a different aptitude level, it is noticeable that in general, our three AIM prototypical students outperformed the prototypical participants of the Control group. If we expected the Atheneum and HAVO students to behave that way, it is rather amazing to see the development of the MAVO prototypical student, whose results, even though a little less impressive than the Atheneum and HAVO students, have shown progress in complexity, accuracy and authenticity. Put simply, this MAVO prototypical student responded to the method very well and really benefitted from so much input. But in general, Atheneum students did have better scores than HAVO students and MAVO students.

The development of the MAVO AP is in fact amazing. His development goes slower than for the Atheneum and HAVO student, but he is able to write in French and reaches a high degree of complexity. Using the average of the chunk ratio of all our AIM prototypical students, we have drawn the following graph.

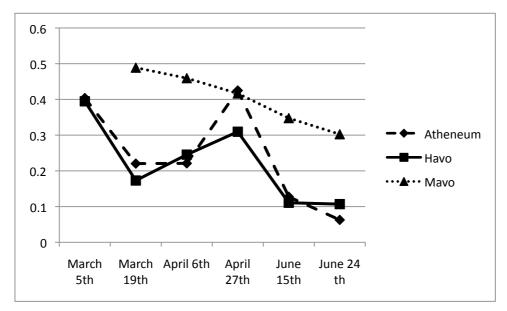




It seems that concerning complexity, the MAVO students do approach the levels of the Atheneum and HAVO students. This could be related to the high motivation factor of the AIM method. As mentioned in Ellis (1997), motivation contributes to the acquisition of an L2. For students who have difficulty to learn by heart and who are very often bored or not interested by the lessons, AIM gives a different prospect on language. They are able to use it from the beginning and they participate in the activities. At the end, they are more advanced than students from the traditional method. The MAVO prototype benefitted highly from an input-only method, which put them directly in action and practice.

But there is a difference in the speed with which they acquire the language, which can be illustrated by the following graph representing the addition of the total of errors per scholastic aptitude level per assignment:

Figure 34 Error ratios per scholastic aptitude level



Here, it is rather obvious that the total number of errors of the MAVO students do not quite compete with the decreasing speed of errors of the HAVO and Atheneum students. However, there is a steady decrease in errors. If we combine both graphs, we can see that the MAVO students do not approach the results of the other aptitude levels on all parts of language. According to Larsen-Freeman and Long (1991), learners process the language as a complex system and do not wait until mastering a rule before going to the other one. The results of the MAVO students suggest that scholastic aptitude seem to count in this ability as lower aptitude levels appear to more difficulties to manage it.

To sum up, study 1 demonstrated that AIM students significantly outperformed non-AIM students in written proficiency scores, particularly for the last assignment, which means that they have been able to process complex L2 language without explicit explanations as suggested in Genesee (1987) and Swain and Lapkin (1982). Study 2 has validated our hypothesis related to this finding, as it has shown that a combination of complex sentences, few errors and authentic language was the key to higher proficiency scores. We have discussed that the writing of AIM students had more variability, particularly concerning complexity measures. Our suggestion is that a great amount of variability is an indicator of creativity in written language and could predict higher proficiency. Furthermore, we saw that both methods lead to different developmental patterns particularly concerning the acquisition of vocabulary

and authentic language and that this was probably due to the fact that both methods differ greatly in frequency in the input and repetition.

Finally, we have shown the effect of scholastic aptitude on the emergence of written proficiency. From those results, it seems that scholastic aptitude is translated into speed of acquisition. Larsen-Freeman and Long (1991) have already mentioned that a learner does not wait to master a part of language before going to the next one but here, it seems that there are disparities due to scholastic aptitude concerning this ability. The MAVO students present more difficulties than the others to concentrate equally on all aspects of written language, which results in slower acquisition.

#### 5. Conclusion

Since 2009, some schools in the Netherlands have implemented a new method to teach French as a second language in high school as there has been an alarming drop in motivation and proficiency level for this foreign language. This new method called AIM (Accelerative Integrated Method) is an implicit input driven method, which holds in its design many principles of recent theoretical insights on second language development. It is based on a theory of usage, repetition and pattern recognition with the objective of enhancing communicative skills in a L2. Those aspects are similar to communicative language teaching methods. Empirical research on those methods has shown their positive effect on communicative proficiency and complex skills development.

This success can be related to the underlying ideas advocated in these methods and explained by theoretical approaches to second language learning such as Usage-Based theories on Second Language Development. According to these theories, frequency in the input and language use constitutes the basic principle of language development as language emerges from the input. Language development is also believed to be the product of interconnected variables that change over time. This is the core assumption of the Dynamic System theory, which considers language as being a complex dynamic system. As a consequence, whilst drawing an authentic image of language development, it is important to realize that language learning is not a linear process.

However, despite that fact that the theory has arguments in favor of AIM, teachers and parents have expressed their concerns towards a method that does not teach grammar explicitly. They were afraid that the proficiency level of those students would not increase particularly on the writing level. Therefore, we have designed two studies aiming at observing and analyzing the writing of 107 first year high school students from which half of them learn French with AIM and the other half with a more traditional method offering explicit grammar called Carte-Orange.

