UNIVERSITY OF ALBERTA

SYNTACTIC MATURITY OF INTERMEDIATE LEVEL L2 LEARNERS OF FRENCH IN ORAL AND WRITTEN NARRATIVE DISCOURSE

BY

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of **DOCTOR OF PHILOSOPHY.**

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Daniel Fearon

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Gary Prideaux

Lois Stanford

Manfred Prokop

Barry McLaughlin
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Date: Dec 17, 1992

to my parents

(and Kukla)

ABSTRACT

The primary goal of this study is to investigate the 'syntactic maturity' of intermediate level L2 learners of French in both oral and written narrative discourse. This is done by establishing acceptable native speaker ranges for specific syntactic features at the clause and sentence level. The native speaker ranges are based on data elicited from native speakers under the same controlled conditions used to elicit oral and written discourse from non-native speakers. Syntactic features of the oral and written discourse of the L2 learners are then compared to these established ranges at both the individual and group level. In addition to the primary goal, there are two secondary goals: 1) to determine if length and type of L2 instruction affect the syntactic features used, and 2) to determine if there are differences between French and English in the use of certain syntactic features.

At the group level, the results indicate that the clauses and sentences of L2 learners deviate significantly from those of native speakers of the target language in both oral and written discourse. Results show as well that the length and type of instruction L2 students receive play an important role at the clause and sentence level in oral discourse, but not in written discourse, and that French and English differ in the distribution of non-finite clauses and overt markers of subordination and coordination in both modalities.

At the individual level, a subject may attain the native level for a certain feature in one discourse modality but not the other, suggesting 'syntactic maturity' is modality sensitive. The data in the current research present quantitative results for specific features and the degree to which the organization of discourse of intermediate level L2 learners' discourse resembles or deviates from empirically established native speaker 'norms'.

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Chapter 1
INTRODUCTION

During the acquisition of language, the syntactic structures employed to organize one's discourse develop on a continuum from simple to complex. The language learner begins with short utterances comprised of one or two words, then advances to simple finite sentences, until finally s/he is able to combine these short sentences into longer and more complex structures. The combining of short simple finite sentences begins with coordination, then subordination, and eventually reduction of clauses in the form of non-finites (Gaies 1980). The progression on the 'syntactic complexity continuum' is similar during first (L1) and second (L2) language acquisition, but occurs more quickly for L2 learners (Gaies 1980; Monroe 1975). In attempting to evaluate the language learner's progression, 'length' - clause length, sentence length, length of discourse, and Hunt's (1965) T-Unit length (one main clause plus any subordinating clauses attached to it) - has often been the measurement of choice. In L2 language studies, it has generally been found that 'length' increases with language proficiency (Cooper 1976, 1981; Cooper and Morain 1980; Dvorak 1987). Some of these studies also investigated the number of clauses per T-Unit or sentence, the number of T-units per sentence and the number of simple sentences to the total number of sentences, but measuring the 'syntactic maturity' of L2 learners cannot be limited to 'length' and the number of structures linked. "The concept of 'syntactic maturity' includes two components: grammatical complexity as measured by the number of grammatical structures employed, and variety in the use of these structures." (Cooper and Morain 1980, p. 411)

Little research has been done using Cooper and Morain's definition of 'syntactic maturity' for L2 learners and even fewer have considered L2 syntactic development in both oral and written discourse (Dvorak 1987). Vann (1979)

discovered that T-Units were longer in written than in oral discourse for L2 learners and that written L2 discourse contained more adverb and adjective phrases. Dvorak examined the number of adjective clauses, adverb clauses and reduced clauses as compared to the total number of T-Units. She found that the oral and written foreign language of students were similar, but not the same and that L2 students make a variety of structural adjustments between oral and written discourse. Although Cooper and Morain investigated syntactic maturity in oral and written discourse, they did not compare the two modalities and the information provided on the use of adjectives and subordinate clauses was anecdotal rather than quantitative. They did suggest that "... increases in written syntactic maturity correlated with greater oral fluency." (p. 422)

Vann (1981) investigated the gap between oral and written discourse for EFL students. She claimed that "EFL students' abilities and attitudes about English result largely from their previous language instruction. Students are products of certain pedagogical traditions." (p. 154) She classified her subjects into three categories. The writing of beginning students (Level One) was "relatively undifferentiated from their speech in the target language. Sentences were often short and redundant and used conversational techniques." (p. 159) The Level Two writer seemed to "focus on form and avoided the patterns of speech, perhaps to insure error-free writing". (p. 160) Level Three students had "the vocabulary and syntactic skill to write with the power and authenticity of speech while maintaining the conventions of writing". (pp. 161-62) Vann's data were based on observations of L2 learners of different proficiency levels, but no quantitative or statistical evaluations on the differences between oral and written discourse were conducted.

Given that linguistic research in the area of differences between oral and written discourse has investigated the use of subordination and coordination in depth

in order to determine if one modality is more syntactically complex than the other (O'Donnell 1974; Poole and Field 1976; Kroll 1977; Chafe 1982; Beaman 1984), it is somewhat surprising that studies investigating the 'syntactic complexity' of structures used by L2 learners have generally limited their research to length and number of linked structures. Even those studies investigating adjectives, adverbs and reduced clauses have not provided in-depth analyses of the 'variety' of use of these structures and no one (to the best of my knowledge) has quantitatively examined the use of specific subordinating and coordinating structures by L2 learners in both oral and written discourse.

The primary goal of the current research is to investigate the 'syntactic maturity' of intermediate level L2 learners of French in both oral and written discourse as compared to native speakers' discourse. The native speaker data were elicited under the same controlled conditions used to elicit oral and written narration from non-native speakers. The oral and written 'syntactic complexity' of L2 learners is then compared to the experimentally established 'complexity' range of native speakers at both the individual and group level. Conditions under which the discourse is produced are controlled to insure differences in complexity are not due to differences in type or topic. For example, Cooper (1976) measured the written syntactic patterns of L2 learners of German using writing samples for which the content was not controlled. The samples consisted of themes, papers and homework assignments produced during the academic year. 500 words were collected from the various samples. Students in the upper levels critiqued articles and analyzed poems, novellas, and portions of novels. The native speaker discourse analyzed came from ten articles or editorials taken from a popular German newspaper. Since the subjects were all writing about different topics, the formality and register of the discourse may have affected the type of syntactic constructions used. One must then question the results.

These confounding variables are controlled for by having all subjects, regardless of proficiency level, complete the same tasks.

A secondary goal is to determine if length and type of second language instruction affect the production of various syntactic features. It was possible to divide the L2 learners who participated in the study into two groups based on the length and type of second language instruction they had received. One group was made up of subjects who had studied French throughout their education (they began in kindergarten or first grade) and had been involved in an early immersion program. The second group consisted of subjects who began to study French in junior high school or later and had not participated in an immersion program. This distinction between L2 learners allowed comparisons to be made between the two groups for each syntactic feature analyzed within and across modalities.

Finally, comparisons are made between French and English to determine if transfer from L1 may play a role in the amount and type of coordination and subordination used by L2 learners. Results of the present study are compared to a similar experiment conducted by Beaman (1984) in which native English speakers were used. This allows us to determine if the non-native speakers are experiencing interference from the source language and to determine if there are any differences in the frequency of use of certain syntactic features of native English speakers as compared to native French speakers when producing narrative discourse.

The present study quantified the use of simple and complex structures elicited from native and non-native speakers under the same controlled conditions. Length of discourse, finite clauses, non-finite clauses and sentences were analyzed. Empirical data on the types and use of finite and non-finite clauses were also presented. Type and frequency of subordinate and coordinate structures were investigated and detailed analyses of the use of specific subordinate and coordinate conjunctions were

undertaken. Finally, clausal and sentential quotients were computed in which 'complexity' elements such as length, subordination and non-finite clause structures were combined to form a single measure of the syntactic maturity of each subject.

Background

1.1 Oral vs. Written

It was often thought that written discourse was more syntactically complex than oral discourse because it was assumed that written discourse contained more subordination and embedding as well as longer clauses or T-Units. However, some studies that investigated the differences between the two modalities found that many of the differences purported to exist between oral and written discourse were actually differences in register, purpose, formality or amount of planning time of each task (Beaman 1984, p. 51). For example, discourse may vary depending upon speaker age, sex, and education. The modality of the discourse (oral versus written), familiarity with the listener or reader, the formality of the situation (a conversation with or letter to a friend as opposed to a lecture or academic paper), and the type of discourse (narrative, expository, oratory, etc.) may all influence the syntactic structures employed by the speaker when producing and organizing discourse. These variables may affect the length of the discourse, clauses and sentences, the complexity of the syntactic structures produced, i.e., the amount of subordination or embedding, and the amount of redundancy of certain clause structures.

Beaman claims that "... spoken narrative discourse is on the whole just as complex as, if not more complex in some respects than written narrative." (p. 78) Halliday (1987) states that "... spoken and written language tend to display different KINDS of complexity; each of them is more complex in its own way." (p. 66, original emphasis) Finally, Biber (1988) suggests "... there are few, if any, absolute

differences between speech and writing, and that there is no single parameter of linguistic variation that distinguishes among spoken and written genres." (p. 55) The current study does not dispute this, but rather its goal is to demonstrate how and where the oral and written discourse of L2 learners differ from those of native speakers. It also attempts to show a difference between the syntactic maturity of L2 learners in the two modalities, suggesting L2 learners combine structures differently in oral discourse than in written discourse.

In examining differences between oral and written discourse, Dreiman suggests four fundamental principles to be considered in order to avoid the confounding variables of speaker, situation, register and mode:

> (1) that comparative data on spoken and written language should be based on an identical topic for the spoken and the written protocols; (2) that data should be obtained from the same subjects; (3) that the circumstances under which data are obtained should be identical for all subjects; and (4) that, as different segments of a discourse contain varying amounts of detail, "only the *entire* oral and the *entire* written communication are comparable" (quoted in Akinnaso 1982, p. 99; original emphasis)

In adherence to Dreiman's four principles, the present experimental design was modeled after Chafe (1980) and his associates (J. W. Du Bois, D. Tannen, P. Downing, P. Clancy and R. Bernardo) who used a short film that had no dialog but did provide an auditory (music and sound effects) and visual experience to elicit narrative discourse. The film contained a set of events, some salient and some trivial which allowed for ambiguity of interpretation, yet was easily interpretable in some way. (Chafe 1980, p. xii) Subjects were asked to watch the film and then describe it orally and in written form. Description of a film was used to insure that the same type of discourse, i.e., narrative discourse, was being elicited in both modalities and to control the number and type of events being described. Thus an identical topic was

used for the spoken and written protocols, the same subjects were used for each task and the experimental conditions were the same for each subject. The fourth principle was modified slightly in that only oral discourse pertaining to the description of the film was examined. Interaction with the listener in an attempt to clarify a situation, false starts, hesitations and repetitions were not considered. This was done to insure the analysis of like discourse since none of these features of oral discourse are found in the written descriptions.

'Length' has not only been used to measure the syntactic maturity of L2 learners, but it has also been used in numerous studies comparing oral and written discourse (Gumperz *et al.*, 1984; Kroll 1977; O'Donnell 1974; Tannen 1982). Whereas studies investigating the syntax of L2 learners have considered the length of clauses, sentences, and T-Units, according to Akinnaso (1982) most discourse analysts have concluded that "... the sentence is not a valid unit of comparative analysis of spoken and written language." (p. 51) As a result, alternative units of analysis were determined. Blankenship (quoted in Akinnaso, pp. 105-6) used the "verbal expression" unit, defined as "any group of words functioning in relation with a verb", which is analogous to the clause (which includes clauses containing either a finite or non-finite verb). Hunt's T-Unit rather than the sentence was used as it was deemed to be an objectively identifiable unit in both speech and writing. (Akinnaso, p. 106) Chafe (1982, p. 14) used 'idea units' based on a coherent unit of intonation and bounded by pauses. Final rising or falling pitch seemed to be the most consistent signal of these 'idea units' as opposed to the syntactic structure of a clause. As a result, not all information units were clauses. Thus an 'information' or 'idea' unit could be comprised of a prepositional phrase, noun phrase, adjectival, etc.

In the current research, 'length' was investigated as a function of clauses, sentences and 'idea units'. The 'idea unit' was categorized by whether or not it

contained a finite element. Analyses of the distribution of these 'idea unit' categories in discourse are presented as well as the length of an 'idea unit' in terms of the total number of words of which they are comprised. 'Idea units' containing a finite element and those which did not contain a finite element were analyzed separately and were compared in length and distribution.

The 'sentence' was also used as a measure of length in the current research. Chafe describes the 'idea unit' as a spurt of language and larger units of speech as sentences. When transcribing the oral descriptions used in this study, the same criteria used by Chafe - clause-final falling and rising pitch (intonation), pauses and hesitations, and syntactic units - were used by a panel of impartial listeners to determine sentence breaks. The analyses dealing with sentence length reflect the nature of L2 learners' intonation patterns which often deviate from target language patterns. Their speech rhythm tends to have a choppier cadence. Thus the 'sentence' is analyzed by the number of 'idea units' linked together as well as by the total number of words found in each sentence.

The study which most influenced the experimental design used and types of analyses conducted in the present research was that of Beaman (1984). First, Beaman analyzed data collected by Chafe, i.e., using subjects' description of a film, however, the one difference in this area is that the same subjects did not do both the oral and written task. Beaman examined the types of sentences produced by university-level native English speakers (all female). She investigated the breakdown of the number of clauses linked per sentence and the amount of coordination and subordination produced. In terms of coordination and subordination, she offered analyses of specific overt markers representative of each category. She also explored the use of infinitive and present participle non-finites. All of these areas are analyzed in the current research to determine if there are any differences between French and

English in the production of subordinating and coordinating structures which might interfere with L2 learners' ability to produce discourse resembling the syntactic complexity of native speakers of the target language. For example, in oral discourse it is suggested that the excessive coordination of structures is a phenomenon inherent to English speakers while French speakers generally rely more on intonation and other prosodic features rather than overt markers such as coordinating conjunctions and anaphoric adverbs. It is thought that the paucity of relative clauses produced by non-native speakers as compared to native speakers may be the result of the general infrequency of relative clauses in English rather than a lack of ability on the part of the non-native speakers.

Since the organization of discourse is highly variable, individual stylistic differences must be considered when evaluating syntactic maturity. This study attempts to create a single measure of the syntactic maturity of L2 learners as compared to the syntactic complexity employed by native speakers of the target language. This is done by creating a weighting system for the salient features analyzed based on the data provided. Syntactic complexity quotients are calculated at both the clause and sentence level. For example, clauses are given different weightings based on: 1) clause length, 2) whether they contain a non-finite clause consisting of a non-finite verb and the frequency of that non-finite element, and 3) whether they contain a subordinating conjunction or relative pronoun in conjunction with the frequency and 'complexity' of that subordinating conjunction or relative pronoun. These data are used to create clausal quotients for each subject and speaker group. The clausal quotients constitute empirically based native clausal quotient ranges of syntactic complexity which allow for individual and stylistic differences. It is then possible to determine which non-native subjects or group fall within the established range. That is, if one or both of the non-native groups fail to reach the

native syntactic complexity range for narration, the results of individual subjects within that group may be scrutinized in order to discover which individuals (if any) produce discourse of comparable syntactic complexity as that of native speakers. If an individual subject falls outside the native speaker range, the data allow us to determine the clausal features of their discourse which seem to deviate from the native 'norms' by returning to the analyses for specific clausal structures. For example, for some subjects their clauses may generally be much shorter than those of native speakers, but because they use comparable amounts of non-finite structures and relative pronouns, they generally produce discourse at the clause level that is reflective of the syntactic complexity of native speakers' narrative discourse. Or we may find that a subject did not fall within the 'norm' due to a lack of relative pronouns and non-finite clauses, etc.

A similar weighting system was established at the sentence level. At the sentence level, weightings were based on: 1) sentence length (this differed from the rate used for clauses), 2) the number of clauses, both finite and non-finite, linked per sentence, 3) the presence of non-finite clauses, and 4) the presence of relative pronouns or subordinating conjunctions. The same non-finite clause, relative pronoun and subordinating conjunction weightings used at the clause level were used at the sentence level.

The data provided here allow us to demonstrate that L2 learners may be more syntactically mature in one modality than the other, i.e., the ability to produce and organize discourse comparable to native speaker discourse is not necessarily the same in speech and writing.

1.2 Immersion vs. Non-Immersion

Some studies have investigated oral/written differences using subjects expected to behave in different ways in the two modalities based on their educational background and writing proficiency. Shaughnessy (quoted in Vann 1981, p. 160) has suggested that the less skillful the writer is, the more his/her written discourse will resemble oral discourse. Harris (1977) studied the oral and written syntactic attainment of second graders. She suggests that writing is not merely talk written down and that "... written language may be acquired as a separate dialect that eventually outruns talk in complexity." (p. 131) Kroll (1981) examined the developmental factor in writing by using third, fourth and sixth graders. He found that "... with age and experience, elementary-school children's oral and written explanations become both increasingly similar in certain respects and increasingly different in others - more similar in content, but more different in approach." (p. 38)

Golub (1969) found that for certain linguistic features analyzed in the oral and written compositions of eleventh graders that " ... the growth of linguistic performance in oral discourse is somewhat in advance of written performance." (p. 84)

Cayer and Sacks (1979) used community college freshmen who had been placed in remedial English classes. The results of their research present some evidence that the adult basic writer relies on his oral repertoire when communicating in the written mode. In the written mode, "the writer must have reasonably full control over written language. This assumes that the writer has acquired and uses complex syntactic structures and has the ability to select from a wide semantic repertoire." (p. 127) They contend that "... oral language is primary and is acquired in a comparatively functional and natural way. Learning to write is a more formal, less natural endeavor, one which involves the development of a sensitivity to requirements unique to the written mode." (p. 121)

For L2 students, however, oral language is not necessarily primary or acquired in a natural way. Learning a foreign language "involves the development of a sensitivity to requirements" in both the oral and written mode. L2 students may not be able to use certain complex structures as they may be nonexistent in either modality. Learning to write and speak in a foreign language is more formal and less natural than acquiring one's native language particularly in light of some L2 teaching methods. For many L2 learners, their speaking ability lags behind their written ability, although some methods of L2 instruction such as immersion programs have tried to remedy this situation.

Most of the studies comparing the syntactic maturity of L2 learners of different proficiency levels categorized their subjects by the language course in which they were enrolled (Monroe 1975; Cooper 1976, 1981; Dvorak 1987). However, this may not be an adequate measure of classifying L2 learners into proficiency groups. Although all of the L2 learners in the present study were enrolled in intermediate level (300-level) French courses, there appears to be a distinction between the oral proficiency of subjects who participated in immersion programs and those who did not.

It has generally been believed that children were better second language learners than adults, however, Canadian immersion research suggests that 'older may actually be better' in some areas (Swain and Lapkin 1989). Swain and Lapkin compared 'early' and 'late' immersion programs. 'Early' immersion programs begin at the onset of formal education and all instruction in the first few years is in French. In grade two or three, instructional time in French begins to decrease while increasing in English. 'Late' immersion begins in grades six to eight and may constitute 50% to 100% of class time. In general, Swain and Lapkin found that early immersion students performed better on listening and speaking tests, but not on literacy-related

tests. They argue that no differences in literacy skills are found because while early immersion students had the task of learning the language and to read and write at the same time, late immersion students could concentrate on the language itself since they already knew how to read and write. Because they began to study the language at a later age, class instruction would generally try to use the cognitive skills already developed to precipitate language learning. Thus their knowledge of literacy functions facilitates their learning and development in reading and writing in the target language.

The question then is whether the same holds true when measuring the syntactic maturity of L2 learners who have followed a more 'traditional' approach to language learning, i.e., language learning which begins in junior high school or later and where students receive only one hour of foreign language instruction per day.

This study investigates the oral/written differences for L2 learners who studied the target language in very different ways and compares these modality differences to those of native speakers of the target language. That is, it examines how oral and written discourse differ in terms of the syntactic features analyzed and whether these differences are the same for the three subject groups tested. No attempt is made to determine whether one type of discourse is more 'complex' than the other, but rather given non-native speakers have learned L2 differently from L1, the question arises as to how the formal study of the target language has affected the organization of structures used in narration.

Where possible comparisons are made to oral/written differences of narrative discourse of the source language as presented in Beaman's study. Beaman's results are presumed to be general tendencies for narrative discourse as an oral and written genre.

Thus the primary goal is to investigate the 'syntactic maturity' of L2 learners by comparing them to speakers of the target language. Two secondary goals are: 1) to

determine if length and type of L2 instruction affect the syntactic maturity of L2 learners, and 2) to determine if differences between French and English in the use of certain syntactic features cause L1 interference problems for L2 learners whose native language is English.

Chapter 2
METHOD
Data Collection, Transcription of Data and Statistical Analyses

2.1 Subjects

The data from 21 subjects, all paid volunteers, were used in the analyses presented in the current research.[1] The subjects were divided into three smaller groups based on their native language and second language education. There were two non-native French speaker groups and one native French speaker group. All of the non-native French speakers were native English speakers. The first non-native speaker group consisted of seven subjects, six female and one male, who had studied French throughout their education, (i.e., since kindergarten or first grade - 11 to 15 years) and who had participated in an early Canadian immersion program (Immersion).[2] The second non-native French group consisted of 8 subjects, three male and five female, who had studied French from six to ten years and had not participated in any immersion program (Non-Immersion). The subjects in both non-native groups ranged in age from 19 to 21. They were all recruited through the instructors of different sections of intermediate-level French courses at the University of Alberta. The instructors were asked to explain the procedures of the experiment to their classes and ask for volunteers.[3] The experiment was conducted a few weeks before the end of this year-long course; therefore, the subjects had been exposed to

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[1] Fifty subjects participated in the experiment. For this particular study only native French speakers and intermediate level (300-level courses "... designed to perfect the written and oral knowledge of French" as described in the 1988-89 University of Alberta course calendar) second language learners whose native language was English were analyzed. The other subjects were enrolled in first-year university French (200-level), were graduate students in French or their native language was not English. This accounts for the subject numbers found in the chapters and appendices that follow.

[2] It should be emphasized that these are students who participated in immersion programs begun at the onset of education and not limited intensive language programs in the target language environment that the subjects may have participated in as adults. Two subjects in each non-native speaker group participated in some sort of intensive language program which may explain differences between their results and other subjects within their non-native group.

[3] Only one of the 15 non-native French speaker subjects had taken a class from the experimenter (French 200).

most of the materials used in the course before participating in this experiment. The subjects in the Immersion group ranged from first- to fourth-year university students (one first-year, two second-year, three third-year and one fourth-year), while all of the Non-Immersion subjects were second-year students.[4]

The native speaker group consisted of six female subjects from France, ranging in age from 23 to 45 (Native). They were from different regions in France and had spent varied amounts of time in an English-speaking environment, however, they all spoke English fluently. Five of the subjects were graduate students in the Department of Romance Languages at the University of Alberta and were teaching or had taught the aforementioned intermediate level French course. The sixth subject taught French in an immersion program at an elementary school where French was the language used in all classes. The French spoken by these subjects, i.e., a highly educated form of the target language, was assumed to be the level of native speaker fluency sought by the non-native speakers who participated in the experiment. This was based on responses from the completed questionnaires included as part of the experiment.

2.2 Collection of Data

The collection of data consisted of four parts: 1) filling out a questionnaire, as well as reading and signing a consent form, 2) watching a short video twice, 3) describing the film in French to a native French speaker while being videotaped, and 4) writing a detailed description of the film.

Each subject was asked to fill out a questionnaire (see Appendix A) about his/her age, sex, education, language background, grades in French, English, math and

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[4]This is not surprising as those subjects who began later and followed a more traditional approach would follow specific courses designed to be prerequisites for the next course, while Immersion students may have had more variation during their study of French owing to different immersion programs. These subjects started in immersion programs in the mid to late 70s.

science, grade point average, musical ability and desire to speak and write French fluently.[5] At this time, they also read and signed a short consent form (see Appendix B) which explained what they were to do and invited them to ask questions about the purpose of the experiment after they had completed all of the tasks, but it did not explain the purpose of the experiment which might have unduly influenced their performance.

Subjects then received verbal instructions as to what they were expected to do. This was done in English so that there would be no misunderstandings. They were seated in front of a television set and video cassette recorder in a room specifically designed for videotaping. The subjects were told that they would be watching a short video twice, after which they would be asked to describe the film in as much detail as possible in French to a native French speaker who had never seen the film and that this description would be videotaped. The film was shown twice so as to assure a detailed description and to avoid 'memory' as a confounding variable. The film used in the experiment, "The Spring and Fall of Nina Polanski" was a six minute animated film with a musical score and some sound effects, but no dialog, produced by the National Film Board of Canada.[6] Once the subject had orally described the film, s/he was moved to another room where pens, paper and a French/English dictionary were provided in order to write a detailed description of the film. They were told that they could take as much time as they liked. In general, it took each subject approximately one hour to complete the oral and written parts of the experiment. Since neither Dvorak (1987) nor Golub (1969) found that the order in which the tasks were completed affected the results, no randomization of tasks was conducted. More

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[5]Only education and native language were used to select participants in the current study. Future research may investigate correlations between grades, sex, musical ability and motivation and a subject's organization of discourse.

[6]A detailed description of the film is provided in Appendix C.

importance was placed on each subject performing the tasks under the same conditions, thus every subject did the oral task first followed by the written task.

2.3 Transcription of Data

The written descriptions were analyzed unaltered as the punctuation - clause and sentence breaks - were provided by the subjects themselves.[7]

The videotapes, ranging from four to ten minutes for each subject, were carefully transcribed by the experimenter using no punctuation at all. In the original transcriptions everything was written down - false starts, audible hesitation markers such as *um*, *uh*, *er*, etc., pauses, laughs, and repetitions. If a word was mispronounced so as to cause the native speaker listener to correct or question the word, the word was transcribed phonetically.

As it is often difficult to determine where sentence breaks are, and since this information was crucial to the current research, two PhD students from the University of California at Irvine and one high school French teacher were recruited to listen to the tapes and determine all punctuation marks. All three were non-native speakers of French, but had lived and studied in France. They also had taught French and were familiar with the intonation patterns often used by non-native French speakers whose native language is English. Each was paid for the 22 hours spent reviewing the two hours and twenty minutes of transcripts used in this study.[8] The reviewing process began by providing a loose set of guidelines for determining sentence breaks, as described by Chafe (1980). Judges were to consider shifts in topics or content breaks, pauses and the intonation pattern of each subject. Since 15 subjects were non-native French speakers, it was important to determine intonation patterns for individual

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[7]A sample of a written description from each subject group may be found in Appendix D. All written descriptions include spelling or grammar errors, strike outs, and asides as written by the subject.

[8]Although the three listeners were initially there to determine punctuation marks and sentence breaks, they also contributed to the accuracy of each transcription.

subjects as they were not necessarily using typical French intonation patterns. The guidelines were discussed briefly, but the nature of the study was not disclosed, again in order to avoid influencing their decisions unduly. The three paid listeners were provided with type-written transcripts of the 21 videotapes. They were instructed to watch the video tape and mark sentence breaks with a slash on their copy of the transcript.[9] The first time through, the judges listened to each oral description without stopping the tape. Then the experimenter correlated the information by determining the sentence breaks agreed upon unanimously. Next, the listeners reviewed each tape separately and in detail looking specifically at those places where there seemed to be considerable disagreement. In cases where a unanimous decision could not be reached (even after reviewing the tape numerous times), the researcher accepted a majority decision by the three paid listeners so as not to skew the results in a particular direction.

Once all of the punctuation marks had been determined, each transcript was edited in order to determine the data necessary for the current study. Since comparisons were to be made with the written descriptions, false starts, repetitions, filler words and hesitations were eliminated. Comments made by the listener and parts of the dialog which were meant to clarify misunderstandings in the discourse were also excluded. That is, any part of the discourse which did not directly relate to the description of the film was deleted. Consider the following excerpt from the oral description of a subject in the Immersion group:

1) Excerpt from Oral Description

1S: *um Puis elle elle a un bébé.*

2X: *Un bébé. mmm hmm*

---

[9]The experimenter also participated in this part of the study.

3S: *Oui. Et elle uh elle se elle se garde avec tendresse et ...*

4X: *Elle? Pardon, elle?*

5S: *Se garde? Sa garde? um*

6X: *Qu'est-ce qu'elle fait? Je comprends pas je ne comprends pas le le mot.*

7S: *C'est protège. um Sa garde. Elle...*

8X: *Les enfants, tu veux dire? C'est quelque chose qu'elle fait avec son enfant?*

9S: *Oui.*

10X: *Ou:?*

11S: *Avec l'enfant.*

12X: *Elle le protège?, c'est ça?, ou:?*

13S: *um Non. C'est comme elle uh garde. Elle voit. um Elle aide [ad ad] le bébé. Elle... um Non, je ne sais pas.*

14X: (LF) *Je ne comprends pas.* (LF) *Je ne comprends pas du tout moi. Est-ce que tu peux décrire ce qu'elle fait avec cet enfant alors?*

15S: umm (....) *Elle* (..) hmm *J'ai étudi se garde beaucoup pour ça. uh*

16X: *Elle garde l'enfant, c'est ça?*

17S: *Elle garde, c'est comme elle uh (..) fait tout pour pour l'enfant.*

18X: *D'accord, elle fait tout pour l'enfant.*

19S: *Oui.*

20X: *Okay d'accord.*

S=Subject X=Native French Listener (LF)=Laugh
?=Questioning Intonation :=Lengthening of Syllable
[ ]=Phonetic Transcription (.)=Pause Markers (dots equal pause length)[10]

First, all remarks made by the listener were eliminated since we are interested only in what the speaker had to say (i.e., all even numbered phrases were deleted). In 1S, the subject's utterance was edited to read: *Puis elle a un bébé.* The initial

[10]Transcript notations were taken from Ochs (1979).

hesitation marker *um* and the repeated *elle* were eliminated. The word *oui* in S3 was eliminated because this is simply a confirmation of the listener's assessment of what was said in S1, but has nothing to do with furthering the narrative of the film. S3 was thus edited to read: *Et elle se garde avec tendresse*. The rest of the dialog was then deleted as it is a lengthy negotiation for the meaning of the expression "*se garde*", but again does nothing to further the description of the film. Therefore, the entire page of dialog was reduced to two sentences or 11 words actually used in the analyses in this study.

2) Edited Transcription

Puis elle a un bébé. Et elle se garde avec tendresse.[11]

It should be noted that the resulting descriptions contained all of the errors made by the speakers; therefore, "*se garde*" was counted as the verb for the sentence even though it was the wrong expression.

2.4 Determination of Data for Statistical Analyses

The primary goal of the study is to describe the 'syntactic maturity' of intermediate level L2 students, as a result, the aim is to depict the actual syntactic structures used by these subjects, not what they should have used. Thus each syntactic structure was assumed to be correct. No corrections or adjustments to tabulations were made because a clause contained errors. This was done for several reasons. First, if errors were considered, the total number of words found in each subject's oral and written description would have to be adjusted. The number of words used by the subjects would no longer reflect the number of words they actually used, but rather would be a representation of the number of words they should have used. This would

[11] For examples of original and edited oral transcripts from each subject group see Appendix E.

affect the frequency indices used to tabulate the frequency of occurrence per 1000 words for non-finite structures and all overt markers. It would also affect assessments of clause and sentence length, as well as the clausal and sentential quotients which use frequency counts and length as part of their criteria. Consider the following errors that would affect the length of clauses, sentences and ultimately the overall discourse:

3) *Les feuilles tombe de les arbres.*

4) *La fille a semblé être tres heureux et jeune aussi.*[12]

Errors such as verb agreement (*tombe* > *tombent*), missing accents (*tres* > *très*), or adjective agreement (*heureux* > *heureuse*) would neither alter the total word count of the overall discourse nor affect analyses at the clause or sentence level. However, errors such as article contraction and some verb errors would affect the word counts. In Example 3, *de les* should have been contracted to *des*, thus reducing the sentence from six words to five words. In Example 4, the wrong tense has been used and the infinitive *être* is incorrect, thus *a semblé être* should be *semblait*. This reduces the sentence length from ten words to eight.

Corrections to the discourse would not only change the number of words used by each subject, but in many cases it would also alter the distribution of non-finite and subordinate structures found in the descriptions. Consider Examples 5 and 6 below:

5) *... c'est le temps pour les enfants aller à l'école.*

6) *Elle regarde la beauté se mort.*

In Example 5, the subject would be considered as having used a non-finite construction (*pour aller*), however, if this sentence were corrected, the non-finite

[12]These were taken from the written transcripts of subjects in the Immersion group.

clause would be replaced by a finite structure and would be introduced by a relative pronoun since *le temps* is also incorrect. The result would be:

7) *... c'est le moment où les enfants vont à l'école.*

The notion of obligation implied in Example 6 is eliminated in Example 7. There are several ways in which the notion of obligation could be introduced - either by using the verb *devoir*, as in Example 8 or by introducing another finite clause - *il faut que*, as in Example 9.

8) *... c'est le moment où les enfants doivent aller à l'école.*

9) *... c'est le moment où il faut que les enfants aillent à l'école.*

Thus we have the student's sentence in 5 consisting of eleven words - a finite clause plus a non-finite clause. This could be corrected to an eleven word sentence containing two finite clauses with the second clause introduced by a relative pronoun (7), or it could consist of a twelve word sentence comprised of two finite clauses in which the second was introduced by a relative pronoun (8), or it could consist of a fourteen word sentence made up of three finite clauses in which the second clause is introduced by a relative pronoun and the third clause is introduced by a subordinating conjunction (9).

In Example 6, we have a sentence consisting of two finite clauses to which there are several possible corrections. First, a non-finite clause in the form of an infinitive could be used, as illustrated in Example 10 below, or as a relative clause, as illustrated in Example 11.

10) *Elle voit se mourir la beauté.*

11) *Elle regarde la beauté qui se meurt.*

Because of numerous such cases, corrections of the descriptions would severely change the analyses of the types of structures actually used by the subjects; furthermore, such editing would place a subjective burden on the experimenter to choose the correct form the sentence should take, in which case the frequency counts of structures used by non-native speakers as compared to native speakers of the language would no longer be accurate. It should be noted that none of the studies measuring the syntactic maturity of L2 learners mention altering or correcting the data because of errors that were committed.

Detailed descriptions of each sentence were made for each subject's oral and written narrative. The information for each sentence included the number of clauses, and the manner in which each clause was begun or linked to the previous clause, i.e., whether it was a main clause or was linked to a previous clause with a punctuation mark or some overt marker such as a coordinating conjunction, relative pronoun, subordinating conjunction or anaphoric adverb. The list marked each clause as finite or non-finite, and included the total number of words for each clause.[13]

2.5 Statistics[14]

The data presented consist of absolute measures, means, percentages, and frequency indices. As there was a great deal of variation amongst the subjects in terms of the total number of words and the total number of clauses used in their descriptions, certain numbers were converted to either percentages of the total number of clauses or frequency indices based on the total number of words. This was done in order to avoid 'length of description' as a confounding variable. By using percentages

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[13]Although not part of this study, the lists also included the number and type (verb, gender, preposition, etc.) of error committed.

[14]The analyses to be run and the statistical programs to be used were suggested by Linda Shideler, a mathematics and statistics teacher at Fullerton Junior College. All statistical analyses with the exception of the Scheffé and Tukey tests were run using the 1989 IBM PC version of *Minitab* by R. L. Schaefer and R. B. Anderson. The Scheffé and Tukey tests were run using the 1987 IBM PC version of *Introductory Statistics: A Microcomputer Approach* by F. F. Elzey.

and frequency indices the data from each subject were based on the same scale regardless of the length of the description.

When dealing with absolute measures such as length, total count of a particular item, percentages or frequency indices where only one number per measure per subject is possible, no statistical analyses were performed at the individual level. Although no statistical comparisons could be made for certain features at the individual level, discussion of individual results which did not fall within the native speaker ranges established will be presented.