The first study included a total of 107 students who wrote an average of four assignments over a period of five months. These assignments were graded on a proficiency scale going from 0 to 5. A statistical analysis revealed that the writing skills of AIM group and of the Control group did not progress significantly throughout the five months, even though both groups did end with a higher mean for

their last assignment. The short period of time during which the assignments were gathered partly explains this result. It also showed that AIM students on average scored higher than the control students. This difference turned to be significant only for the last assignment. Apparently, the input given to the students before the testing period was sufficient to have an effect on the scores. Another important point mentioned in study 1 was the fact that aptitude levels had a significant effect on scores if included as covariate.

In study 2, the writing assignments of 6 average students were coded for complexity, accuracy and authenticity measures. Both methods and all scholastic aptitude levels were represented. Results have shown that AIM prototypical students were faster more complex, accurate and showed an increasing authenticity curve. Concerning complexity, we saw that there was more variability for AIM prototypical students than for the CP but the writing of APs was in general more complex. AIM prototypical students did also better on vocabulary intake even though they were surrounded by fewer words in the input and they did not have to learn vocabulary by heart. Grammar did not seem to be a problem as they ended up making fewer errors than the Control students. Repetition and frequency in the input appears to have been sufficient to implicitly learn those components of language. However, the major difference that we noticed was the way language develops in the two groups. AIM prototypical students had more variability in their writing, particularly in their complexity measures. Besides, each method shows an opposite developmental pattern for the authenticity measures. It seems that AIM and Carte-Orange students deal differently with those authentic pieces of language. We have thus claimed that both methods lead to different developmental paths suggesting that they make students deal with the language differently. Further investigation should be done in order to determine the exact nature of this difference.

Furthermore, we have suggested that scholastic aptitude played a role in the speed at which the second language was learned taking for example the case of the AM prototypical student. It showed that the MAVO prototypical student could compete with the level of complexity of the other aptitude levels but that other aspects of language did not go as fast. Because Larsen-Freeman and Long (1991) have claimed that learners deal with different parts of language at the same time, our results suggest that there are disparities in this ability. This might mean that attention for one

component of the language goes at the expense of something else, especially for students with a lower aptitude level.

Going towards the end of this thesis, ideas on follow-up studies emerge rapidly. First of all, we would like to put parents and teachers at rest. AIM appears to be suitable for first year students as they have shown to know at least as many grammatical rules and vocabulary as the more traditional students, event though they have learned them implicitly. However, it is necessary to continue following these students to screen how the trends mentioned in this paper evolve. Then, this paper suggests that two important factors, variability and scholastic aptitude, play a role in the development of proficiency and could be a factor of development. Similar results in other empirical studies could add to the actual theoretical debates on the role of those variables in language development. Motivation has not been investigated in this paper, however we suspect that it plays a role in the positive results of AIM students. Further investigations on this matter could give us new insights on the method.

# References

- Allen, P. (1989). COLT observation scheme: Definition categories. Toronto, Ontario
- Allen, P., M. Swain, B. Harley, and J. Cummins. (1990). Aspects of classroom treatment: Towards a more comprehensive view of second language education. In B. Harley, P. Allen, J.Cummins, and M. Swain (eds). *The development of bilingual proficiency* pp. 57-81). Cambridge: Cambridge University Press.
- Arnott, S. (2005). The accelerative Integrated Method: A descriptive case-study.

  \*Unpublished qualifying research paper\* Ontario, Canada: Ontario Institute for Studies in Education of the University of Toronto.
- Barry, C. & P.H.K. Seymour (1988). Lexical priming and sound-to-spelling contingency effects in nonwords spelling. *The Quarterly Journal of Experimental Psychology*, 40A, 5-40.
- Boers, F & J. Kappel, J. Stengers, H., & Demecheleer, M. (2006). Formulaic sequences and perceived oral proficiency: putting a lexical approach to the test. *Language teaching research*, 10, 245-61.
- Bourdages, J., & Vignola, M.J. (2009). AIM: La communication orale chez les \_eleves de l'elementaire en français de base. *Canadian Modern Language Review*, 65(5), 731-55.
- Bourdages, S, & M.J. Vignola (2009). Evaluation des habiletes de communication orale chez des eleves de l'elementaire utilisant AIM. *University of Toronto press Journal*, 65, 731-55.
- Boyd, J. K & A. E. Goldberg (2009). Input Effects Within a Constructionist Framework. *The Modern Language Journal*, 93, 418-29.

- Bybee, J.L. & Hopper, P. (2001). *Frequency and the Emergence of Language Structure*. Amsterdam: John Benjamins.
- Cameron, L. & Larsen-Freeman, D. (2007). Complex Systems and Applied Linguistics. *International Journal of Applied Linguistics*, 17, 226-40.
- Caspi, T. (2010). *A dynamic Perspective on Second Language Development*. Rijksuniversiteit Groningen, Groningen.
- Chomsky, N. (1966). Cartesian linguistics. New York: Harper Row.
- De Bot, K., W. Lowie, & M. Verspoor (2007). A Dynamic Systems Theory approach to second language acquisition, Bilingualism. *Language and cognition*, 10, 7-21.
- Ellis, N.C. (2002). Frequency effects in language processing. *Studies in Second Language Acquisition*, 24, 143-88.
- Ellis, N.C. (2006). Language acquisition as rational contingency learning. *Applied Linguistics*, 27, 1-24.
- Ellis, N.C. (in press 2008). The dynamics of language use, language change, and first and second language acquisition. *Modern language Journal*.
- Ellis, N. & L. Collins (2009). The influence of language distance and language status on the acquisition of L3 phonology. *International Journal of Multilingualism*, 4.
- Ellis, R. (1997). *SLA research and language teaching*. Oxford: Oxford university Press.
- Gardner, R. (1985). Social psychology and second language learning: the role of attitude and motivation. London: Edward Arnold.