When means for individual subjects were possible for a particular measure such as clause length, sentence length, clausal quotients and sentential quotients, analyses for significant differences at both the individual and group level were conducted.

For frequency indices, the total number of occurrences of a particular token was divided by the total number of words for that particular subject in that modality and then multiplied by 1000. For example, a Native subject had six infinitives, one past participle, two present participles and five "other" non-finite clause types in her written description which contained 356 words. This means that for a description of 1000 words, infinitives would occur 16.9 times, past participles 2.8 times, present participles 5.6 times and "other" non-finite clause types 14 times.

A one-way analysis of variance (ANOVA) was used for all statistical analyses. Since discourse is highly unpredictable and there was a great deal of variation amongst the subjects - even within a particular subject group - it was necessary to use a test that would analyze the variance amongst the subjects of a group and between groups in order to determine if there were any significant differences between the measures analyzed. If the results of the ANOVA proved to be statistically significant at $p<.05$ and more than two measures or groups were being compared, Scheffé tests

were used to determine where the differences occurred when the measures or groups contained different numbers of tokens. If the same number of tokens was found for each measure or group tested, Tukeys were used to determine where the significant differences occurred. All significant differences not specifically found in the data in the tables in each section were significant at a level of at least $p<.05$*.[15]

Comparisons were made for individuals, where possible, within a particular group to determine oral versus written differences and differences between the subjects for a particular measure within a certain modality and between groups. At the individual level, analyses of variance were used to determine general differences between oral and written discourse when means were involved. The within-group comparisons consisted of analyses of differences between the two modalities for a particular token or between the subjects in the group for a particular measure in one modality. Across-group comparisons were also made for a particular token within a certain modality.

[15]The asterisk is used to indicate results which are significant.

Chapter 3
RESULTS at the CLAUSE LEVEL

This chapter investigates the various types of clauses found in the data and the distribution of these clauses by the three subject groups in both oral and written discourse. The primary goal is to determine how closely the syntactic structures of non-native speakers resemble those of native speakers. Ranges for each feature analyzed are established by the Native group. Information is then presented as to how many subjects in each non-native group fall within or outside the established native speaker range.[16] Comparisons of the two non-native groups with the Native group for each feature in each modality are then given. In addition to these direct comparisons of the three groups, analyses are conducted to determine the production patterns of each group in terms of oral versus written differences. Information is then presented as to whether the three groups are making the same oral/written distinctions for each feature analyzed. Finally, in order to determine if length and mode of instruction play a role in the use of various syntactic features, comparisons are made between the two non-native groups. Where appropriate, statistical results at the individual level are also discussed.

The analyses presented in this chapter begin with very general categories of clause types and then progress to more specific and detailed aspects of these categories. Since this involves a considerable amount of information, making it difficult to determine the 'syntactic maturity' of each subject, the initial analyses are used to provide criteria for a weighting system of specific elements in order to create a single measure by which one may determine whether a L2 learner's syntax at the clause level differs from that of native speakers.

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[16]Most of the raw data for individual subjects may be found in the appendices.

The first analysis is a breakdown of clauses into three general categories: finite, non-finite and fragments. The three categories are defined in Section 3.1, followed by a percentage breakdown of the distribution of each clause type for each subject group in both oral and written discourse. As one might expect, we find the most commonly used structure to be finite clauses with non-finites and fragments ranked a distant second and third, respectively. Although this is true for each group, there are differences between the Native group and the two non-native groups in terms of the actual distribution of each clause type. Production differences in terms of comparisons made between oral and written discourse also exist. Thus we find that the use of these three clause types varies considerably between native and non-native speakers.

As Finite, Non-Finite and Fragment are general categories, each clause type category is analyzed more closely in order to pinpoint where these differences actually occur. The data show that some finite clauses, the largest clause-type category, contain overt markers such as subordinators and/or coordinators which are used to introduce a clause into the discourse or link it to another clause, while other clauses contain no overt markers. They are introduced or linked through punctuation or intonation features depending upon the modality of the discourse. Those clauses which contain no overt markers are categorized as either main clauses or as clauses linked by intonation/punctuation depending upon the modality of the discourse. Finite clauses containing overt markers are divided into five clause types based on the overt marker used to introduce it into the discourse: relative pronoun, subordinating conjunction, coordinating conjunction, anaphoric adverb or a combination of the previous four. These finite clause types are defined in Section 3.2 and analyses are again presented as a percentage breakdown of the distribution of each of these finite clause types. These analyses are particularly important, in that they present a

hierarchy of clause types ranging from 'most' to 'least frequently' used. We also find some striking differences in the use of certain clause types between the Native and non-native groups.

Frequency indices are computed to determine the actual frequency of each overt marker type found in the data. In these analyses, overt markers found in the combination finite clause category are added to their respective overt marker category. These data show the differences in the use of certain overt markers by each group as well as the differences between the groups for each marker type. This information combined with the frequency counts of specific tokens in each overt marker group are crucial to the weighting system used to create clausal quotient measures for each subject. The results from some of the analyses presented in Section 3.3 are also used in Chapter 5 to compare the use of certain overt finite clause markers in French to those used in English by Beaman's subjects. This contributes to the discussion of the 'syntactic maturity' of these non-native speakers by showing whether their use of certain overt markers resembles that of their native French or native English speaking counterparts or whether their use of these markers falls somewhere between the two.

Section 3.4 presents a breakdown of non-finite clauses and fragments. Since fragments are actually 'free-standing' non-finite clauses as defined in Section 3.1, the non-finites and fragments are combined in the remaining analyses in this chapter.[17] Non-finite clauses are divided into four categories: infinitive, past participle, present participle and 'other'. As expected, the use of certain non-finite clause types differs between the three groups. As with the frequency of finite clause types, the frequency of non-finite clause types is used to determine the weighting given to a clause when calculating its clausal quotient. As with the overtly marked finite clauses, some

[17]Fragments are again analyzed as a separate category in Chapter 4.

comparisons with Beaman's study (see Chapter 5) are possible, aiding in the assessment of the role L1 plays in the production of certain non-finite structures.

'Length' is a measure that has often been used to determine differences between oral and written discourse. Section 3.5 presents data on the mean clause length of both finite and non-finite clauses. The results for non-finite clauses are not particularly significant since non-finite clauses contain no agents and little elaboration, their length is limited by constraints on non-finite structures. The mean clause length for finite clauses, however, plays a key role in the clausal quotient analyses and clearly demonstrates a major difference between native and non-native speakers in both modalities.

With so many numbers and analyses conducted at the clause level, it is difficult to get a true sense of how the organization of discourse of a particular student compares to native speakers' organization of discourse. In Section 3.6, clausal quotients based on the data in the previous sections are calculated for each subject and group. The key analyses used to help establish the weightings for the clausal quotients are: 1) type of clauses used, 2) frequency of certain finite and non-finite structures, and 3) mean clause length for finite clauses. This allows a single measure by which to compare native and non-native clauses to be created. Empirical native speaker ranges for clauses are established, then individual and group quotients are used to determine which subjects fall within this range and which ones appear to be using clauses markedly different from the types of clauses produced by native speakers.

3.1 Finite Clauses versus Non-Finite Clauses versus Fragments

According to Beaman (1984), "..., a clause can be seen as a structure with a finite verb (i.e., showing tense, mood, aspect, and voice) and its constituent parts (i.e., subject, objects, adverbs, etc.)." (p. 54) A finite clause is also defined as a clause that

"... contains a subject as well as a predicate except in the case of commands and ellipsis." (Quirk and Greenbaum 1987, p. 310.) Although these are definitions for English clauses, French and English are identical as to clausal constituents. That is, the subject is understood in commands, and thus is not overtly stated. (e.g., *Allez*!) For ellipsis, the subject is often not repeated when it is clear that the same subject is being used with more than one verb. Therefore, in this study, to be counted as finite, clauses had to contain a finite verb that was marked by tense, mood, aspect and voice. The subject could be either overtly stated or understood. Note the following example:

12) *La jeune femme coupe une carotte,*
puis bat des oeufs en neige,
puis fait la vaisselle
et se retrouve soudain avec un bébé dans les bras.[18]

The preceding sentence consists of four finite clauses. Even though the subject is not overtly stated in the second through fourth clauses, it is understood that the subject is the same as that found in the first clause, and it is not necessary to repeat it.

A non-finite clause is defined as a clause which does not contain a finite verb, that is, a verb showing tense, mood, aspect and voice. In French, most non-finite clauses contain an infinitive, past participle or present participle. 'Other' non-finite clauses consisted of clauses where the subject and finite verb were omitted, leaving noun phrases, adjectivals, prepositional phrases, etc. (i.e., Chafe's 'idea unit'). In this study, a non-finite clause must be attached to a finite clause. This is the single feature which distinguishes non-finite clauses from fragments. A fragment is a 'free-standing' non-finite clause, i.e., a non-finite clause which is not attached to a finite clause. Consider the following examples:

13) *Changement de décor: elle apparaît donc soudain en robe de mariée...*

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[18]This was taken from the written transcript of a subject in the Native group.

14) *Nouveau changement de décor.*

Notice that the non-finite clauses in Examples 13 and 14 are essentially the same. Both of these clauses came from the written transcript of a subject in the Native group. In 13, the clause is classified as non-finite because it is attached to a finite clause. This is the type of non-finite clause where the subject and finite verb have been deleted, leaving a noun phrase. Virtually the same clause is found in 14, but as it stands alone, it is classified as a fragment. It should be noted that in Beaman's study, "... fragments are defined as finite subjectless sentences standing alone (i.e., without a main clause) in the discourse, for example: "Bruises chin and spills pears."[19] (p. 54) Such structures do not occur in French, rather we find non-finite verb structures such as infinitives, past participles or present participles. Consider the following example:

15) *De perdre son identité, d'être seulement là pour garder soin de la maison et les enfants.*

In Example 15, we see a string of infinitive clauses. The clauses are subjectless, but the verbs are non-finite since they do no have the features of finite verbs such as tense and mood. They are obviously non-finite clauses, but since they are 'free-standing', this example would be considered a fragment.

Data analyzed in this section consist of the percentage of finite clauses, non-finite clauses and fragments of the total number of clauses found in each description in each modality. At the individual level, all subjects used considerably more finite clauses than non-finite clauses or fragments and more non-finites than fragments.[20] Tables 1 and 2 illustrate, however, that there were differences between the three groups in terms of how they used finite clauses, non-finite clauses and fragments.

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[19]The second example Beaman presents is "Back to pear-picking shots and tree cuts for awhile." The fragment is obviously subjectless, but it does not appear to contain a finite element.

[20]See Appendix F for all individual subject data.

For the Native ranges in oral discourse, 80-95% of clauses were finite, 5-19% were non-finite, and 0-3% were fragments. For four of the seven Immersion subjects and five of the eight Non-Immersion subjects, more than 95% of the clauses found in their descriptions were finite. For four of the Immersion and six of the Non-Immersion subjects, less than 5% of the clauses used were non-finite. All non-native speakers fell within the native speaker range established for fragments, but it should be noted that the range of variation for this structure was quite narrow for all subject groups with many subjects using no fragments at all.

Table 1

Percent Breakdown of Finite Clauses vs. Non-Finite Clauses vs. Fragments Oral - Group Comparisons

Group	Finite	Non-Finite	Fragment	p
Immersion	94.43%	5.29%	.29%	.000*
Non-Immersion	95.88%	3.25%	.88%	.000*
Native	87.67%	11.17%	1.17%	.000*
Group Comparisons	p=.003*	p=.003*	p=.317	

Table 1 shows the mean group percentages of finite clauses, non-finite clauses and fragments found in the oral descriptions for the three subject groups. Reading across, one finds, as mentioned earlier for individual subjects, significant differences between the use of finite clauses, non-finite clauses and fragments. Reading down, one finds that there are significant differences between the three groups in terms of the use of finite clauses and non-finite clauses, but not in their use of fragments. For the finite clauses, the Native speaker group used significantly fewer finite clauses than either of the non-native speaker groups (N vs. I $p<.01$*; N vs. NI $p<.01$*; I vs. NI $p>.05$). The Native group used significantly more non-finite clauses than either of the

non-native groups (N vs. I p<.01*; N vs. NI p<.01*; I vs. NI p>.05). Fragments did not occur very often for any group.

The written Native range for finite clauses is from 68-85%. For five of the Immersion and six of the Non-Immersion subjects, more than 85% of their clauses were finite clauses. These same non-native speakers fell below the 13-30% range established by the Native speakers for non-finite clauses. As with oral discourse, the numbers for fragments were quite small for all three groups, so that every non-native subject fell within the established 'norm'.

Table 2

Percent Breakdown of Finite Clauses vs. Non-Finite Clauses vs. Fragments Written - Group Comparisons

Group	Finite	Non-Finite	Fragment	p
Immersion	90.86%	8.71%	.38%	.000*
Non-Immersion	88.88%	11.13%	0%	.000*
Native	77.83%	19.83%	2.33%	.000*
Group Comparisons	p=.002*	p=.003*	p=.084	

Table 2 shows the mean percentage breakdown of finite and non-finite clauses and fragments for the written narratives. The results are similar to those found in the oral narratives. For each group there is a significant difference between the use of finite clauses, non-finite clauses and fragments. When the three groups were compared, the Native group again used significantly fewer finite clauses than either of the non-native speaker groups, but there was no difference between the two non-native groups (N vs. I p<.01*; N vs. NI p<.01*; I vs. NI p>.05). As a result, the Native speakers appeared to use significantly more non-finite clauses than either the Immersion or Non-Immersion group, but there was no significant difference between the two non-native speaker groups (N vs. I p<.01*; N vs. NI p<.01*; I vs. NI p>.05).

Although statistically there were no significant differences between the three groups in terms of fragments, there would appear to be a tendency for native speakers to use more fragments than non-native speakers. This may be due to the foreign language instruction the non-native speakers have been given. That is, they have probably been taught to write their compositions using only complete sentences.

In terms of oral versus written differences, no significant differences were found between the two modalities for any clause type for the Immersion group, as illustrated in Table 3. This suggests that the subjects in the Immersion group produced clauses in the same manner in both written and oral discourse in terms of the distribution of finite clauses, non-finite clauses and fragments.

Table 3

Mean Percentages of Finite Clauses vs. Non-Finite Clauses vs. Fragments Immersion Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Finite	94.43%	90.86%	.214
Non-Finite	5.29%	8.71%	.181
Fragment	.29%	.38%	.842

The same, however, was not true of the Non-Immersion group, as illustrated in Table 4. For the Non-Immersion group, there were significant differences between the oral and written descriptions for all three clausal categories. They used

Table 4

Mean Percentages of Finite Clauses vs. Non-Finite Clauses vs. Fragments Non-Immersion Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Finite	95.88%	88.88%	.002*
Non-Finite	3.25%	11.13%	.001*
Fragment	.88%	0%	.030*

significantly more finite clauses and fragments in the oral descriptions than in the written descriptions and significantly more non-finite clauses in written discourse than in oral discourse. This may be due to the fact that they had more processing time to determine the types of structures to be used.

Table 5

Mean Percentages of Finite Clauses vs. Non-Finite Clauses vs. Fragments Native Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Finite	87.67%	72.83%	.022*
Non-Finite	11.17%	19.83%	.019*
Fragment	1.17%	2.33%	.469

It would appear that in terms of the differences between oral and written discourse for the clausal categories found in this section, greater similarity was found between the Non-Immersion group and the Native group than with the Immersion group. In Table 5, we find that there were significant native speaker differences between the oral and written narratives in terms of finite and non-finite clauses, but not for fragments. Native speakers used significantly more finite clauses in the oral descriptions than in the written descriptions and more non-finite clauses in written discourse than in oral discourse. Although there was a slightly greater occurrence of fragments in the written descriptions than in the oral descriptions, this difference was not significant. However, this difference was the opposite of what was found in the Non-Immersion group, where there were significantly more fragments in the oral narratives than in the written.

3.2 Percent Breakdown of Finite Clause Types

As mentioned in Section 3.1, the majority of clauses found in the data were finite clauses, however, not all finite clauses were of the same type. Clear distinctions

could be made between the various finite clauses used based on the way in which each clause was linked to the next clause or was introduced into the discourse. This differentiation resulted in seven clause type categories. In many cases, clauses were not linked to another clause by a coordinating conjunction or anaphoric adverb in the true sense of coordination, rather the clause was "introduced" by a coordinating conjunction (*et* in most cases) or an anaphoric adverb (*puis*), and was thus counted under the appropriate category. Definitions for the seven clause type categories are as follows:

> **A) Main**: A sentence that consists of only one clause and is not begun with any type of conjunction or anaphoric adverb. For example, if a sentence read: "*Elle arrache les pétales d'une fleur*," it would count as a main clause, but if any conjunction or anaphoric adverb were added to the beginning of this sentence, it would be counted with the clauses introduced by conjunctions or anaphoric adverbs, even though it is a sentence that consists of a single clause. Thus, if the sentence were: "*Et elle arrache les pétales d'une fleur*," or "*Puis elle arrache les pétales d'une fleur*," the first example would be counted with the clauses introduced by a coordinating conjunction and the second example would be counted with those clauses introduced by an anaphoric adverb. A main clause may also be the first clause in a sentence consisting of several clauses if it is not begun with an overt marker from one of the other categories. Therefore, even if a clause were added to the sentence above, as in "*Elle arrache les pétales d'une fleur et les jette par terre*," the first clause would fall into the Main category and the second clause would be counted under clauses introduced by coordinating conjunctions.

B) Punctuation/Intonation: These clauses must be linked to another clause by some punctuation mark in the written descriptions or an intonation/prosodic feature in the oral descriptions. These types of clauses can only occur in multi-clausal sentences. (e.g., *La première scène se passe dans la forêt: c'est le printemps, tout est en fleur...*)

C) Relative Pronoun: These are clauses introduced or containing a relative pronoun as defined by Grevisse (1988):

> Les **pronoms relatifs**, qu'on appelle parfois *conjonctifs*, servent à introduire une proposition, qu'on appelle elle-même *relative*; mais à la différence des conjonctions de subordination (qui introduisent aussi une proposition), 1° ils ont une fonction dans cette proposition: celle de sujet, de complément, parfois d'attribut; - 2° ils ont un genre, un nombre, une personne, même s'ils n'en portent pas visiblement les marques.[21] (p. 1075)

The relative pronouns found in the transcripts are as follows: *qui, que, où, ce que, ce qui, dont, lequel*, and *quoi*. In some cases the aforementioned relative pronouns were also used in conjunction with certain prepositions (e.g., *à laquelle, de ce que*, etc.).

D) Subordinating Conjunction: Clauses introduced or containing a subordinating conjunction are defined by Grevisse as:

> La *conjonction de subordination* (parfois appelée *subjonction*) est un mot invariable qui sert à unir deux éléments de fonctions différents, dont l'un est une proposition (sujet ou complément). ... La conjonction de subordination peut être composée de plusieurs mots: *quoique*. Lorsque les mots sont séparés dans l'écriture, on parle de **locution conjonctive**: *Bien que, parce que*. (p. 1556)

The most frequently used subordinating conjunctions in this study were: *que, quand, parce que, comme, si, après que, pendant que*, and *sans que*.[22] There

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[21]Words in bold and italics are Grevisse's for all definitions presented in this section.

[22]For a complete list of possible subordinating conjunctions see Grevisse, pp. 1556-1557.

were over 20 different subordinating conjunctions found in the transcripts, but since some tokens appeared only once, a separate category ("Other") was created to account for infrequently used subordinating conjunctions.

E) Coordinating Conjunction: Clauses introduced by a coordinating conjunction which in this study were: *et*, *ou*, *mais* and *car*. According to Grevisse:

> La **conjonction de coordination** est un mot invariable chargé d'unir des éléments de même statut, - soit des phrases ou des sous-phrases, - soit, à l'intérieur d'une phrase, des éléments de même fonction. (p. 1563)

F) Anaphoric Adverb: Clauses introduced or containing anaphoric adverbs which are defined as:

> Les **adverbes anaphoriques** sont des adverbes qui établissent un lien avec ce qui précède dans le discours: Les uns sont des adverbes de temps: *ensuite*, *alors*, *auparavant*...; - d'autres de lieu: *ailleurs*... ; la plupart concernent des relations logiques: *donc*, *partant*, *pourtant*, *en outre*...(Grevisse, p. 1385)[23]

The most frequently used anaphoric adverbs in this study were: *puis*, *donc*, *alors*, *ensuite*, *enfin*, *aussi*, *maintenant*, and *après*. Again, a category defined as "Other" was established for those anaphoric adverbs used infrequently in the descriptions.

G) Combination: Clauses introduced or containing more than one of C through F. For example, in the sentence: "*Et puis ensuite tout ça s'est suivi tout de suite après par le mariage*," taken from the oral transcript of a subject in the Native group, there is a combination of one coordinating conjunction (*et*) and two anaphoric adverbs (*puis* and *ensuite*).

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[23]According to Grevisse, some grammarians classify certain anaphoric adverbs as coordinating conjunctions. One of Grevisse's main distinctions between the two categories is that coordinating conjunctions may not be combined with any other coordinating conjunction. That is, *et*, *mais*, *ou* and *car* may not be combined with each other in the same clause (e.g., *Et mais il vient demain.**) However, coordinating conjunctions may be combined with anaphoric adverbs, as in: *Il est arrivé et puis il a mangé quelque chose*. Grevisse's definitions and rules were used in this study to establish all categories.

For the comparisons of the seven finite clause types, a percentage of the total number of finite clauses was used to demonstrate the distribution of each clause type.[24] There was considerable variation amongst the subjects in each group in terms of an individual's use of the seven finite clause types.[25] For the Immersion group, as illustrated in Table 6, there were significant oral versus written differences for Main, Punctuation/Intonation, Anaphoric Adverb and Combination clauses. There was also a tendency for more coordinating conjunctions to occur in oral than in written discourse. More Main clauses were found in written than in oral discourse, while more Intonation, Anaphoric Adverb and Combination clauses were exhibited in oral discourse as compared to written discourse.

Table 6

Percent Breakdown of Finite Clause Types[26]
Immersion Group

	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
Mean	15 - 47	12 - 7	7 - 10	24 - 15	32 - 20	22 - 4	12 - 3
O - W	p=.000*	p=.045*	p=.138	p=.101	p=.097	p=.011*	p=.002*

O = Oral Discourse
W = Written Discourse
AA = Anaphoric Adverb
Com = Combination
P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction

[24]The absolute number of finite clauses for each subject and the mean number of finite clauses used by each group are found in Appendix G. It should be noted that for 20 of the 21 subjects used in the study, the oral description was longer than the written description. Thus for each group, more clauses were found in the oral modality than in the written. When the three groups were compared (see Table G-4 in Appendix G), there were no significant differences in terms of the number of written finite clauses, but there was a significant difference for the number of oral finite clauses. There was a significant difference between the Native group and the Non-Immersion group, but not between the Native and Immersion groups nor between the Immersion and Non-Immersion groups. (N vs. I p>.05; N vs. NI p<.01*; I vs. NI p>.05)

[25]See Appendix H for the results for individual subjects.

[26]Although the numbers are a percentage of the total number of finite clauses, they will not necessarily equal one hundred percent as the Combination clauses will fall into two or more categories. Thus the numbers presented show the percentage of finite clauses within a particular subject's description that contain at least one of elements C through F. The percentages listed have all been rounded off for the tables, but more precise percentages were used in the analyses.

For the Non-Immersion group (see Table 7), the only significant oral/written differences were for Main, Coordinating Conjunction and Combination clauses, with the written greater for Main and the oral greater for the other two. There was also a strong tendency for anaphoric adverbs to occur more frequently in oral than in written discourse.

Table 7

Percent Breakdown of Finite Clause Types
Non-Immersion Group

	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
Mean	18 - 44	11 - 12	6 - 9	16 - 11	46 - 19	14 - 7	12 - 3
O - W	p=.000*	p=.736	p=.208	p=.111	p=.000*	p=.088	p=.002*

O = Oral Discourse
W = Written Discourse
AA = Anaphoric Adverb
Com = Combination
P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction

For the Native group, found in Table 8, as with the other two groups, there were significant differences for Main and Combination clauses. There were also significant differences for the Coordinating Conjunction and Anaphoric Adverb categories where the two non-native groups either showed a significant difference or a strong tendency to use a particular clause type more in oral than in written discourse. The only unique difference in terms of oral versus written distinctions for the three groups would appear to be the significant difference found between Punctuation and Intonation by the Immersion group which did not occur for the Native or Non-Immersion group.

Table 8

Percent Breakdown of Finite Clause Types
Native Group

	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
Mean	17 - 37	22 - 17	14 - 19	13 - 9	24 - 15	19 - 6	10 - 3
O - W	p=.008*	p=.29	p=.358	p=.387	p=.008*	p=.001*	p=.000*

O = Oral Discourse
W = Written Discourse
AA = Anaphoric Adverb
Com = Combination
P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction

For this group of analyses, it was possible to create a hierarchy of finite clause types from 'most' frequently to 'least' frequently used for each group in each modality. This illustrates the differences between the three groups in the distribution of finite clauses in each modality. The hierarchies for each group in both oral and written discourse are found in Table 9. When statistical analyses were conducted to determine the relationship of each clause type to the other, for the Immersion group, the frequency of clauses containing coordinating conjunctions was significantly greater than Main, Intonation, Relative Pronoun and Combination clauses in the oral descriptions. There were also significantly more clauses containing subordinating conjunctions than relative pronouns. No significant differences were found between the Coordinating Conjunction, Subordinating Conjunction or Anaphoric Adverb categories.

For the Immersion group's written descriptions, there were significantly more Main clauses than any other clause type. There were more clauses containing coordinating conjunctions than those linked by punctuation, relative pronouns, anaphoric adverbs or Combination clauses. The clauses introduced by subordinating

conjunctions were also significantly more frequent than those containing anaphoric adverbs or Combination clauses.

Table 9

Hierarchy of Clause Types
Group Comparisons

Gr »	I	I	NI	NI	N	N
R	Oral	Written	Oral	Written	Oral	Written
1	CC - 32	MC - 47	CC - 46	MC - 44	CC - 24	MC - 37
2	SC - 24	CC - 20	MC - 18	CC - 19	IN - 22	RP - 19
3	AA - 22	SC - 15	SC - 16	PN - 12	AA - 19	PN - 17
4	MC - 15	RP - 10	AA - 14	SC - 11	MC - 17	CC - 15
5	IN - 12	PN - 7	CM - 12	RP - 9	RP - 14	SC - 9
6	CM - 12	AA - 4	IN - 11	AA - 7	SC - 13	AA - 6
7	RP - 7	CM - 3	RP - 6	CM - 3	CM - 10	CM - 3

Gr = Group
R = Rank

I = Immersion
NI = Non-Immersion
N = Native

MC = Main Clause
PN = Punctuation
IN = Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction
AA = Anaphoric Adverb
CM = Combination

For the Non-Immersion group in the oral descriptions, the clauses containing coordinating conjunctions were significantly different from all other clause types, but none of the other clause types were significantly different from one another. In the written descriptions, the Main category was significantly greater than any other clause type. Clauses containing coordinating conjunctions occurred significantly more often than those containing relative pronouns, anaphoric adverbs and Combination clauses. There were also significantly more clauses linked by punctuation than there were Combination clauses. Note that the Non-Immersion hierarchies differ from the results found for the Immersion group in both modalities.

For the Native group, in oral discourse, there was a significant difference between the number of clauses linked by intonation and the Combination clauses. There were also significantly more clauses containing coordinating conjunctions than clauses containing subordinating conjunctions or Combination clauses, but no other significant differences. For the Native group's written narratives, there were significantly more Main clauses than any other clause type, but no significant differences between any of the other six clause types, indicating a fairly even distribution of clause types in both the oral and written descriptions for Native speakers.

When the three subject groups were compared for each finite clause type (Table 10), in oral discourse there were significant differences for Intonation, Relative Pronoun and Coordinating Conjunction. For Intonation and Relative Pronoun, the Native group was significantly different from either of the non-native groups. In each case, the Native group linked more clauses using intonation and used more relative pronouns than the Immersion or Non-Immersion group (N vs. I $p<.05$*; N vs. NI $p<.01$*; I vs. NI $p>.05$). For Coordinating Conjunction, the Native group used significantly fewer coordinating conjunctions than the Non-Immersion group, but there were no significant differences between the Native group and the Immersion group (N vs. I $p>.05$; N vs. NI $p<.05$*; I vs. NI $p>.05$). There were no significant differences between the Immersion group and the Non-Immersion group for any clause type.

In written discourse, the only significant difference between the three groups was in the Relative Pronoun category, although there was a strong tendency for the Native group to differ from the Immersion group in the use of punctuation to link clauses. As in oral discourse, Native speakers used significantly more relative

pronouns than either of the non-native groups (N vs. I p<.05*; N vs. NI p<.05*; I vs. NI p>.05).

Table 10

Percent Breakdown of Finite Clause Types
Group Comparisons

G	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
I	15 - 47	12 - 7	7 - 10	24 - 15	32 - 20	22 - 4	12 - 3
NI	18 - 44	11 - 12	6 - 9	17 - 11	46 - 19	14 - 7	12 - 3
N	17 - 37	22 - 17	14 - 19	13 - 9	24 - 15	18 - 6	10 - 3
O	p=.664	p=.004*	p=.005*	p=.109	p=.019*	p=.347	p=.788
W	p=.262	p=.070	p=.017*	p=.394	p=.175	p=.427	p=.987

G = Group
O = Oral Discourse
W = Written Discourse
I = Immersion
NI = Non-Immersion
N = Native

P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction
AA = Anaphoric Adverb
Com = Combination

At the individual level, the most striking results are for the Coordinating Conjunction and Relative Pronoun categories. We find a few non-native speakers who fall outside the established Native speaker ranges (some using a particular clause type more than Native speakers while others used it less) for most of the clause types. For Coordinating Conjunction in oral discourse, however, 12 of the 15 non-native speakers fell outside the established range, while 11 of 15 fell outside the Native speaker range for relative pronouns. In written discourse, nine of 15 did not attain the Native speaker range for Relative Pronouns.

3.3 Frequency Indices for Overt Markers [27]

The analyses conducted using frequency indices of relative pronouns, subordinating conjunctions, coordinating conjunctions and anaphoric adverbs consist of two parts. The first part consists of analyses based on the total number of occurrences of tokens from each of the four overt marker groups mentioned. The second part consists of a breakdown of specific tokens within each group.

For the Immersion group, as illustrated in Table 11, there were no significant differences between the frequency rates of relative pronouns, coordinating conjunctions or subordinating conjunctions in the two modalities (although there was a strong tendency for more subordinating conjunctions to be used in the oral descriptions than in the written descriptions). There were, however, significantly more anaphoric adverbs found in the oral descriptions than in the written descriptions.

Table 11

Frequency Indices of Overt Markers[28]
Immersion Group

Marker	Oral	Written	p
RP	10.6	13.4	.327
SC	33.4	20.6	.079
CC	45.8	28.8	.149
AA	33.6	5.4	.01*
Marker Comparisons	p=.022*	p=.000*	

RP=Relative Pronouns SC=Subordinating Conjunctions
AA=Anaphoric Adverbs CC=Coordinating Conjunctions

[27]Frequency indices were used to avoid 'length' as a confounding variable, as there was a great deal of variation amongst the subjects in terms of the total number of words used to describe the film in each modality, as illustrated in Appendix I, which shows the 'Length of Description' results for each subject, as well as group comparisons. Although there was a tendency for the native descriptions to be longer than the non-native, particularly in the oral modality, the results are far from conclusive since many factors besides language ability may have had an effect. For example, some people are simply more talkative than others, some may have been intimidated by the video camera, etc. In the written descriptions, no real differences were exhibited between the three groups.

[28]Results for the 'Frequency of Overt Markers' for individual subjects may be found in Appendix J.

In the oral modality, when the marker types were compared, significantly more coordinating conjunctions were used than relative pronouns, but no other significant differences were found between the marker groups. In the written modality, significantly more coordinating conjunctions were used than relative pronouns or anaphoric adverbs. There were also significantly more subordinating conjunctions than anaphoric adverbs.

For the Non-Immersion group (see Table 12), significantly more coordinating conjunctions were used in the oral descriptions than in the written descriptions. There were no other statistically significant differences, however, there were strong tendencies for more subordinating conjunctions and anaphoric adverbs to occur in the oral modality than in the written.

Table 12

Frequency Indices of Overt Markers
Non-Immersion Group

Marker	Oral	Written	p
RP	9.80	13.0	.336
SC	25.8	15.8	.095
CC	69.3	27.1	.000*
AA	20.6	9.70	.059*
Marker Comparisons	p=.000*	p=.001*	

RP=Relative Pronouns SC=Subordinating Conjunctions
AA=Anaphoric Adverbs CC=Coordinating Conjunctions

When the marker types were compared, there were significantly more coordinating conjunctions used than any other type of overt marker in both modalities, but no other significant differences were found.

For the Native group, as illustrated in Table 13, significantly more coordinating conjunctions and anaphoric adverbs were used in the oral narratives than

in the written narratives. There were no significant differences between the two modalities for relative pronouns and subordinating conjunctions.

When the marker types were compared, there were significantly more coordinating conjunctions than relative pronouns and subordinating conjunctions, but no differences between the use of coordinating conjunctions and anaphoric adverbs in the oral descriptions. In the written descriptions, there were significantly more relative pronouns used than anaphoric adverbs, but no other significant marker differences.

Table 13

Frequency Indices of Overt Markers
Native Group

Marker	Oral	Written	p
RP	19.9	20.4	.922
SC	17.1	11.7	.393
CC	32.0	16.4	.00*
AA	26.6	5.20	.00*
Marker Comparisons	p=.035*	p=.031*	

RP=Relative Pronouns SC=Subordinating Conjunctions
AA=Anaphoric Adverbs CC=Coordinating Conjunctions

When the three groups were compared, in the oral descriptions, as illustrated in Table 14, Native speakers used significantly more relative pronouns than either non-native speaker group. Statistically, tnere were no significant differences between the three groups for subordinating conjunctions and anaphoric adverbs. However, there was a strong tendency for subjects in the Immersion group to use more subordinating conjunctions than Native speakers. For Coordinating Conjunctions, Non-Immersion subjects used significantly more coordinating conjunctions than Native speakers, and there was a strong tendency for them to use more coordinating

conjunctions than their Immersion counterparts (but this number was not statistically significant p=.066).

Table 14

Frequency Indices of Overt Markers
Oral - Group Comparisons

Group	RP	SC	CC	AA
Immersion	10.6	33.4	45.8	33.6
Non-Immersion	9.80	25.8	69.3	20.6
Native	19.9	17.1	32.0	26.6
Group Comparisons	p=.023*	p=.086	p=.008*	p=.360

RP=Relative Pronouns SC=Subordinating Conjunctions
AA=Anaphoric Adverbs CC=Coordinating Conjunctions

In the written descriptions (see Table 15), the only significant difference between the three subject groups occurred for Coordinating Conjunctions. Both the Immersion and Non-Immersion group used significantly more coordinating conjunctions than the Native group.

Table 15

Frequency Indices of Overt Markers
Written - Group Comparisons

Group	RP	SC	CC	AA
Immersion	13.4	20.6	28.8	5.4
Non-Immersion	13.0	15.8	27.1	9.7
Native	20.4	11.7	16.4	5.2
Group Comparisons	p=.129	p=.328	p=.024*	p=.267

RP=Relative Pronouns SC=Subordinating Conjunctions
AA=Anaphoric Adverbs CC=Coordinating Conjunctions

3.3.1 Specific Overt Marker

For the second part of the analysis, lists were made of all of the individual tokens found in each category. For example, there were four coordinating conjunctions: *et*, *mais*, *ou* and *car*. The frequency of each token for each subject was then tabulated using the frequency index formula described in Chapter 2.