- Gardner, R.C, & W.E. Lambert (1972). *Attitudes and Motivation in Second Language learning*. Rowly, MA: Newbury House.
- Genesee, F. (1983). Bilingual education of majority language children: The immersion epxeriments in review. *Applied Psycholinguistics*, 4, 1-46.
- Harley, B., Lapkin, S., Scane, J., Hart, D., & C. Trepanier (1988). *Testing outcomes in Core French: the development of communicative instruments for curriculum evaluation and research*. Toronto: Ontario Institute for Studies in Education, Modern Language Center.
- Harley, B. & M. Swain (1984). The interlanguage of immersion students and its implications for second language teaching. In A. Davies, C. C., and A.P.R. Howatt (Ed.), *Interlanguage* pp. 291-311). Edinburgh: Edinburgh University Press.
- Hopper, P. (1998). Emergent grammar, In M. Tomasello (ed.). *The New Psychology of Language* pp. 155-75). Mahawah, N.J.: Lawrence Erlbaum Associates, Publishers.
- Horwitz, E. K. (1988). The beliefs about language learning of beginning university foreign language students. *Modern language Journal*, 72, 283-94.
- Larsen-Freeman, D. (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics*, 26, 125-35.
- Larsen-Freeman, D. & M. H. Long (1991). *An introduction to second language acquisition research*. New York: Longman.
- Long, M.H. (1991). Focus on Form: A design feature in language teaching methodology. In K. de Bot, R. Ginsberg, & C. Kramsch (eds.). *Foreign language research in cross-cultural perspective* pp. 39-52). Amsterdam: John Benjamins.

- Long, M.H. (1993). Second language acquisition as a function of age: Research findings and methodological issues. In Viberg, K. H. a. A. (Ed.), *Progression and regression in language: Sociocultural, neuropsychological and linguistic perspectives* pp. 196-221). Cambridge: Cambridge University Press.
- MacWhinney, B., & Snow, C. (1990). The Child Language Data Exchange System: An update. *Journal of Child Language*, 17, 457-72.
- Mady, C., Arnott, S., & Lapkin, S. (2007). Assessing AIM: Case study of grade 8 students in an Ontario School Board. *Canadian Modern Language Review*, 65 (5), 703-20.
- Maxwell, W. (2001). Evaluating the effectiveness of the Accelerative Integrated Method for Teaching French as a second language. (*Unplublished Master's thesis*).
- Maxwell, W. (2004). *Histoires en action*. Bowen Island (BC): AIM Learning Language.
- Michels, M. (2008). *Innovation in French as a second language teaching at the elementary level: an exploratory investigation*. University of London Institute in Paris, France.
- Norris J.M. & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50, 417-528.
- Norris, J.M. and L. Ortega (2008). Measurement for understanding: The case of CAF.

  Paper presented at the invited colloquim "Fluency, accuracy and complexity in second language acquisition: Theoretical and methodological perspectives", convened by Alex Housen and Folkert Kuiken. 30<sup>th</sup> Americam Association for Applied Linguistics Annual Conference, Washington, DC, March 29-April 1.
- Pica, T. (1994). Research on negociation: What does it reveal about second-language learning conditions, processes, and outcomes? *Language Learning*, 44, 4493-

- Sasaki, M. (1996). Second language proficiency, foreign language aptitude and intelligence: Quantitative and qualitative analyses. New York: Peter Lang.
- Schmidt, R. (1983). Interaction, acculturation, and the acquisition of communicative competence. In N. Wolfson & E, J. (Ed.), *Sociolinguistics and language acquisition* pp. 137-74). Rowley, MA: Newbury House.
- Skehan, P. (1990). The relationship between Native and Foreign Language Learning Ability: Educational and linguistic factors. In Dechert, H. (Ed.), *Current trends in European second language acquisition research* pp. 83-106). Clevedon, Avon: Multilingual Matters.
- Spada, N.M., and M. Frohlich (1995). *Communicative Orientation of Language Teaching Observation Scheme: Coding conventions and applications.* Sidney:

  Macquarie University, NCELTR.
- Spoelman, M. & M. Verspoor (2009). De ontwikkeling van schrijfvaardigheid in het Fins als vreemde taal: a dynamisch perspectief. *TTWiA*, 81.
- Spoelman, M. & M. Verspoor (2010). Dynamic patterns in development of accuracy and complexity: A longitudinal case study in the acquisition of Finnish. *Applied Linguistics*, 31, 4.
- Swain, M. & S. Lapkin (1981). *Evaluating Bilingual education: A canadian case-study*. Avon, England: Multilingual Matters.
- Tomasello, M. (2000). Do young children have adult syntactic competence? *Cognition*, 74, 209-53.
- van Geert, P. (1991). A dynamic systems theory model of cognitive and language growth. *Psychological Review*, 98, 3-53.

- Van Patten, B., & Cadierno, T. (1993). Input processing and second language acquisition: A role for instruction. *Modern language Journal*, 77, 45-57.
- Van Patten, B. (1996). *Input processing and grammar instruction: Theory and research*. Westport CT: Ablex.
- Van Patten, B. (2002). Processing instruction: An update. *Language Learning*, 52, 755-803.
- van Rein, E. (2010). Exploring the Language Learning Landscape: Learner

  Characteristics, Context, Variables, and the effect of Bilingual Education.

  Rijksuniversiteit, Groningen.
- Verspoor, M., Lowie, W. & M. van Dijk (2008). Variability in L2 development from a dynamic systems perspective. *Modern language Journal*, 92, 214-31.
- Verspoor, M. & Smiskova, H. (Forthoming). Development of Chunks in Dutch L2 Learners of English.
- Verspoor, M. & Winitz, H. (1997). Assessment of the lexical-input approach for intermediate language learners. *IRAL*, 35, 61-75.
- Verspoor, M. & Xu, X. (Forthcoming). A dynamic usage based perspective on L2 writing development.
- Wesche, M.B. (1994). Input and interaction in second language acquisition. In Richards, C. G. B. J. (Ed.), *Input and interaction in language acquisition* pp. 219-49). Cambridge: Cambridge University Press.
- Wray, A. (2002). *Folrmulaic language and the lexicon*. Cambridge UK: Cambridge University Press.

# Appendix I (List of participants and holistic scores)

				EE1 march	EE2 March	EE3 April	EE4 April	EE5 April	EE6 May	EE7 May	EE8 Juni
Code	Classe	AIM/Controle	Niveau	19th	17th	6th	14th	27th	12th	28th	2010
1 2	B1A B1A	Controle Controle	H H/A	1 2		1 1		2 2			2 1
CM3	B1A	Controle	M/H	1		0		0			1
4	B1A	Controle	A	2		1		2			3
5	B1A	Controle	Н	1		1		1			2
6	B1A	Controle	H/A					0			1
7	B1A	Controle	Α	1		1		2			2
8	B1A	Controle	A			1		0			2
9	B1A	Controle	M	1		1		1			2 2
10 11	B1A B1A	Controle	M/H H	0		0					2
12	B1A	Controle Controle	п H/A	1		1		1			2,5
CA13	B1A	Controle	M/H	2		2		2			2,5
14	B1A	Controle	Η			1		0			2
15	B1A	Controle	M/H	1		1		1			1
16	B1A	Controle	H/A	1							1
17	B1A	Controle	M/H	1		1		1			1
18	B1A	Controle	M/H								
19	B1A	Controle	Н	2		1		0			2
20	B1A	Controle	Н	1		1		1			3
21	B1A	Controle	M			1		0			1,5
22	B1A	Controle	M	1		1		1			1
23	B1A	Controle	H	1		0		0			1
24 CH25	B1A B1A	Controle Controle	H A	1 1		1 1		0			1 2,5
26	B1A	Controle	Н	1		1		1			1
27	B1E	AIM	 Н	1		1		_			1
28	B1E	AIM	A	2		3		1			_
29	B1E	AIM	Н	1							2
AH30	B1E	AIM	Н	3		2		2			3
AA31	B1E	AIM	Α	3		3		2			2
32	B1E	AIM	M	1		1					2,5
33	B1E	AIM	M	2		1		1			2
34	B1E	AIM	M	1				2			1
35	B1E	AIM	Н	0		1 2		0			1
36 37	B1E B1E	AIM AIM	H M/H	2 4		2					1,5
38	B1E	AIM	м/ п А	3,5		3		1			2,5
39	B1E	AIM	A	2		3 2		2			2,5
40	B1E	AIM	M	2		1		_			
41	B1E	AIM	H	2		2		1			2
42	B1E	AIM	M	2		_		_			1
43	B1E	AIM	Α					2			2,5
44	B1E	AIM	M	2		2					1,5
AM45	B1E	AIM	М	2		1		1			1,5 2
46	B1E	AIM	М	2		2		1			2
47	B1E	AIM	H/A	1				1			
48	B1E	AIM	Н	3		1		1			4

49 50 51 52 53	B1E B1E B1E B1E B1E	AIM AIM AIM AIM AIM	H H M M H	3 1 2 2		2 2 1		1			2 3 2 2 1	
54	B1E	AIM	M/H								2	
55	B1K	Controle	H/A	2	2		1			2		
CA56	B1K	Controle	A	2	1	2	2		2,5	2		
57	B1K	Controle	M	2	4	2	2		0	1		
58	B1K	Controle	M	2	1		1		2	1		
59 60	B1K	Controle	M	2	2	4	2		0	1		
61	B1K B1K	Controle Controle	M/H H/A	1 2	1 2	1 1,5	1 2		0 2			
62	B1K	Controle	H	2	1	2	2		0			
63	B1K	Controle	A	1	2	۷	1		2	2		
64	B1K	Controle	Н	1	2		1		2	2		
65	B1K	Controle	H	2	1		1					
66	B1K	Controle	M	2	1	1	2					
67	B1K	Controle	M	2	1	-	2					
CM68	B1K	Controle	M/H	1	1		1		0	1		
69	B1K	Controle	M	1	2		1		1			
70	B1K	Controle	Α	2	2	2	1		2	1,5		
71	B1K	Controle	М	2	2,5	2,5	2		2	2		
72	B1K	Controle	Α	2	2	2	2		2	2		
73	B1K	Controle	Н		2	2	1		2			
74	B1K	Controle	Α	1	2		1		1	0		
CH75	B1K	Controle	М	2	2	1	2		1	2		
76	B1K	Controle	М	2		2	2		2			
77	B1K	Controle	H/A	2		1	1		2			
78	B1K	Controle	M/H				2		2			
79	B1K	Controle	Н	1	1	2	1		1	2 -		
80 AM91	B1K	Controle	H H	2	2	2	2,5		0	2,5	2	1 5
AM81 82	B1F B1F	AIM AIM	H	2		1					2	1,5
83	B1F	AIM	M/H	1		1					4	2
84	B1F	AIM	Н	2	2	1					1,5	3
85	B1F	AIM	H	2	1	1					2	3
86	B1F	AIM	H	1	2,5	0					2	2
87	B1F	AIM	H/A	2	<sup>,</sup> 2	2					3	2,5
88	B1F	AIM	H/A	2	1	2					2,5	2
89	B1F	AIM	M/H	2	3	0						1,5
90	B1F	AIM	M/H	2							2	
91	B1F	AIM	М	0		1						
92	B1F	AIM	M/H	1							2,5	2
93	B1F	AIM	М	1	2	1					1,5	
94	B1F	AIM	Н	1	3	0						
95	B1F	AIM	Α	2		1					2	
96	B1F	AIM	Н	1		0					_	a =
97	B1F	AIM	A	1		1					2	2,5
98	B1F	AIM	Н	1		0						
99	B1F	AIM	H H	1 1	2	1					2 5	2 [
AH100 101	B1F B1F	AIM AIM	H/A	1	2 1	1					<b>2,5</b> 2	<b>3,5</b> 2
101	DTL	WILL	11/A	1	T							۷