3.3.1.1 Relative Pronouns

Table 16 shows the breakdown of the mean number of occurrences of each relative pronoun found in the data for each subject group. First, there were no significant differences between the oral and written use of any relative pronoun token for any subject group. In the oral modality, subject *qui* was used significantly more often than any other relative pronoun for all three subject groups. In the written modality, *qui* occurred significantly more often than any other relative pronoun with the exception of *où* in the Native group data. When the three subject groups were

Table 16

Mean Frequency of Relative Pronouns Used
Group Comparisons

Group »	Immersion	Non-Immersion	Native
RP	O - W	O - W	O - W
qui	6.9 - 9.0	6.3 - 7.7	11.4 - 9.8
que	1.8 - 3.5	1.4 - 1.5	1.8 - 2.2
où	0.2 - 0.5	0.8 - 1.4	2.2 - 5.2
ce que	0.7 - 0.4	1.3 - 1.1	2.3 - 1.8
ce qui	0.2 - 0	0 - 0	1.6 - 1.0
dont	0 - 0	0 - 0.8	0.2 - 0
lequel	0 - 0	0 - 0.6	0.5 - 0.5
quoi	0.7 - 0	0 - 0	0 - 0
p	.000* - .000*	.001* - .000*	.000* - .001*

O=Oral Discourse W=Written Discourse RP=Relative Pronoun

compared, the Native group used *ce qui* significantly more often than the Non-Immersion group and there was a strong tendency (p=.077) to use it more often than the Immersion group in oral discourse. In the written descriptions, Native speakers used *où* significantly more often than either non-native speaker group. There were no other significant group differences.

3.3.1.2 Subordinating Conjunctions

Table 17 presents the mean frequency occurrences of subordinating conjunctions for the three groups. For this particular group of overt markers, the category "Other" was created because so many subordinating conjunctions were used only once throughout the data.

Table 17

Mean Frequency of Subordinating Conjunctions Used
Group Comparisons

Group »	Immersion	Non-Immersion	Native
SC	O - W	O - W	O - W
que	19.1 - 10.6	12.2 - 6.5	8.4 - 3.4
quand	7.6 - 4.2	6.0 - 4.1	0.9 - 0.9
parce que	1.9 - 0	5.0 - 0.8	2.9 - 0
comme	2.3 - 0.2	1.2 - 1.0	0.2 - 1.6
si	0.3 - 1.7	0.3 - 1.0	1.6 - 0.9
après que	0.7 - 1.8	0.6 - 0.7	0 - 0
pendant que	0.3 - 0.8	0.2 - 1.4	0 - 0
sans que	0 - 0	0 - 0	0 - 1.9
Other	1.2 - 1.3	0.3 - 0.4	3.1 - 2.9
p	.000* - .000*	.000* - .004*	.000* - .613

O=Oral Discourse W=Written Discourse SC=Subordinating Conjunction

For the Immersion group, when individual tokens were compared, in both modalities, *que* occurred significantly more often than any other subordinating conjunction. In oral discourse, *quand* occurred significantly more often than any other

subordinating conjunction with the exception of *que*. No other significant differences were found between tokens within a particular modality. When individual tokens were compared across modalities, *parce que* and *comme* occurred significantly more often in the oral narratives than in the written narratives. There was also a tendency for *que* to occur more frequently in the oral descriptions than in the written (p=.094).

For the Non-Immersion group, *que* appeared significantly more often than any other subordinating conjunction in oral discourse. *Quand* occurred significantly more often than all other tokens with the exception of *que* and *parce que*, and *parce que* occurred significantly more often than *si, après que, pendant que* and "Other". In the written narratives, *que* was used significantly more often than any other token with the exception of *quand*. *Quand* occurred significantly more often than all other subordinating conjunctions with the exception of *que* and *pendant que*. No significant differences were found for any token between the two modalities.

For the Native speakers, *que* occurred significantly more often than any other subordinating conjunction in the oral descriptions. No other significant differences were found in either the oral or written narratives. When the oral and written modalities were compared, *parce que* occurred significantly more often in oral discourse than in written discourse, and there was a tendency for *que* (p=.074) to be produced more often in the oral than in the written.

In the oral descriptions, it was found that the Immersion group used *que* and *comme* significantly more often than the Native group. Both the Immersion and Non-Immersion group used *quand* significantly more often than the Native group. Native speakers used significantly more "Other" subordinating conjunctions than either non-native group. The Native group used 20 different subordinating conjunctions, while the Immersion and Non-Immersion groups used 12 and 11, respectively. There were no group differences for any token in the written modality.

3.3.1.3 Coordinating Conjunctions

The mean frequency numbers for Coordinating Conjunctions, presented in Table 18, show that the conjunction *et* was used significantly more often than any other coordinating conjunction in both modalities by all three subject groups. For the Non-Immersion and Native groups, *et* was used significantly more often in the oral descriptions than in the written descriptions, but for the Immersion group there was no significant difference between the two modalities for the token *et*.

Table 18

Mean Frequency of Coordinating Conjunctions Used
Group Comparisons

Group »	Immersion	Non-Immersion	Native
CC	O - W	O - W	O - W
et	41.8 - 23.5	64.7 - 24.1	27.1 - 14.3
mais	3.4 - 3.7	4.6 - 3.0	4.3 - 2.2
ou	0.6 - 0.5	0 - 0	0.6 - 0
car	0 - 1.0	0 - 0	0 - 0
p	.000* - .000*	.000* - .000*	.000* - .000*

O=Oral Discourse W=Written Discourse CC=Coordinating Conjunction

When the three subject groups were compared, it was found that the Non-Immersion group used *et* significantly more often than the Native group in oral discourse, and there was a tendency (p=.074) for the Non-Immersion group to use *et* more frequently than the Immersion group. No other group differences were found in either modality.

3.3.1.4 Anaphoric Adverbs

For Anaphoric Adverbs, as with Subordinating Conjunctions, since many anaphoric adverbs were used only once throughout the data, the category "Other" was

used to include those unique tokens. As illustrated in Table 19, *puis* was used significantly more often than *maintenant* or "Other" anaphoric adverbs in the oral descriptions of the Immersion group. In the written descriptions, however, only three anaphoric adverbs were used and no significant differences were found between the three tokens. When the use of each anaphoric adverb in each modality was tested, it was found that statistically *après* was used more frequently in the oral modality than in the written. Although not statistically significant, there was a tendency for *puis* (p=.076) and *alors* (p=.074) to be used more often in the oral than in the written.[29]

Table 19

Mean Frequency of Anaphoric Adverbs Used
Group Comparisons

Group »	Immersion	Non-Immersion	Native
AA	O - W	O - W	O - W
puis	21.8 - 1.8	12.6 - 4.6	8.2 - 3.9
donc	0 - 0	0.7 - 0	6.4 - 0
alors	5.2 - 0	1.4 - 0.4	5.3 - 0
ensuite	0 - 0	0.7 - 0.3	3.4 - 0.5
enfin	0 - 0	0 - 0.4	1.9 - 0.4
aussi	0 - 0	1.2 - 0	0.6 - 0
maintenant	1.4 - 2.3	0.7 - 2.0	0.3 - 0.4
après	5.0 - 1.3	2.9 - 0.7	0.2 - 0
Other	0.3 - 0	0.3 - 1.5	0.4 - 0
p	.023* - .615	.000* - .005*	.000* - .049*

O=Oral Discourse W=Written Discourse AA=Anaphoric Adverb

For the Non-Immersion group, *puis* was used significantly more often than any other anaphoric adverb in the oral descriptions, and more frequently than any other anaphoric adverb in the written descriptions with the exception of *maintenant*. There

[29]It should be noted that although *puis* looks like it occurs significantly more often in the oral than in the written (O=21.8; W=1.8), the results for this subject group were affected by two subjects who used *puis* to begin almost every sentence. This caused an extremely high standard deviation which resulted in a figure that was not statistically significant.

were no significant differences between the oral and written use of any anaphoric adverb, although, again there was a tendency for *puis* to occur more often in the oral descriptions than in the written (p=.067).

For the Native group, *puis* and *donc* were used significantly more often than *aussi*, *maintenant*, *après* and "Other" anaphoric adverbs in oral discourse. In written discourse, *puis* was used more often than the other three anaphoric adverbs found in that modality. *Donc*, *alors* and *ensuite* occurred significantly more often in the oral narratives than in the written narratives, and there was a tendency for *enfin* (p=.06) to occur more in the oral modality than in the written.

In the written narratives, when the three groups were compared, no significant differences were found for any of the anaphoric adverbs found in the data. For the oral descriptions, however, it was found that the Native group used *donc* significantly more often than either of the non-native speaker groups, and *ensuite* significantly more often than the Immersion group. It was also found that the Immersion group used *après* significantly more often than the Native group.[30]

3.4 Frequency Indices of Non-Finite Clause Types

Four types of non-finite clauses were found in the data. They were Infinitive, Past Participle, Present Participle and 'Other' as defined below.

1) Infinitive - An Infinitive non-finite clause is a clause that contains a verb in the infinitive form and that verb is not used in conjunction with a "semi-auxiliary" to give special meaning to the predicate of the clause. According to Grevisse (1988):

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[30]In most cases when *après* was used as an anaphoric adverb by the non-native speakers, it was used in the same way that *after* is used in English, and is not a common construction in French. In most of these cases, *ensuite* or *puis* would have been appropriate.

> On appelle semi-auxiliaires des verbes qui, construits avec un infinitif, parfois avec un participe ou un gérondif, perdent plus ou moins leur signification propre et servent à exprimer diverses nuances de temps, d'aspect ou de mode.[31] (p. 1230)

Compare the following examples:

A) Infinitives with "Semi-Auxiliaries"

16) ... *et ensuite elle va faire la vaisselle.*

17) ... *donc que ça puisse venir d'un autre personnage...*

18) ... *qui est en train de retirer les pétales d'une fleur un à un.*

B) Non-Finite Infinitive Clauses

19) *On la voit dire au revoir aux enfants...*

20) ... *que c'est un but informatif et aussi pour un peu rehabiliter les femmes. .*

21) *D'autre part elles le font sans en avoir envie...*

In Examples 16, 17, and 18 none of the infinitives would be counted as non-finite clauses since the combination of the finite verb in each clause with the infinitive takes on a special nuance (*va* - near future; *puisse* - modal; *est en train de* - progressive). In B, we notice that in Example 19, the verb in the infinitive has a different agent from that of the finite verb. That is, the agent of the verb *voit* is *on*, while the agent of the infinitive *dire* is *la* (in this case referring to Nina, the principal character in the film). In Examples 20 and 21, the infinitives are objects of the preceding prepositions; and therefore, are separated from the finite clauses creating non-finite clauses containing an infinitive.

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[31] Although there is some controversy amongst grammarians as to which verbs are considered "semi-auxiliaries" or something else, the key in this study is that infinitives attached to finite verbs which somehow give new meaning to the predicate were not counted as non-finite clauses.

2) Past Participle - These are non-finite clauses containing a past participle, as illustrated in Examples 22 through 24.

22) *Une fois la cérémonie et les festivités terminées, Nina se retrouve chez elle...*

23) *... et après beaucoup de temps passé dans le maison, ça devient très ennuyeuse...*[32]

24) *Puis nous voyons cette femme, maintenant installée dans une maison ou un appartement, transporter un bouquet de fleurs.*

Notice that each Past Participle clause describes a different event from that expressed in the finite clause to which it is attached. Thus this type of Past Participle clause was counted as a non-finite clause.

C) Present Participle - Present Participle non-finite clauses contain a present participle, and like Past Participle clauses present new information which is not part of the finite clause to which it is attached, as illustrated in the following examples:

25) *...on voit Nina, seule, ayant apparemment perdu toute coquetterie...*

26) *...et notre personnage se promène dans la nature en effeuillant une fleur...*

27) *...qu'en fait en le voulant ou non, pouf elle se trouve mar.ée.*

D) Other - "Other" non-finite clauses were found in the data collected in this study. In some cases, they consisted of a noun phrase as in Example 28 or an adjectival as in Example 29. Anything which did not contain an infinitive, a past participle or a present participle, but was considered to be a non-finite clause was classified under the category "Other".

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[32]This example comes from the oral transcript of a subject in the Immersion group. It contains two errors, (*le maison* should be *la maison* and *ennuyeuse* should be *ennuyeux*), however, as previously mentioned, errors were not considered in the tabulations. These errors, even if corrected, would not change the word count.

28) *Changement de décor: elle apparaît donc soudain en robe de mariée...*

29) *Au commencement, la fille marche dans un forêt, oublieuse de son entourage.*[33]

Since each non-finite clause type contained a specific word which marked it as that particular non-finite clause type, frequency indices were used to determine and compare the usage of each type. That is, since each non-finite clause contained either an infinitive, past participle, present participle or some other marker such as a noun phrase, prepositional phrase, adjectival, etc., the use of these particular tokens could be measured against the total number of words found in each discourse.[34]

Table 20

Frequency Indices of Non-Finite Clause Types
Immersion Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Infinitive	7.14	10.14	.430
Past Participle	.286	.571	.663
Present Participle	0	2.29	.101
Other	.857	1.14	.748
Type Comparisons	p=.001*	p=.001*	

The frequency of each non-finite clause type was determined for each subject for both the oral and written descriptions.[35] Table 20 presents the results of oral versus written comparisons for each non-finite clause type for the Immersion group. No significant differences were found between the oral and written descriptions for

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[33]This was taken from the written description of a subject in the Immersion group. Again, there is a gender error (*un forêt* should be *une forêt*) and one may even question the non-finite clause "*oublieuse de son entourage*," but as errors were not considered this was counted as a non-finite clause in the "Other" category.

[34]Frequency indices were chosen because the numbers were so small in some cases, and also to be able to make comparisons with Beaman's results in establishing native English speaker ranges for -ing structures.

[35]The frequency indices for individual subjects may be found in Appendix K.

any non-finite clause type. Within each modality, there were significantly more infinitives employed than any other non-finite clause type.

For the Non-Immersion group (see Table 21), there were significantly more present participles in the written descriptions than in the oral descriptions, but no other significant oral versus written differences. When the non-finite clause types were compared, there were significantly more infinitives found in the oral descriptions than any other type of non-finite clause. In the written descriptions, there were significantly more infinitives and present participles than past participles.

Table 21

Frequency Indices of Non-Finite Clause Types
Non-Immersion Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Infinitive	4.88	6.88	.525
Past Participle	.25	0	.334
Present Participle	.50	7.38	.00*
Other	1.00	3.38	.194
Type Comparisons	p=.001*	p=.031*	

For the Native group (see Table 22), there were significantly more present and past participles in written discourse than in oral discourse. When the non-finite clause types were compared in each modality, there were significantly more infinitives found in the oral descriptions than any other non-finite clause type, and significantly more infinitives than present or past participles in the written descriptions.

From this data, it may be concluded that more infinitives are used in oral discourse than any other type of non-finite clause regardless of the fluency level of the speaker. In written discourse, more infinitives are used than past participles for all three speaker groups. For the Immersion group, there are also more Infinitive than

Table 22

Frequency Indices of Non-Finite Clause Types
Native Group - Oral vs. Written Comparisons

Clause Type	Oral	Written	p
Infinitive	14.67	12.33	.544
Past Participle	.50	5.00	.04*
Present Participle	.50	3.50	.01*
Other	3.50	7.50	.217
Type Comparisons	p=.000*	p=.023*	

Present Participle or "Other" non-finite clauses. For the Non-Immersion group, there are no significant differences between infinitives, present participles and "Other" non-finite clauses. There are, however, significantly more present participles than past participles. For the Native group, not only are there significantly more infinitives than past participles, there are also significantly more infinitives than present participles, but no significant differences with "Other" non-finite clauses. In the written descriptions, the three speaker groups are obviously operating somewhat differently.

In terms of the usage of non-finite clause types, differences between the two modalities would appear to be dependent upon the speaker group. For the Immersion group, there are no significant differences between the two modalities for the four non-finite clause types. For the Non-Immersion group, there are significantly more present participles found in written discourse than in oral discourse, and for the Native group there are significantly more present and past participles in written discourse than in oral discourse.

When the three groups are compared in oral discourse, as illustrated in Table 23, it would appear that Native speakers used significantly more infinitives than speakers in the Non-Immersion group. There were no other significant differences between the speaker groups for the remaining non-finite clause types.

Table 23

Mean Frequency Indices of Non-finite Clause Types
Oral - Group Comparisons

Group	INF	Past	Present	Other
Immersion	7.14	.29	0	.86
Non-Immersion	4.88	.25	.5	1.0
Native	14.67	.50	.5	3.5
Group Comparisons	p=.02*	p=.816	p=.353	p=.128

INF=Infinitive Past=Past Participle Present=Present Participle

In the written narratives, as illustrated in Table 24, Native speakers used significantly more past participles than either non-native speaker group. There are no other statistically significant differences between the three speaker groups, although there appears to be a strong tendency for speakers in the Non-Immersion group to use more present participles than the other two speaker groups. There is also a strong tendency, but no statistically significant difference between the three groups for the "Other" category.

Table 24

Mean Frequency Indices of Non-finite Clause Types
Written - Group Comparisons

Group	INF	Past	Present	Other
Immersion	10.14	.57	2.29	1.14
Non-Immersion	6.88	0	7.38	3.38
Native	12.33	5	3.50	7.50
Group Comparisons	p=.356	p=.004*	p=.067	p=.062

INF=Infinitive Past=Past Participle Present=Present Participle

3.5 Mean Clause Length

This section explores the Mean Clause Length (MCL) for both finite and non-finite clauses.[36] That is, the total number of words found in each clause type were summed and then divided by the number of clauses (finite and non-finite, respectively) for each subject. The number of words per clause reflects the actual number of words used by a subject, including errors, after false starts, repetitions and dialog not pertinent to the story were deleted.

Table 25

Mean Clause Length - Finite Clauses
Group Comparisons

Group	Oral	Written	p
Immersion	6.59	7.26	.01*
Non-Immersion	6.54	7.05	.02*
Native	7.84	8.76	.00*
Group Comparisons	p=.00*	p=.00*	

In oral discourse, Native subjects generally had a MCL greater than seven words per clause.[37] At the individual level, only three Immersion and one Non-Immersion subject had MCLs greater than seven.[38] In written discourse, most of the Native MCLs were greater than eight words per clause, however, only one Immersion and no Non-Immersion subjects had MCLs over eight words per clause. As a result, when the three groups were compared, as illustrated in Table 25, it was not surprising

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[36]Fragments were included with non-finite clauses since they are defined as 'free-standing' non-finite clauses - see Section 3.1.