AA1	)2	B1F	AIM	Н	2	3	1	2		3
1	03	B1F	AIM	M	1		0			
1	04	B1F	AIM	М	2	3	1			2
1	05	B1F	AIM	H/A	2	2	2	2,5		2
1	06	B1F	AIM	H/A	1	2	1		4,	,5
1	07	B1F	AIM	Α	1	1	1	2		2

# **Appendix II (Writing assignments for study 2)**

#### AA31EE1

Ill y a a la maison de prince. Monsieur le princel monsieur le prince. Je veux entrer, je veux entrer! Mais le prince n'entend pas parceqi'ill aime de la musique. Qu'est-ce qui se passe! Je crie mentenant! Monsieur le prince, monsieur le prince! Je veux entrer, je veux entrer! Tout a coup le prince ouvre la port. Ca c'est une chat, dit le prince. Bonjour, dit le chat. Le chat parle! Le prince est mort parce qu'ill est tres tres peur. Parce que le soup magique, le belle princesse est mort aussi. Ensemble, le prince et le princesse est tres eureux dans le ciel.

#### AA31EE3

Voici l'histoire dé comment y aller? Name veut vient a son ammie, Name. Il habite trés trés loin a paris. Et je veut voir mon ammie. Alors comment y aller? Je sais! Je aller avec pied. Name marche et marche. Tout a coup elle voit une poliecer qui conduit une auto.

#### AA31EE5

Oui je suis beaucoup à vacance à Name. Je campee an Name c'est très chaud et la soleille bris et la ciel est bleu. Mais la Name je ne c'est pas la annee dernierre. Je aller an l'auto, le vraiturel.

# AA31EE8

Elle dit aurevoir a la mère de Name et traverse la rue. Name est là-bas! Elle criet: Name très vite. Name voit Name et dit bonjour Name! Qu'est ce qui c'est passé? Ou est Name est à Name! Oh non! dit Name. Alors, est-ce que je peux t'aider? Oui merci Name je t'aime! Alors on aller à Name. Oui! C'est vrai. Name et Name vont a Name ensemble. Apres quelque minute la soucoupe volante arive a Name. Merci Name! [Viens avec moi! A mon maison! Name et Name vont a la maison se Name frappe a la porte Name! dit le mère de Name. Name est ici! Oui je sais! Le fin content.

# **AA102EE1**

Bonjour! Je m'appelle Name. Je habite à Name. Je habite dans un grande maison. Mon hobby's son tennis et chnase. Je suis une soeur et un pere et mere. Je va à Name. Mon animal et une hamster elle et chantille. J'ai une professeur qui s'appelle Name et elle tres chantille.

#### AA102EE2

Un jour, il est poursuivi par un cochon volant. Name va vite a la maison et va dans son soucoupe volant. Parce que il pense que le cochon volant ne peut pas le trouvé. Alörs le cochon volant trouve Name. Name décide de partir vers la terre comme il est peureux à emmener vers la maison du loup. Il part et tombe dans l'eau sur la terre.

#### AA102EE3

Bonjour petit cochon. Je m'appelle Name. Bonjour Name. Je va naar le maison le loup il et mon ami. Mg je niet je mee ? Oui Name. Le cochon court et court et court. Terwijl je en le cochon rug zit.

#### AA102EE8

O non !Qu-est ce que je fais maintenant ? Je suis tellement triste. la mère de Name dit: Je telefonée Name. Et il retourne. La mère de Name tour la numbre. La mère de Name dut: Bonjour Name. C'est moi: maman. Name dit : Bonjour maman, est-ce que tu telefone? La mère de Name dit : Alors Name est içi. Name dit : O non qu-est ce que je fais maintenant? La mère de Name dit : Viens içi. Avec nous. Name dit : D'accord. Après quelque minutes. Name arrive à Name. Et Name et Name est trés trés trés content.

# **AA102EE9**

Name est une fille. Elle habite à Ouébec au Canada. Name veut aller à son ami Name. Il habite trés trés loin à Paris en France. Je peux y aller à pied. Name marche et marche. Elle voit une policière. Name dit est-ce que je peux y aller en voiture avec vous? Name monte dans lé voiture avec la policière. Après quelques minutes le voiture s'arrêtte. Elle marche pas. Name marche et marche. Name voit un conducteur. Alors est-ce que je peux y aller en train avec vous ? Name monte dans le train avec le conducteur. Après quelques minutes le train s'arrête. Il me marche pas. Name marche encore. Name voit un capitaine. Alors est-ce que je peux y aller en bateau avec vous? Name monte dans le bateau avec le capitain. Après quelques minutes le bateau s'arrête. Il me marche pas. Name marche encore. Mais elle voit une soucoupe volante. Il est un extraterrestre. Le mon est Name. Name dit est-ce que je peux y aller en soucoupe volante avec vous? Name monte dans la soucoupe volante avec Name. Avec quelques minutes la soucoupe volante arrive à Paris. Name dit merci Name je suis tellement contente. Name va à la maison de Name et frappe à la porte. Name parle avec sa mère. La mère de Name dit Name est parti te voir à Quebec en avion. Oh non. Je suis tellement triste!

# AH30EE1

La princesse court et court à la maison et dit un hopital, j'ai trés trés peur. Aprés le hopital elle va dormier. Elle pesne que le prince vien. Mais le prince ne vien pas. Demain la princesse pense que le prince vien. Mais le prince ne vien pas. La princesse et très très trieste. Il ne vien pas. La soricère dit gnignigni. Je ne suis pas seulement dit princesse rouge. Mais je veux suis seulement avec le prince. Le chat dit Miauw. Je prend toi. Non, je court trés vite. Mais la sorcière et un plus vite. Mais le prince vien. La princesse dit Oh merci. Le prince dit de rien. La princesse dit je veux à la maison. Et le prince la donne à la maison. Et ils vivent encore lontemps et ils sont trés content.

#### AH30EE3

Name veux voir son ami Name. Name hâbite a Quebec aux Canada et Name hâbite a Paris en France. Name pense à son probleme. Elle va en un auto, un train et un bateau mais le auto le train et le bateau ne marche pas. L'extra terreste descent don le terre.

Name monte don le soucoupe volante et arrive à Paris. Name frappe à la porte de Name. La mère de Name ouvre la porte et dit je suis desolee Name. Name et en Quebec en avion. Et Name dit Oh non c'est-ce que je fais maintenant.

#### AH30EE5

J'ai vait a Name au Name Pays-Bas. Pour un camp flûte de bamboo. Sa c'est très drôle là-bas. Avec beaucoup, les activité. Je vait avec le train. J'ai pas une auto, avec beaucoup les choose. Et je suis très contante là-bas.

# AH30EE8

Elle veux aller voir son ami Name. Il est en Québec, au Canada. Comment elle peut y aller. Name pense et pense à son problème. Elle peut y aller à pied! C'est vrai! Name marche et marche. Tout à coup, elle voit quelqu'un qui conduit un avion. C'est un pilote. Bonjour pilote. Je m'appelle Name, dit Name. Bonjour, Name. Est-ce que je peux t'aider? Oui, merci. Je veux aller voir mon ami, Name. Il est très très loin en Québec et je suis fatiguée. Alors est-ce que je peux y aller en avion avec vous? D'accors, Name! Viens avec moi! Name monte dans l'avion avec le pilote. Après quelques minutes, l'avion s'arrête. Il ne marche pas. Vraimant? Ques-ce que je fait mentenant?

#### AH100EE1

Je m'appele Name. Je habite Groningue. Avec moa meré et moa pere et moa grand frère et deux chat. Je va a la l'école Name. Je aim cheval et dessiner. Me ami est Name, Name, Name et Name.

# AH100EE2

Un jour Padma tomba de la planète Samabava. Ceci est quelque chose de neuf. Quoi faire? Padma tourne et tourne parmis les etoiles. Tout à coup, il voit la raquette avec le chien Name. Il s'accroche a la raquette et il vient avec Name vers la terre.

#### **AH100EE3**

Name montre le train. Le train dit : Name tu montre en moi tu est fou. Le train rijdt uiet a Spanje. Le train s'arrete. Name tombé van le train est contant et rijdt weg. Name lève-toi et marche a la hotel. Un chat vois Name et Name s'arrete. Name tourn et court a un voiture. Name montre le auto et rijdt viens a la maison.

# AH100EE8

Name dit: Au revoir mère de Name. Mère de Name ferm la porte. Name marche a la tour Eiffel. Name monte le tour. Name crie Zozo zozo! Une soucoupe volante descend sur la tour Eiffel. Name court a la soucoupe volante. Name monte dans la soucoup volante. Name dit: Bonjour Name. Est-ce que je peux t'aider? Name dit: Mon ami Name est avec une avoin a Québec. Zozo dit: Oh no c'est une problème. Zozo dit: tu viens avec moi a Québec. Name dit: Merci Zozo tu est très gentil. Zozo commence la soucoupe volante. Quelques minutes le soucoupe volante arrive à Québec. Name dit: Au revoir Zozo!. Name marche sur le rue. Elle vois une personnage a la fin sur le rue. El est Name. Name crie: Name! Le personnage tourn.

Name court a le personnage et embrasse Name. Name dit : Name ma ami! Name raconte l'histoire. Name dit : Name je suis très très contant. Name et Name marche a la maison de Name.