[37]Subject #21 was the one exception to this. By contrast she had the greatest written MCL. As a result, at the individual level, where significant differences were found between the subjects of the group in each modality, Subject #21 was always involved. This subject was the only non-graduate student in the group. She had a BA degree and a teaching certificate, and was teaching elementary school children at the time. She was also the only one with small children at home (an infant and one under four years old). It is only speculation, but the fact that she often adjusted her speaking habits to accommodate her young listeners may account for the short clauses found in her oral description. Her oral MCL was the smallest of the group, but her written MCL was the longest of the group. This may be due to the fact that most of the writing she does is for adults, and thus adapts her language depending upon her audience. None of the other subjects in this group had much contact with young children.

[38]All individual results for Mean Clause Length for finite clauses may be found in Appendix L.

to find significant differences between the Native group and the two non-native groups in both modalities. No differences were found between the Immersion and Non-Immersion groups (N vs. I $p<.01$*; N vs. NI $p<.01$*; I vs. NI $p>.05$).

For the MCL of finite clauses at the individual level, there was generally (for 18 of 21 subjects) no significant difference between a subject's oral MCL and written MCL. However, when the group means were compared, written finite clauses were significantly longer than oral finite clauses for each group. With the exception of the Native group (and this was the result of only one subject), subjects within a particular group tended to be homogeneous.

3.5.1 Mean Clause Length - Non-Finite Clauses and Fragments

This section presents the data on Mean Clause Length of non-finite clauses and fragments for each group (see Table 26). No individual subject analyses were possible owing to the fact that there was only one non-finite clause found in some descriptions. There were no significant differences between the oral and written non-finite and fragment MCLs for any group, and there were no significant differences between the three groups. This differs from the results for finite clauses. This may be due to the nature of non-finite clauses and fragments, in that their length is somewhat restricted.

Table 26

Mean Clause Length for Non-Finite Clauses and Fragments Group Comparisons

Group	Oral	Written	p
Immersion	4.65	5.31	.207
Non-Immersion	5.24	5.52	.604
Native	5.64	6.10	.419
Group Comparisons	p=.281	p=.365	

3.5.2 Mean Clause Length - Finite vs. Non-Finite

When the MCLs for finite and non-finite clauses were compared, it was found that the MCLs of finite clauses were significantly longer than the MCLs of non-finite clauses and fragments for all three groups in both oral and written discourse, as illustrated in Tables 27 and 28. In the oral descriptions, finite clauses were longer by a minimum of 1.3 words (Non-Immersion) to a maximum of 2.07 words (Immersion).

Table 27

Mean Clause Length - Finite vs. Non-Finite Clauses and Fragments
Oral - Group Comparisons

Group	Finite	Non-Finite	p
Immersion	6.72	4.65	.001*
Non-Immersion	6.54	5.24	.050*
Native	7.63	5.64	.000*

In the written descriptions, differences ranged from 1.53 (Non-Immersion) to 2.66 (Native). These results are not surprising in that non-finite clauses do not contain overt subjects. This would account for the deletion of at least one word in the case of pronominal subjects and proper nouns. Other subjects would typically consist of a determiner plus a noun. Therefore, the lack of an overt subject will account for most of the one or two word differences.

Table 28

Mean Clause Length - Finite vs. Non-Finite Clauses and Fragments
Written - Group Comparisons

Group	Finite	Non-Finite	p
Immersion	7.26	5.31	.006*
Non-Immersion	7.05	5.52	.005*
Native	8.76	6.10	.000*

3.6 Mean Clausal Quotients

We have now investigated numerous features of discourse at the clause level, but the question arises as to how these features may be combined to allow for stylistic differences and still determine if the discourse of non-native speakers differs from native discourse at the clause level. Thus a weighting system based on the data analyzed was devised and clausal quotients were given to each subject. Each clause was given a clausal quotient based on: 1) the total number of words found in each clause, 2) whether the clause was finite or non-finite, 3) whether it contained a relative pronoun and the type of relative pronoun used, and 4) whether it contained a subordinating conjunction and the type of subordinating conjunction used.

First, a point system was devised assigning a point value to each clause based on the number of words contained in that clause. Since the MCL was approximately seven words per clause when both modalities were considered (as described in Section 3.5), the weighting for each clause was based on seven words.[39] If the clause contained one to seven words, it received one point. If it contained between eight and fourteen words, the clause received two points, and so on.

Second, non-finite clauses occurred much less frequently than finite clauses. The Infinitive, Past Participle and Present Participle non-finites are structures that must be learned and often cause non-native speakers difficulty. Infinitive and Present Participle were the most common non-finite forms used; therefore, each non-finite clause containing an infinitive or present participle received one extra point. Past Participle non-finite structures were particularly rare, thus they received two extra points. Non-finite clauses in the 'Other' category consisted of structures where the subject and finite verb had been omitted rendering this structure much less complicated than either finite or non-finite clauses containing a verb element. These

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[39]Seven also coincides with George Miller's (1956) magical number seven, plus or minus two in terms of the limitations on one's processing ability. Therefore, seven seems like the most logical cut off number for the weighting system established here.

were simply independent noun phrases, adjectivals or prepositional phrases. Therefore, they did not receive any extra points. They were weighted by length only.

Clauses containing relative pronouns were given an extra weighting, since there were significant differences between the use of relative pronouns by Native speakers as compared to non-native speakers, as illustrated in Sections 3.2 and 3.3. They were weighted according to the frequency of the relative pronoun and the notion of some relative pronouns being more 'complex' than others. Clauses containing the relative pronouns *qui* and *que* were given one point, while clauses containing any other relative pronoun were given two points. First, *qui* and *que* were found to occur the most often in the transcripts for all three groups.[40] Second, authors of beginning French textbooks (Brown 1991; Parmentier and Potvin 1986; Walz and Piriou 1985.) tend to introduce *qui* and *que* before any other relative pronouns, indicating these structures may be more easily acquired than structures presented later. It may also indicate that students are more familiar with these structures and have had more occasion to use these relative pronouns than those presented later. Third, most of the other relative pronouns may be viewed as more complex simply because they consist of more than one word, that is, most of the other relative pronouns involve a preposition (e.g., *à qui*, *de la quelle*, *avec qui*, etc.) or use *ce* to represent an undefined antecedent (e.g., *ce qui*, *ce que*, *ce dont*, *à ce qui*, etc.).[41]

Although there were no statistical differences between the three subject groups in either oral or written discourse for Subordinating Conjunction, there was a difference in the variety of subordinating conjunctions used. As mentioned in Section 3.3.1.2, 20 different subordinating conjunctions were found in the Native descriptions

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[40]These two pronouns accounted for more than 60% of the relative pronouns found in the oral and written transcripts for all three groups, where *qui* was used significantly more often than any other relative pronoun.

[41]*Où* is an exception to this, and although *dont* is only one word the preposition *de* is also involved in determining the use of this relative pronoun.

while 12 or less were found in the non-native speakers' descriptions. Some subordinating conjunctions seem to cause non-native speakers difficulty because they also require a specific tense which does not always correspond to tenses used in these constructions by native English speakers. Therefore, clauses containing a subordinating conjunction received one or two points depending on the conjunction used and the frequency of that conjunction. Each clause received one point if it contained a subordinating conjunction. If the subordinating conjunction occurred infrequently in the descriptions and required a specific tense be used such as the subjunctive or future, etc., the clause was given two points.

The following example will clarify the tabulation system used to compute the Mean Clausal Quotient (MCQ) for each subject in this study.

30) **A)** *Elle finit* (1)
B) *par s'asseoir sur un rocher nu,* (2)
C) *et elle reste assise-la,* (1)
D) *refléchissant peut-être* (2)
E) *à ce qui s'est passé dans sa vie,* (4)
F) *comment les choses ont changées* (2)
G) *et ont détruites une partie d'elle-même* (2)
H) *sans qu'elle la défende.* (3)[42]

Clause A is a simple finite clause consisting of two words with no relative pronouns or subordinating conjunctions; therefore, it is worth only one point. Clause B is a non-finite clause containing an infinitive for which it receives one point, plus one point for being seven words long, thus this clause is worth two points. Clause C is a simple five-word finite clause which receives one point, while D is a two-word non-finite clause containing a present participle, and is therefore worth two points. Clause E is introduced by an infrequently used relative pronoun as it contains a preposition and

[42]It should be noted that even native speakers make mistakes. This excerpt was taken from a Native speaker's written description and one may have noticed that there are several errors. The first, is an accent error on assise-là, and the other two errors are past participle agreement errors. No agreement is necessary, thus *changées* should be *changé* and *détruites* should be *détruit*.

uses *ce* as the antecedent. It receives two points for the relative pronoun employed and two points for length, making this clause worth four points. Clause F is introduced by a subordinate conjunction that, although not frequently used in the descriptions in this experiment, does not require the subjunctive or some other special tense; therefore, it was assigned only one point. As it is a five-word clause containing a subordinate conjunction, it was given two points. Clause G is an eight-word finite clause worth two points. Finally, Clause H is a five-word finite clause introduced by an infrequently used subordinating conjunction requiring the subjunctive (two points) giving it a total of three points. Therefore, the MCQ for this subject would be the sum of the clausal quotients for each clause (17), divided by eight, the total number of clauses, yielding a clausal quotient of 2.13.

Table 29

Mean Clausal Quotient
Native Group

Subject#	Oral	Written	p
1	2.01	2.25	.121
21	1.75	2.16	.03*
28	2.05	2.24	.259
32	2.03	2.02	.929
34	1.92	1.88	.842
43	1.92	1.76	.281
Group Mean	1.97	2.03	.361
Group Comparisons	p=.183	p=.074	

Individual results are presented here, as well as group results, to better illustrate the 'syntactic maturity' at the clause level for individual subjects. Table 29 presents the MCQs for the Native group which establish native speaker ranges in each modality. Although statistically there were no significant differences between subjects in each modality, there would appear to be more variation in written

discourse than in oral discourse. Oral versus written differences were exhibited by only one subject in this group (#21 whose background was discussed in Section 3.5). For the group, we find no differences between oral clausal quotients and written clausal quotients. The Native range for clausal quotients in oral discourse appears to be from 1.75 to 2.03, while in written discourse it is 1.76 to 2.25.

Table 30

Mean Clausal Quotient
Immersion Group

Subject#	Oral	Written	p
2	1.82	1.80	.886
3	1.67	1.50	.274
4	1.51	1.75	.059
14	1.63	1.38	.03*
25	1.84	1.78	.596
39	1.49	1.93	.00*
44	2.03	1.76	.141
Group Mean	1.72	1.73	.857
Group Comparisons	p=.000*	p=.004*	

Table 30 presents the results for the Immersion group. First, we notice considerable variation amongst the subjects in this group in both oral and written discourse. We also find that for two subjects there are significant differences between their oral and written MCQs, but for #14 the oral is greater, while for #39 the written is greater. There is also a strong tendency for written MCQs to be greater than oral MCQs for #4 (p=.059). The lack of homogeneity in this group suggests that individual subjects are producing clauses based on their own stylistic preferences and abilities. In oral discourse, we find four of the seven subjects fall below the previously established native speaker range (#3, #4, #14 and #39). In written

discourse, we find that this was true for only two of the seven subjects (#3 and #14 who also fell below the established range in oral discourse).

For those students who fall below the established ranges, it is now possible to return to previous analyses to determine the syntactic features which differ from those employed by Native speakers. For example, we find that for #3, only two percent of her finite clauses contained relative pronouns in oral discourse and only three percent in written discourse. She also used no non-finite clauses containing an infinitive, past participle or present participle in either modality. In written discourse, only three percent of the clauses used contained subordinating conjunctions. Thus this student tends to use finite clauses which are either main clauses or are linked by punctuation/intonation or are introduced by a coordinating conjunction or anaphoric adverb. She rarely uses relative pronouns, never uses non-finite verb structures, and tends to keep her clauses simple, avoiding any 'complex' structures.

Table 31

Mean Clausal Quotient
Non-Immersion Group

Subject#	Oral	Written	p
6	1.51	1.62	.437
7	1.66	1.59	.713
10	1.59	1.32	.056
12	1.62	1.63	.921
19	1.61	1.67	.649
23	1.71	1.67	.801
38	1.56	1.84	.03*
47	1.72	1.63	.559
Group Mean	1.62	1.64	.627
Group Comparisons	p=.742	p=.209	

Table 31 presents the MCQ results for the Non-Immersion group. The first difference we find between the Non-Immersion group and the Immersion group is that there are no differences amongst the subjects of the group in either modality. The Non-Immersion group appears to be much more homogeneous than the Immersion group. At the individual level, there was only one significant oral/written difference (#38) and a strong tendency for #10 (p=.056). It should be noted that the differences were not in the same direction. For one, the oral MCQ was greater, while for the other, the opposite was true. This was similar to what we found for the Immersion group. There were also no oral/written differences for this group at the group level.

When we compare individual results to the Native ranges, we find that in oral discourse, none of the subjects in this group fall within the established range (two are very close). In written discourse, only one of eight subjects falls within the established range (#38).

Table 32

Mean Clausal Quotient
Group Comparisons

Group	Oral	Written	p
Immersion	1.72	1.73	.857
Non-Immersion	1.62	1.64	.627
Native	1.97	2.03	.361
Group Comparisons	p=.000*	p=.000*	

When the three groups were compared, as shown in Table 32, there were significant differences for both the oral and written MCQs. In each case, there were significant differences between the Native group and the two non-native groups (N vs. I p<.01*; N vs. NI p<.01*) Although the means are quite similar in the two modalities for the two non-native groups, there is a significant difference between the oral MCQs

of the Immersion and Non-Immersion groups (I vs. NI p=.02*), while in written discourse there is no significant difference (I vs. NI p=.116).

3.7 Summary

The data reveal that finite clauses are the most commonly used syntactic structures, regardless of modality or proficiency level of the speaker. Finite clauses were sorted into seven clause type categories based on the manner in which the clause was introduced into the discourse. Hierarchies were established for each subject group in each modality to determine the order from 'most' to 'least frequently' used clause type. In oral discourse, finite clauses introduced by coordinating conjunctions were found to be the most frequently used structure by all three subject groups. Non-Immersion subjects used Coordinating Conjunction more often than any other clause type, followed by a fairly even distribution of the other six clause types. For the Immersion group, Coordinating Conjunction occurred more often than Main, Intonation, Relative Pronoun and Combination clauses, while for the Native group, Coordinating Conjunction occurred more often than Subordinating Conjunction and Combination. The Immersion group also demonstrated a difference in the use of subordinating conjunctions and relative pronouns, while the Native group exhibited differences between Intonation and Combination clauses.

When the oral marker types were compared, it was found that the Immersion group used significantly more coordinating conjunctions than relative pronouns, while the Non-Immersion group used significantly more coordinating conjunctions than any other type of overt marker. Native speakers used significantly more coordinating conjunctions than relative pronouns and subordinating conjunctions, but no difference was found between coordinating conjunctions and anaphoric adverbs. Immersion subjects used more anaphoric adverbs in oral discourse than in written discourse.

Non-Immersion subjects used more coordinating conjunctions in the oral descriptions than in the written. There was a strong tendency for both non-native groups for subordinating conjunctions to occur more frequently in oral discourse than in written discourse. For the Native subjects, coordinating conjunctions and anaphoric adverbs were produced more often in the oral narratives than in the written narratives.

In written discourse, the predominant finite clause type was found to be Main clauses which were used significantly more often than any other clause type for all three groups. With the exception of Main clauses, Native speakers tended to use the other six clause types to approximately the same extent, thus producing more variation amongst the types of clauses they used while non-native speakers tended to favor certain structures more than others, repeating structures with which they were more comfortable and familiar. For both non-native groups, coordinating conjunctions played a dominant role in written discourse, while for the Immersion group, subordinating conjunctions occurred more frequently than several other clause type forms. These results suggest that coordinating conjunctions and anaphoric adverbs in particular, and to some extent subordinating conjunctions, are the predominant finite clause structures used in oral discourse, while main clauses are the most frequently used structure in written discourse indicating one area where oral and written discourse differ.

In oral discourse, Native speakers linked significantly more clauses using intonation and relative pronouns than either non-native group. Native speakers used fewer coordinating conjunctions than the Non-Immersion group and tended to use fewer subordinating conjunctions than Immersion subjects.

In written discourse, Native speakers produced more clauses containing relative pronouns than either non-native group. Both Immersion and Non-Immersion subjects used significantly more coordinating conjunctions than did the Native

subjects. Thus it would appear non-native speakers need to learn to rely more on intonation patterns, rather than overt markers such as coordinating conjunctions to link clauses in oral discourse. Non-native speakers clearly appear weak or deficient in their use of relative pronouns which suggests an area of L2 acquisition which needs more instruction and practice. The predominant use of coordinating conjunctions and the paucity of relative pronouns in non-native discourse is discussed further in Chapter 5 where it is suggested that interference from L1 may be the key factor influencing the use of these clause structures.

The frequency analyses of specific relative pronouns, subordinating conjunctions, coordinating conjunctions and anaphoric adverbs illustrate which tokens of each marker group occur most frequently. For example, *qui* was the relative pronoun occurring more often than any other relative pronoun in both modalities for all three groups (with the exception of *où* for the Native group). This suggests that relative clauses in which the antecedent is the subject of the relative clause is the most commonly used relative clause construction in French. For subordinating conjunctions *que* occurred most often. The subordinating conjunction *parce que* was produced more often in oral discourse than in written discourse for the Native and Immersion groups. This suggests that there was a greater need to explain rather than merely describe events in oral discourse than in written discourse. This was probably due to the fact that an interlocutor was present.

The most striking result involving subordinating conjunctions was that the Native group used a greater variety of subordinating conjunctions than did the two non-native groups, but there was a strong tendency for non-native speakers to use more subordinating conjunctions than Native speakers, suggesting non-native speakers are more repetitious in their production of subordinating conjunctions and should vary the use of subordinating conjunctions to reduce the repetitive nature of their discourse.