#### **AH100EE9**

Voici une fille. Elle s'appelle Name. Elle habite à Québec. Elle veut aller à son ami Name. Name habite trés trés loin à Paris. Name marche et marche mais c'est trés loin elle est tres fatigueé. Tout à coup il y a une voiture avec une policière qui veut aider. Name dit : oui! Elle monte dans la voiture. Après quelques instants, la voiture ne marche plus. Elle décide d'aller par train. Mais le train aussi ne marche plus. Le prochain moyen de transport et un bateau. Le bateau ne va pas très loin. Et Name va nager. Voilà un ile. Name monte l'ile. Comment peut Name venir à Name? Elle voit quelqu'chose dans le ciel. C'est une soucoupe volante! L'extraterrestre veut bien aider Name. Il s'appelle Zozo. Et Zozo transporte Name à Paris. Mais desolé Name ne pas la. Sa mère raconte à Name que Name et aller a Quebec. Name dit: Oh non!

#### AM45EE1

Le princesse frappe at le porte le prince. Bonjour prince je court et court de sa maison a la prince. Le prince parle. Bonjour princesse rouge entre le maison le prince. Le princesse entre le maison. Le princesse parle ou le histoire. le prince court et court et court de sa maison sorciére. Le prince parle : mechant soricére ie e fou! Le sorciére et triest, le soup pas a une soup magique. Le prince court et court de maison a la prince. Princesse et pas une soup a magique.

# AM45EE3

Name veut travel a paris. Zozo aport Name a paris et Name suis tre content. Fini

# AM45EE5

Je contrier la Italie. Je suis content. Je contrier a la auto.

#### AM45EE8

Name appelle et dit bonjour.Name je dis bonjour je veux die Name. Name moitre bol la mére de Name autour de la maison de Name mére die Name. Name dit bien mius de ne se pas hoe Name die. Zozo Name apel dit. Zozo fian a la maison de Name. Name avec afion to Name. Name done a la maison de mére die Name. Name done ouci a la maison de mere de Name. Name loge a la maison de mére de Name. Name et contant e Name et contant et mére de Name ouci. Men ten al la Name et fini allor la politie et la capitaine e le conducteur et triest avec la train, la batea, auto et carese.

#### AM81EE1

Bonjuor. Je'mappele Name. Je est de deux sueurs tu et grand dan je. Ma hobby is faiter du cheval. Je et une beaucoup d'amis. Je suis ici de Français tro ecrvi une mo! Est je est finit. Au revoir.

#### AM81EE3

Bonjour. Je m'appeles Name. Je fait un l'histoire over un fille genaamd Name qui est trés gentil et je fait robes.

#### AM81EE8

Name est triste parce que Name va a la maison de Name. Name dit : Oh non est ce — que tu payer moi avion retourne a maison? Le mere de Name dit : wii t'amèna a l'avion! Name : merci, je est trés wiet a moi maison. Name et le mere de Name, viens dans le voiture. Name est trés content pace que. Finalement tou ze passe bien. Name est wiet a la maison! Ze voit Name et est trés trés content parce que Name voit Name finalement! Name est bauecoup jours a Name. Name et Name est trés content. Parce que elle a une été fantastique summer!

#### AM81EE9

Voici l'histoire de Name.La Name habite a Qeubec. Son ami Name habite trés trés loin de Name. Name pense et pense à son problème. Name va a son ami Name et marche et marche Name où une policiere. La policiere et Name dit: bonjour. Name est trés fatigue en va a la policiere à une voiture. Le voiture s'arrete quant minutes. Name marche et marche et où une conducteur. Le conducteur est Name dit: Bonjour. Name ets trés trés fatigue est le conducteur dit fjen avec moi. Qaunt memes le bateau s'arrete. Name est trés trés fatigue qaunt ze moest zwemmen. Name ou a un l'extraterreste a une soucoup volantente. L'extraterreste va Name a Name.

# CA13EE1

Je m'appelle Name. Moi j'aime et toi la mode et le foot. J'adore le dessin et je détèste le geo. Le prof de geo c'est super! Et le Français c'est joli! Et le prof aussi ! J'adore la robe et je détèste le pull! Ma préféré couleur est rose et touge et blue et vert. Ma maison c'est grand. J'habite à Groningen. Ma chambre est grand! J'ai une soeur à Curaçao. Salut!

# CA13EE3

Bonjour. Je m'appelle Name. J'adore le foot. C'est ma sport préferé! Je n'aime pas le basket! C'est horrible. Et j'adore le volley et j'adore le hockey. Je suis fan de foot. Je joue le foot aussi. J'ai un petit frére. Il joue aussi le foot! Le foot est super!

# CA13EE5

Bonjour. J'ai un petit frère. Il est nuf ans. Mes parants au mariage. Et j'ai une demispeur elle est vingt-six ans. Elle a un enfant, un garçon. Il est deux ans. Alors je suis tante! Est mon frère est oncle! Salut!

# CA13EE8

Salut.Je m'appelle Name et j'ai numb ans. J'habite à Groningen.

Mon hobby est le dessin et le volley. J'aime faire du shopping aussi. Je joue le volley. Je participe au concours. Je ne joue pas instrument de musique et je ne joue pas dans le groupe. J'ai beaucoup copines elles sont tres gentil. Ma matière préférée sont le

francais et le dessin. Et je déteste l'histoire! Le prof d'histoire est nul. J'organise samedi une jolie fête chez ma maison. La fête commence à dix heure et dure tout de la nuit. J'ai invite un dj. Nous alons fêter! Ma famille est super. J'ai un petit frère. Il s'appelle Name. Il est numb ans. Mes parents sont marié. Ma mère s'appelle Name, elle est numb ans. Et mon père s'appelle Name, il est numb ans. J'ai une grand demi soeur. Elle s'appelle Name. Elle habite à Curaçao.