For the coordinating conjunctions, *et* was used significantly more often than any other coordinating conjunction in both modalities for all three groups. This is not surprising since the equivalent to *et* has been found to be the most frequently used coordinating conjunction in other languages (Kroll 1977; Beaman 1984; Dvorak 1987). However, it tends to function more as a weak connector than as a true coordinator allowing speakers to gain additional processing time while maintaining their turn.

For anaphoric adverbs, *puis* appears to be the most commonly produced. Certain anaphoric adverbs seem to occur more often in oral discourse than in written (e.g., *puis*, *alors*, *ensuite* and *donc*). Anaphoric adverbs in general occurred more often in oral discourse than in written discourse, suggesting restrictions on the use of these structures in written discourse. The most important aspect of the analyses involving anaphoric adverbs was the fact that Native speakers used a greater variety, thus suggesting another area where non-native discourse will appear more repetitious.

Finite clauses were also analyzed in terms of length. At the individual level, it would appear that no distinctions are made between the length of oral and written finite clauses. However, at the group level, written finite clauses appear to be longer than oral finite clauses. Finite clauses produced by non-native speakers are shorter than those produced by Native speakers in both oral and written discourse. This coincides with the results of previous studies in which length was found to be related to the proficiency level of the speaker (Cooper 1976, 1981; Cooper and Morain 1980; Dvorak 1987).

Non-finite clauses accounted for less than 20% of clauses found in the narratives. Since non-finite structures are often considered to be more 'complex' than finite structures, are usually taught later in the language learning process, and occur less often in native speaker discourse than finite clauses providing less exposure to

these structures, one would expect non-native speakers of the target language to use fewer non-finite clauses than native speakers, and in fact, the data show this to be true. Native speakers used fewer finite clauses and more non-finite clauses than either non-native group in both oral and written discourse. This is another area that marks the L2 learner as being syntactically immature compared to native speakers of the target language.

We would expect more non-finite clauses in written discourse than in oral discourse given the speaker has more production time to manipulate the types of clauses used. This was true for the Non-Immersion and Native groups, but not for the Immersion group. Although more non-finite clauses were found in the written narratives, it is not clear why Immersion subjects seem to make no real distinction between the two modalities.

In oral discourse, Native speakers used significantly more infinitives than the Non-Immersion group while in written discourse, the Native group used significantly more past participles than either non-native speaker group. There was a tendency for the Non-Immersion group to use more present participles than either of the other two speaker groups, and for Native speakers to use more "Other" type non-finite clauses than non-native speakers indicating non-native speakers lack the ability to use a variety of non-finite structures, again rendering their discourse more reiterative than that of native speakers. The differences in the use of infinitives and present participles may be related to differences between the source and target languages. This notion is explored further in Chapter 5.

There were no significant differences between the oral and written non-finite clause lengths for any group. There were also no significant differences between the three groups. When finite clause lengths were compared to those of non-finite clauses, it was found that the finite clauses were significantly longer than the

non-finite clauses for all three groups in both oral and written discourse. This was attributed to the restrictive nature of non-finite clauses in that they contain no overt agents. One would expect non-finite clauses to be shorter than finite clauses by one or two words - the length of most agents (pronominals, proper nouns or determiner plus noun).

At the individual level, the majority of subjects in each non-native group failed to use non-finite clauses to the same degree as native speakers. This then indicates an area of discourse organization where non-native speakers differ from native speakers, suggesting non-native speakers need to increase their use of non-finite structures in order to produce discourse which more closely resembles that of native French speakers.

Since conventions of discourse tend to discourage the use of fragments, we would anticipate little difference between the three groups in the use of fragments. We might also predict fewer fragments to occur in written discourse than in oral discourse, which was true for the Non-Immersion group, but not the Native or Immersion group. For the Immersion group, this may be due to the small numbers which occurred in each modality. For the Native group, the data suggest there may be a difference between the use of fragments in French and English, particularly in written discourse where there was a strong tendency for native speakers to produce more fragments than non-native speakers. The use of fragments is examined in more detail in Chapter 5 where comparisons to Beaman's study are made.

Finally, clausal quotients based on the data in the previous sections were computed to allow for individual differences in the use of various structures given the organization of discourse is highly idiosyncratic. The Immersion group appeared to be the least homogeneous as there were significant differences within the group for both oral and written clausal quotients while for the Native and Non-Immersion

groups, there were no significant differences amongst the subjects of either group in either modality. The differences between the subjects in the Immersion group may be related to the type of previous instruction they received. There seems to be considerable variation in immersion programs in terms of the number of content courses taught in the target language and the pedagogical methods employed by instructors (Swain and Lapkin 1989).

There were oral versus written differences for four of the 21 subjects with two others showing a strong tendency for making a distinction between the two modalities. For the groups overall, there were no oral/written differences. This suggests that at the clause level, the oral and written 'syntactic maturity' of L2 learners are approximately the same. For Native speakers, this implies that oral and written narrative discourse are similar in syntactic complexity. There were significant differences between the Native group and the two non-native groups in both oral and written discourse. There was also a difference between the Immersion group and the Non-Immersion group in oral discourse, but not in written discourse which suggests length and type of instruction may influence the way in which L2 learners organize oral discourse, but play no role in written discourse. This supports Swain and Lapkin's claims that early immersion students are superior to other L2 learners in speaking and listening, but not in literacy functions.

Four of the seven Immersion subjects and all of the Non-Immersion subjects failed to fall within the established native speaker range for oral discourse. In written discourse, two Immersion subjects and seven of the eight Non-Immersion subjects' quotients did not meet the empirically established native 'norm'. Since the results were different for the number of subjects who were able to attain native 'norms' in the two modalities, this suggests that at least some subjects are more syntactically mature in one modality than the other. The data also reveal that non-native speakers'

organization of discourse in both oral and written discourse is distinctive at the clause level from discourse produced by native speakers. For subjects who failed to achieve native speaker competency, it is now possible to return to some of the earlier analyses to pinpoint where their discourse at the clause level is deficient as compared to native speakers' clauses - clause length, lack of non-finite structures, relative pronouns, and more 'complex' subordinating conjunctions.

Chapter 4

RESULTS a. the SENTENCE LEVEL

All of the analyses presented in this chapter were conducted at the sentence level. Sentence breaks in the written descriptions were determined by the punctuation used by the subjects themselves, i.e., periods, question marks and exclamation marks signaled sentence breaks. Sentence breaks in the oral descriptions were designated by a panel of four listeners (including the experimenter) based on intonation patterns, pauses and shifts in topics.

The first set of analyses presents data on the distribution of six sentence types: Simple Finite, Simple Non-Finite, Complex Coordinate, Complex Subordinate, Complex Coordinate and Subordinate, and Fragment. These data demonstrate the distribution of sentence structures from 'most' to 'least frequently' used, not unlike the clausal hierarchies found in Section 3.2. Although there are few differences between the three groups when compared for each sentence type in each modality, there are differences in the distribution of sentence types used by each group.

The next three sections will present data on various methods used to measure sentences. Section 4.2 illustrates the distribution of the number of finite clauses linked per sentence since finite clauses represent the largest clause type category. The goal here is to depict the number of like items, in this case finite structures linked per sentence. These data are then used as one of the criteria associated with sentential quotients.

The second analysis investigates the mean number of clauses per sentence and includes both finite and non-finite clauses. This gives the reader information on the average number of items linked per sentence, regardless of clause type.

The third measure is Mean Sentence Length which measures the mean number of words per sentence. For all three measures, it is assumed that native speakers will

link more clauses per sentence, and their sentences will generally be longer in terms of the number of words found in each sentence.

Finally, these measures are used as criteria in establishing a weighting system devised to compute sentential quotients for each subject. The three factors used in the weighting system are: 1) the types of clauses linked within each sentence, 2) the number of clauses linked per sentence, and 3) the length of the sentence in terms of the number of words used. As with clausal quotients (Chapter 3, Section 3.6), native speaker ranges for sentences are established from which we are able to determine if non-native speakers produce sentences in a similar or deviant manner than do native speakers. Once the subjects who have failed to attain the established native speaker 'norm' are identified, it is then possible to return to specific analyses to determine the features of discourse lacking in their narratives as compared to native speakers. Sentential quotients, like clausal quotients, allow for individual and stylistic differences rather than considering each discourse feature separately.

The clausal and sentential quotients measure two distinct and separate features of discourse. The focal point of the clausal quotient is the distribution of the various types of clauses used by each subject, while for sentential quotients the principal feature is the number of clauses linked. That is not to say that length is an unimportant measure of discourse or that clause type does not play a role in the sentential quotients. In oral discourse, the notion of the number of clauses linked is a reflection of the intonation patterns and other prosodic features used by a subject. In written discourse, it reflects the willingness of the subject to link numerous clauses - perhaps creating complex structures - or keeping sentences short and simple. This aspect of the organization of discourse is not dealt with at the clause level. Since the two quotients measure different features of discourse, we find that some subjects are able to attain the 'norm' for one quotient, but not the other, while some subjects'

discourse fall within the native range for both quotients, and still others are unable to attain native 'norms' for either quotient.

4.1 Breakdown of Sentence Structure Types

As with the breakdown of clause structure types, sentences were classified according to the types of clauses they contained. Sentences were categorized as: 1) Simple Finite, 2) Simple Non-Finite, 3) Complex Coordinate, 4) Complex Subordinate, 5) Complex Coordinate/Subordinate and 6) Fragments. Simple sentences contain only one finite clause, such that a Simple Finite sentence consists of a single finite clause which is also determined to be a complete sentence. A Simple Non-Finite sentence is a sentence containing one finite clause and any number of non-finite clauses, as illustrated in the examples below.

Simple Finite Sentences:

31) *L'histoire commence dans la forêt.*

32) *Après cette scène nous assistons au mariage de la jeune fille.*

33) *Et puis il y a des scènes des invités.*

Simple Non-Finite Sentences:

34) *<u>En arrangeant des fleurs</u> elle siffle une chanson.*

35) *Dans la bande dessinée, <u>pour montrer cette idée</u>, le corps de la dame s'est (brièvement) confondu avec le réfrigérateur et le poêle.*

36) *Puis nous voyons cette femme, <u>maintenant installée dans une maison ou un appartement</u>, <u>transporter un bouquet de fleurs</u>.*

Note in Example 33, that although the sentence begins with the conjunction *et* and the anaphoric adverb *puis*, the clause is not actually connected to another clause. This sentence is considered a Simple Finite sentence because it contains only one finite clause and no non-finite clauses. In Example 36, even though there are two

non-finite clauses, there is still only one finite clause; therefore, this was counted as a Simple Non-finite clause.

Complex sentences consisted of more than one finite clause. They were categorized as Complex Coordinate sentences if the clauses were connected by any combination of coordinating conjunctions, anaphoric adverbs, intonation or punctuation, as illustrated in Examples 37-39. They were Complex Subordinate sentences if the finite clauses were connected by any combination of subordinating conjunctions or relative pronouns as seen in Examples 40-42 below. Complex Coordinate/Subordinate sentences consisted of sentences containing three or more clauses where a combination of coordinators and subordinators, as defined above, were found in the same sentence. This is illustrated in Examples 43 and 44. Non-finite clauses were not considered at all in these categories; therefore, a complex sentence contained at least two finite clauses and any number of non-finite clauses.

Complex Coordinate Sentences:

37) *La jeune fille chante et enlève un à un les pètales d'une fleur.*

38) *La jeune fille coupe une carotte, puis bat des oeufs en neige, puis fait la vaisselle et se retrouve soudain avec un bébé dans les bras.*

39) *C'est le printemps, les oiseaux chantent, la jeune fille est heureuse.*

Complex Subordinate Sentences:

40) *Alors qu'elle se déplace dans la maison, le corps de cette femme devient alors un réfrigérateur.*

41) *Ce film nous raconte la vie d'une jeune femme qui devient femme au foyer, mariée avec trois enfants.*

42) *Elle arrive dans son foyer où elle travaille comme doit le faire toute ménagère.*

Complex Coordinate/Subordinate Sentences:

43) *La femme repasse puis va preparer le déjeuner des enfants et leur distribue à chacun la boîte qu'ils emportent à l'école.*

44) *Ça ne s'arrête pas là puisque symboliquement, il semble qu'elle sème l'amour (les pétales tombent au milieu des fleurs) et elle récolte ... le mariage.*

Fragments, as defined in Chapter 3, Section 3.1, were non-finite clauses which were marked by either punctuation marks or intonation patterns as being completely separate from and unattached to any finite clause, as demonstrated in Examples 45 and 46.

Fragments:

45) *Passage très brusque à la dure réalité de la cuisine dans la maison.*

46) *Des fleurs partout, toujours symboles du printemps et du bonheur, ainsi que des fruits et légumes sur la tapisserie dans la maison.*

Numbers were calculated for each category as a percentage of the total number of sentences found in each subject's oral and written description.[43] The oral and written results for all three groups are presented in Table 33. For the Immersion group, there was only one oral versus written difference that was significant. Significantly more Simple Non-Finite sentences were used in the written descriptions than in the oral descriptions. When sentences types were compared in the oral modality, there were more Simple Finite sentences than any other sentence type. There were also more Coordinate, Subordinate and Coordinate/Subordinate combination sentences than there were Simple Non-Finite sentences or Fragments. In the written descriptions, there were more Coordinate and Simple Finite sentences than there were Simple Non-Finite sentences and Fragments, and there were significantly more Subordinate sentences than Fragments.

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[43]Results for individual subjects are found in Appendix M.

Table 33

Mean Percentages of Sentence Types
Group Comparisons

Group »	Immersion	Non-Immersion	Native
S-Type	O - W	O - W	O - W
Sim-Fin	35.4 - 27.2	42.0 - 27.8	26.5 - 22.4
Sim-NonFin	3.00 - 10.9	4.50 - 7.30	7.10 - 7.50
Coordinate	18.9 - 27.3	17.8 - 33.1	23.1 - 21.1
Subordinate	22.0 - 19.8	19.3 - 20.6	17.1 - 25.0
Coor/Sub	19.6 - 14.0	15.0 - 11.2	23.3 - 17.9
Fragment	1.00 - 0.90	1.40 - 0	3.10 - 6.10
p	.000* - .000*	.000* - .000*	.000* - .008*

O=Oral Discourse W=Written Discourse Sim-Fin=Simple Finite Sentences
Sim-NonFin=Simple Non-Finite Sentences
Coor/Sub=Coordinate/Subordinate Combination Sentences

For the Non-Immersion group, there were significantly more Simple Finite sentences and Fragments in the oral descriptions than in the written descriptions. However, there were significantly more Coordinate sentences in the written than in the oral. In the oral modality, there were significantly more Simple Finite sentences than any other sentence type. There were also more Coordinate and Subordinate sentences than Fragments. In the written descriptions, there were more Simple Finite sentences than Simple Non-Finite sentences, Coordinate/Subordinate combination sentences and Fragments. There were also more Coordinate sentences than Subordinate sentences, Coordinate/Subordinate combination sentences, Simple Non-Finite sentences and Fragments. Subordinate sentences occurred significantly more often than Simple Non-Finite sentences and Fragments.

For the Native group, there were no significant differences between the oral and written modalities for any sentence type. For the oral narratives, there were significantly more Simple Finite sentences, Coordinate sentences and

Coordinate/Subordinate combination sentences than Simple Non-Finite sentences or Fragments. There were also more Subordinate sentences than Fragments. In the written modality, there were more Subordinate sentences than Simple Non-Finite sentences or Fragments.

When the three groups were compared, there were no significant differences for any sentence type in the oral descriptions. In the written descriptions, the Non-Immersion group used significantly more Coordinate sentences than did the Native group and the Native group used significantly more Fragments than the subjects in the Non-Immersion group.

4.2 Percent Breakdown of Finite Clauses Linked Per Sentence

The analyses presented in this section deal with the percent breakdown of the number of finite clauses linked per sentence, that is, the proportion of the total number of sentences containing one finite clause, two finite clauses, three finite clauses, etc. Only finite clauses were considered as they comprise the largest number of clauses found in the narratives, thus we are comparing the subjects' ability to link finite verb structures in discourse.[44]

At the individual level, there was a great deal of variation amongst the subjects of each group. As a result, when the three groups were compared, as illustrated in Table 34, there were no significant differences between the three groups for each number of linked clauses compared.[45] That is, when the mean percentages for one-clause sentences were compared for the three groups in the oral modality, there were no significant differences between the groups. The same was true for each number of linked clauses in both modalities.

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[44]The Mean Number of Clauses per Sentence analyses in Section 4.3 take into account both finite and non-finite structures.
[45]Results for individual subjects may be found in Appendix N.

There were no significant differences between the oral and written number of clauses linked per sentence with the exception of two-clause sentences. When the means for the oral and written one-clause sentences were compared, there were no significant differences for any group, however, for two-clause sentences there were significantly more two-clause sentences found in the written than in the oral for each group (Native p=.025*; Immersion p=.029*; Non-Immersion p=.001*). No other significant differences were detected.

Table 34

Percent of Finite Clauses Linked Per Sentence
Group Comparisons

Group »	Immersion	Non-Immersion	Native
#CL	O - W	O - W	O - W
1	38 - 38	48 - 35	35 - 31
2	29 - 40	27 - 44	27 - 39
3	17 - 16	10 - 16	16 - 11
4	8 - 3	7 - 4	10 - 8
5	4 - 1	2 - 1	4 - 3
6	2 - 2	2 - 0	4 - 4
7	2 - 0	2 - 0	1 - 1
8		.7 - 0	1 - 0
9		.7 - 0	.2 - 1
11	.6 - 0		
12		.7 - 0	
14			.7 - 0

O=Oral Discourse W=Written Discourse
#CL=Number of Finite Clauses Linked Per Sentence

When the number of linked clauses was compared for each group for each modality, there was no significant difference between one- and two-clause sentences for the Immersion group in oral discourse, but there were significant differences between one- and two-clause sentences and all others. There was no significant difference between three- and four-clause sentences, but there were significant

differences between three-clause sentences and anything greater than four clauses. For the written, there was no significant difference between one- and two-clause sentences, but there were significant differences between one- and two-clause sentences and any sentence containing more than two clauses.