Bisous

#### CA56EE1

Bonjour. Je m'appele Name. J'habite à Groningue. J'ai deux seurs. Ma couleur préférée c'est violet. Je vais au collège Werkman. Ma meilleure amie s'appele Name. Mes matières préférée sont OSO et le dessin. J'adore la dans musique, et shoppen. Je détèste ranger ma chambre et l'anglais. Au revoir.

#### CA56EE2

Ce samedi c'est mon anniversaire. Je vais mon argent sûr le samedi donner. On aller au la piscine.

# CA56EE3

Bonjour, je suis Name. J'aime fair de la dans. Et je trouve la gymnastique a l'ecole. J'aime jogging aussi. Je deteste boxing et le golf. Je n'ai pas musclé.

# CA56EE4

Bonjour! Je m'appele Name. Je suis fan du Name et la musique pop. J'adore chanter, mais je ne peux pas. Je suis fan du Name pourquoi? Il peux très bien chanter et danser. Il a les beau chansons aussi. Je écoute beaucoup musique. Fini! Au revoir!

# CA56EE6

Bonjour ! J'ai une fois une réunion de famille.C'est horrible. Je connaissais personne. Il y avoit karaoke music et.

# CA56EE7

Je trouve Name bête. Je suis fou d'orange, beaucoup gens et le désordre. L'année dernière, j'ai avec Name de la ville. C'est très.

# CH25EE1

Je m'appelle Name. J'ai treizan. J'habite à Groningen.

J'adore le dessin et je déteste les maths, la géo, l'histoire et la français. Et j'adore Name. Le sport préferee c'est la danse. J'adore le violet et noir.

# CH25EE3

Je suis fan de Name. Je joue de la Guitara. C'est mon sport favori. Je collectionnes handtekeningen. J'adore le rock musique.

#### CH25EE5

J'ai un soeur.

#### CH25EE8

Bonjour! Je m'appele Name. J'habite à Groningen. Ma passion est dessiner et ecouté de la musique. Je joue faire de la danse. Je ne participe pas au concours. Je ne joue pas d'instrument. Donc je ne joue pas dans un groupe. Je suis élève au college Name. J'adore le dessin, parce que c'est creatif. Je détèste l'histoire, parce que c'est ringard. J'ai organisé une fête. J'ai invité une DJ et je vais faire la fête. Ca commence à neuf heures. J'ai une soeur. Elle s'appele Name et elle est dix-sept ans. Mon parents est quarente quatre.

# CH75EE1

Bonjour, je m'apelle Name. J'ai douze ans. Mes cheveux couleur est marron. Ma mére s'apelle Name. Elle est sympa. Ma matiere préfére c'est le français. La prof au le français s'apelle Name. J'habite à groningue. Je détéste la bio. Moi j'aime la mode et j'adore faire le shopping. J'habite à un gris maison. Au revoir

# CH75EE2

Un weekend je suis avec mon père et un weekend je suis avec ma mere. Le dimanche je vois ma copine. Avec elle j'ai beaucoup plaisir. Elle s'appelle Name. Elle douze ans

# CH75EE3

Je trouve jogging sympa. Nous alons à l'école du sport du vous opa et oma. A l'école nous avons la gym. Mon père est aussi sportief. Il vet du velo. Mon mère jogging aussi.

# CH75EE4

Je suis fan au Name parce que elle belle musique fait. Je ne suis pas un instrument. Parfois je chante avec un chanson.

#### CH75EE6

Je n'ai pas un réunions de famille. Je viens souvent chez ma papy et mamie.

#### CH75EE7

Je trouve Name chouette, parce que c'est très sympa. l'anne dernier

# CM3EE1

Je m'appelle Name. Ma passion is le foot. Non, je jouer pas musique. Je preferee le math et la dizaine et la franche et la geo. J'habite a Name. Jai et blue pantalon et à t-shirt orange.

#### CM3EE3

Je suis le foot et le tennis et le dans et le tir à l'arr. Et j'adere le musique.

#### CM3EE5

Je suis à soeurs. Je quatre ams. Tu à numb ans.

# CM3EE8

Bonjour.Je m'appele Name. J'habite à Name. Je joue du le dessiner. Ma passion is le foot. Je ne joue pas d'instrument. Donc je ne joue pas dans un groep. Je suis au Collège Name. Ma maitière préférée est la dessin. Les français c'est difficille. J'ai organisé une super fête chez moi avec Name. J'ai invité un DJ. Je vais faire la fête. J'ai une petite soeur. Elle s'appele Name. Name est quatorze ans. Ma mère est tentsix, elle s'appele Name. Mo père est trent-sant, il s'apple Name. Ecris-moi vite.

# CM68EE1

Bonjour j'mapelle Name. Je deteste fracais. Je habite Name dans Name. J'aime a gym et drama. Mon sport et :snowboard et skie et jogging. Au revior.

# CM68EE2

Dans le weekend je deteste ma frere il me réveille ensuite alors je suis farche. Je voir un copaine on.

# CM68EE4

Musique ? J'aime bien. Je faire parfois de gitare eletric. Je fan de groupe Name, fort minor. Je fan de chanteur Name aussi.

# CM68EE6

J'ai reniup

# CM68EE7

Name? Terrible c'est insupportable. La Name est bleehhh.