For the Non-Immersion group, there were significant differences between one-clause sentences and all other sentences, and significant differences between two-clause sentences and all other sentences for the oral. For the written, there was no significant difference between one- and two-clause sentences, but one- and two-clause sentences were significantly different from three- or more clause sentences. Three-clause sentences were significantly different from four- or more clause sentences.

Finally, there was no significant difference between one- and two-clause sentences for the Native group in oral discourse as compared with the other two groups. One- and two-clause sentences were significantly different from three- or more clause sentences. There was no significant difference between three- and four-clause sentences, but three-clause sentences were significantly different from five- or more clause sentences. There were no differences between four-, five- or six-clause sentences, but four-clause sentences were significantly different from seven- or more clause sentences. In the written modality, again there was no significant difference between one- and two-clause sentences, but there were significant differences between one- and two-clause sentences and three- or more clause sentences.

4.3 Mean Number of Clauses per Sentence

For the analyses in this section, a mean number of clauses per sentence which includes both finite and non-finite clauses was calculated for each subject for both the oral and written descriptions. As with Mean Clause Length, it was possible to determine if there were any significant differences between the Mean Number of

Clauses per Sentence (M#CPS) in the oral and written narratives at the individual subject level.[46] Distinctions between the two modalities were found for two Immersion, four Non-Immersion and one Native speaker. Thus, one-third of the subjects in the study seemed to be using different strategies when producing oral and written discourse, while two-thirds of the subjects seemed to make no distinctions between the two modalities in terms of the M#CPS. This feature would appear to be highly subjective as there was a lack of homogeneity amongst the subjects for all three groups in both oral and written discourse.

Table 35

Mean Number of Clauses Per Sentence
Group Comparisons

Group	Oral	Written	p
Immersion	2.38	2.11	.065
Non-Immersion	2.05	2.09	.789
Native	2.82	2.48	.113
Group Comparisons	p=.000*	p=.013*	

When the three groups were compared, as illustrated in Table 35, there were significant differences between the three groups for both the oral and written M#CPS. The Native speakers' M#CPS were significantly higher than the other two groups for both the oral and written. (Oral and Written - N vs. I $p<.01$*; N vs. NI $p<.01$*) There were no significant differences between the Immersion group and the Non-Immersion group in written discourse, but there was a significant difference between these two non-native groups in oral discourse. (Written - I vs. NI $p>.05$; Oral - I vs. NI $p<.05$*) No oral/written distinctions were found for any subject group, although there was a

[46]Results for individual subjects may be found in Appendix O.

strong tendency for Immersion subjects to link more clauses per sentence in oral discourse than in written discourse.

In terms of native speaker ranges, in oral discourse the Native range of M#CPS is 2.15 to 3.49. One Immersion and five Non-Immersion subjects fell below the Native range. In written discourse, the Native results ranged from 1.95 to 3.69. Three subjects in each non-native group failed to reach the minimum Native M#CPS.

4.4 Mean Sentence Length

Analyses similar to those used to determine Mean Clause Length for finite and non-finite clauses (as described in Chapter 3, Section 3.5) were conducted to determine Mean Sentence Length (MSL) - mean number of words per sentence. At the individual level, one Immersion, three Non-Immersion and two Native subjects demonstrated differences between oral and written discourse, however, the differences were not all in the same direction.[47] For four of these six subjects, the oral MSL was longer than the written, while the opposite was true for the other two subjects.

The Native range established for MSL in oral discourse is 16.1 to 24.7 words per sentence, while in written discourse the range is from 14.9 to 28.2 words per sentence. In the oral modality, four of the seven Immersion subjects and seven of the eight Non-Immersion subjects had MSLs below the minimum Native 'norm'. In written discourse, again four Immersion subjects failed to attain the minimum Native 'standard', but only three of these subjects were the same as those found to deviate from the native 'norm' in oral discourse. Only five of the eight Non-Immersion subjects fell below the established Native range. This would be a clear indication of non-native speakers functioning quite differently in the two modalities when

[47]See Appendix P for results at the individual level.

compared to native speaker 'norms', indicating it may be possible for them to construct discourse in a similar fashion to native speakers in one modality, but not the other.

At the individual level, there were significant differences among the subjects of each group in each modality. The greatest amount of variation amongst the subjects of each group appeared to be in written discourse.

Table 36

Mean Sentence Length
Group Comparisons

Group	Oral	Written	p
Immersion	15.1	14.0	.215
Non-Immersion	12.9	13.3	.614
Native	19.6	19.8	.880
Group Comparisons	p=.000*	p=.000*	

A comparison of the three groups reveals (Table 36) no oral/written differences for any group, but there were significant differences between the three groups in each modality. Native MSLs were significantly longer than those of either non-native group in both oral and written discourse (Oral and Written - N vs. I and NI $p<.01$*). The oral MSL of the Immersion group was significantly longer than that of the Non-Immersion group, but no difference was found between the two groups in written discourse (Oral - I vs. NI $p<.05$*; Written - I vs. NI $p>.05$).

4.5 Mean Sentential Quotients

As with clauses, a weighting system was devised based on the data presented in the previous sections leading to sentential quotients which allow for individual differences amongst subjects. The most salient aspect of the clausal quotient was the information on the distribution of the types of clauses used by L2 learners, whereas the focal point of the sentential quotients is the ability to link numerous clauses

together rather than relying on simple one-clause sentences. In oral discourse in particular, intonation and other prosodic features play a key role in terms of the number of clauses linked per sentence. This aspect of discourse is ignored in the clausal quotient measures.

At the sentence level, the weighting system is based on: 1) the number of clauses per sentence, 2) sentence length, and 3) the types of clauses contained within each sentence. In Section 4.2, we saw that the majority of sentences used by each group contained one or two finite clauses (approximately 70% for non-native speakers and over 55% for Native speakers). When both finite and non-finite clauses were considered, as in Section 4.3, we found that the mean number of clauses per sentence was less than three for most of the subjects involved in this study (there were a few exceptions in the Native group). Therefore, based on the results in these two sections, each sentence containing three or more clauses was given one point for each clause beyond two, i.e., if a sentence consisted of three clauses, finite or non-finite, it would receive one point, if it contained four clauses, it would receive two points, etc.

The second weighting assigned to the sentence was based on length. The criteria used to establish the length weighting was based on the fact that the majority of sentences consisted of one or two clauses and that the mean number of words per clause was approximately seven (See Chapter 3, Section 3.5). Therefore, 14 words per sentence or two clauses was used to determine the weighting scale. That is, if a sentence contained 1-14 words, it received one point, 15-28 two points, etc.

Finally, weightings were assigned based on the clauses found within each sentence. In this case, the same weightings given certain clause types to determine clausal quotients were used in determining sentential quotients. Non-finite Infinitive and Present Participle clauses received one point, while Past Participle non-finite clauses received two points. Frequently used relative pronouns and subordinating

conjunctions received one point, while less frequently used and more 'complex' relative pronouns and subordinating conjunctions received two points.

The following is the same sentence used to illustrate the tabulation system for clausal quotients.

30) **A)** *Elle finit*
B) *par s'asseoir sur un rocher nu,*
C) *et elle reste assise-la,*
D) *refléchissant peut-être*
E) *à ce qui s'est passé dans sa vie,*
F) *comment les choses ont changées*
G) *et ont détruites une partie d'elle-même*
H) *sans qu'elle la défende.*

The sentence in Example 30 consists of eight clauses, thus it would receive six points for the number of clauses beyond the first two. The sentence is 42 words long giving it three points for sentence length. It contains two non-finite clauses - one Infinitive (Clause B) and one Present Participle (Clause D) - which add two points. There is one infrequently used 'complex' relative pronoun (Clause E) that receives two points and two subordinating conjunctions. The subordinating conjunction found in Clause F receives one point as it does not require any verb changes and is used fairly frequently. The subordinating conjunction found in Clause H receives two points because it requires the subjunctive and is not used very often. The sentential quotient for this particular sentence would be 16. Quotients were determined for each sentence for each subject in each modality and then divided by the total number of sentences found in that subject's description.

Results at the individual level are presented in this section to facilitate discussion about those subjects who deviate from the established native speaker ranges. The results for the Native group are illustrated in Table 37. First, we see that four of the six subjects appear to be using different strategies when producing discourse in the two modalities, however, for one subject the written sentential

quotient is greater than the oral quotient, while the opposite is true for the other three subjects. At the group level, there would appear to be no production differences between the two modalities. We also find that there is a difference amongst the subjects themselves in each modality. In oral discourse, Subject #1 differs from Subjects #28 and #32. In written discourse, Subject #1 differs from all other subjects in this group. Obviously, this particular subject has her own unique style of producing discourse which seems to differ considerably from her peers. It is not clear why this is the case.

Table 37

Mean Sentential Quotient
Native Group

Subject#	Oral	Written	p
1	5.96	7.15	.451
21	3.88	3.57	.780
28	3.30	2.95	.00*
32	3.88	4.42	.00*
34	4.35	3.65	.00*
43	5.22	3.00	.00*
Group Mean	4.51	3.88	.187
Group Comparisons	p=.016*	p=.004*	

In terms of the Native ranges, in oral discourse the range is from 3.30 to 5.96, while in written discourse the range is from 2.95 to 7.15. When we compare the Immersion subjects to this data, as shown in Table 38, we find two subjects who do not fall into the Native range in oral discourse and three in written discourse. We also find that only one subject seemed to exhibit different strategies in the two modalities, but there was a significant difference between oral and written discourse when the group was tested, with the oral sentential quotient being greater than the written. Finally, we see that there was a lack of homogeneity amongst the subjects in this

group in both modalities. In this case, #25 and #44 were significantly different from #3 in the oral narratives, and #25 and #39 had quotients significantly greater than #3, #4, and #14 in written discourse.

Table 38

Mean Sentential Quotient
Immersion Group

Subject#	Oral	Written	p
2	3.60	3.00	.492
3	1.87	1.38	.104
4	2.54	1.94	.267
14	3.57	1.78	.02*
25	3.64	3.75	.890
39	3.35	3.55	.816
44	5.24	3.00	.138
Group Mean	3.28	2.63	.027*
Group Comparisons	p=.009*	p=.000*	

For the Non-Immersion group, as illustrated in Table 39, seven of the eight subjects in this group failed to attain the minimum Native level in oral discourse, while five of eight fell below the Native range in written discourse. Three subjects in this group displayed different production strategies in the two modalities. In two instances, the written was greater than the oral, while the opposite was true for the third subject. At the group level, there was no oral/written difference. Finally, as with the other two groups, subjects did not appear to be very homogeneous. In this group, #38 was significantly different from all other subjects in oral discourse. In written discourse, #38 and #47 had greater sentential quotients than #10, #19 and #23.

Table 39

Mean Sentential Quotient
Non-Immersion Group

Subject#	Oral	Written	p
6	1.62	3.26	.00*
7	2.22	2.31	.869
10	1.48	1.37	.589
12	2.29	2.29	.986
19	2.57	2.10	.303
23	3.00	1.96	.135
38	7.90	3.65	.01*
47	2.46	3.40	.00*
Group Mean	2.63	2.48	.557
Group Comparisons	p=.000*	p=.000*	

When the three groups were compared (see Table 40), there were significant differences between the Native group and the two non-native groups for each modality (N vs. I p<.01*; N vs. NI p<.01*). There was also a significant difference between the Immersion and the Non-Immersion group for the oral sentential quotients (I vs. NI p<.05*), but no significant difference between the two non-native groups in written discourse (I vs. NI p>.05). These results are the same as those found for clausal quotients.

Table 40

Mean Sentential Quotient
Group Comparisons

Group	Oral	Written	p
Immersion	3.28	2.63	.03*
Non-Immersion	2.63	2.48	.557
Native	4.51	3.88	.187
Group Comparisons	p=.000*	p=.000*	

To discover why Subject #4 in the Immersion group fell below the Native range in oral discourse, we must re-examine the individual results of the various aspects of discourse at the sentence level. First, we find that 84% of her sentences consisted of one or two finite clauses. Her Mean Number of Clauses per Sentence was only 1.68 when both finite and non-finites were considered. The mean number of words per sentence found for this subject was approximately two words per sentence less than the minimum mean for the Native group. Only 1% of her clauses contained a non-finite structure, and only 7% contained relative pronouns. This subject would be ranked as syntactically immature on the syntactic complexity continuum since she keeps her sentences short and simple.

4.6 Summary

In terms of the differences between the types of sentences used in the two modalities, the three groups have very different results. For the Native group, there were no differences between any of the sentence types in the two modalities. Immersion subjects used more Simple Non-Finite sentences in the written modality than in the oral, but used the other sentence types in a comparable manner in both modalities. The Non-Immersion group exhibited the most differences between sentence types found in the oral and written narratives. They used more Simple Finite sentences and Fragments in oral discourse than in written discourse and more Coordinate sentences in the written than in the oral.

The two non-native speaker groups used significantly more Simple Finite sentences in the oral modality than any other sentence type. Native speakers, however, only used Simple Finite sentences more than Simple Non-Finite sentences and Fragments. The Immersion group used more Coordinate, Subordinate and Coordinate/Subordinate combination sentences than Simple Non-Finite sentences and

Fragments, while the Non-Immersion group used only more Coordinate and Subordinate sentences than Fragments. The Native group used more Coordinate/ Subordinate combination sentences than Simple Non-Finite sentences and Fragments, as well as more Subordinate sentences than Fragments.

In the written modality, the Native group used more Subordinate sentences than Simple Non-Finite sentences and Fragments, but tended to use the other sentence types to approximately the same degree of frequency. For the Immersion group, Coordinate and Simple Finite sentences occurred more frequently than Simple Non-Finite sentences and Fragments, and Subordinate sentences occurred more often than Fragments. For the Non-Immersion group, Simple Finite sentences occurred more frequently than Simple Non-Finite, Coordinate/Subordinate combination sentences and Fragments. Coordinate sentences occurred more often than Subordinate, Simple Non-Finite, Coordinate/Subordinate combination sentences and Fragments. Subordinate sentences also occurred more often than Simple Non-Finite Sentences and Fragments.

In terms of the distribution of sentence types, each group was distinctive; however, in terms of the actual use of certain sentence types, there were no differences between the three groups in the oral narratives. In the written narratives significant differences occurred only between the Native and Non-Immersion group for Coordinate sentences and Fragments. This suggests that at the sentence level non-native speakers produce the same types of sentences within each modality as those used by Native speakers.

There were no significant differences between the oral and written number of linked clauses for any group except for two-clause sentences. For each group, there were significantly more two-clause sentences in written discourse than in oral discourse. There were also no significant differences between any of the groups for

any number of linked clauses. Finally, within each group for each modality, there seemed to be significantly more one- and two-clause sentences than three- or more clause sentences.

There seems to be a great deal of variation amongst the subjects themselves for each group, making it difficult to make any generalizations about trends or patterns in the number of clauses linked per sentence. There are too many individual differences leading to a lack of homogeneity amongst the subjects of each group which account for no statistically significant differences between the three subject groups. However, these individual differences are accounted for in the sentential quotient analyses.

For the Mean Number of Clauses Linked per Sentence (M#CPS), at the individual subject level, there were significant differences between the oral and written M#CPS for seven of the 21 subjects (two I, four NI, and one N). For the within group comparisons, there were significant differences for each subject group for both oral and written M#CPS. This would indicate that the subjects were not very homogeneous in terms of the number of clauses linked per sentence. There were no significant differences between the written and oral M#CPS for any group, but there was a strong tendency for a distinction to be made by the Immersion group. When the three groups were compared, there were significant differences between the Native group and the other two groups for both oral and written M#CPS. There was also a difference between the Immersion group and the Non-Immersion group in oral discourse, but not in written discourse. This is another area of L2 discourse development that may be affected by length and type of instruction.

For sentence length at the individual level, there were significant differences between the two modalities for six of the 21 subjects (one I, three NI, two N), but not all in the same direction. There were no oral versus written differences when the three groups were tested as a whole. There was a lack of homogeneity amongst the subjects

in each group, particularly in the written mode. When the three groups were compared, it was found that the Native speakers' sentences were significantly longer than those of the non-native speakers in both modalities. In the oral descriptions, the sentences were longer for the Immersion group than for the Non-Immersion group. This coincides with the analyses of clauses per sentence which is what one would expect. More than half of the non-native speakers failed to attain native speaker 'norms' in both modalities, but the same subjects were not always involved. Therefore, if sentence length is to be considered as a measure of syntactic maturity, the results here concur with previous findings in that sentence length is related to language proficiency. The Immersion subjects in oral discourse are closer to native speakers on the syntactic complexity continuum than are Non-Immersion subjects.

Finally, at the individual level, there were significant differences between the oral and written sentential quotients for over one-third of the subjects (8/21 - one I, three NI, four N). However, the differences were not all in the same direction. For five of the eight, the oral quotients were greater than the written quotients while for the other three, written quotients were greater than oral quotients. There was significant variability among the subjects of each group for each modality. At the group level, there was an oral/written difference for the Immersion group, but not for the Native or Non-Immersion group. In oral discourse, nine of the 15 non-native speakers fell below the Native range (two I and seven NI). In written discourse, eight non-native subjects failed to attain the minimum Native level (three I and five NI). There were also significant differences between the three groups. Native speakers' oral and written sentential quotients were greater than those of th Immersion and Non-Immersion groups. There was also a significant difference between the oral quotients of the Immersion group and the Non-Immersion group, wherein the Immersion group's quotients were greater, but no difference was found for the written

narratives. The major factors affecting the sentential quotients would appear to be the number of clauses linked per sentence and sentence length as the results for these three analyses are identical. This implies that non-native subjects need to increase the number of clauses linked per sentence which will automatically increase the length of the sentence in order to produce sentences which resemble native speaker sentences. It would also appear that Immersion subjects are closer to native speaker proficiency at the sentence level than are Non-Immersion subjects. These results suggest that L2 learners are not only syntactically immature because their sentences are shorter than those of native speakers, but also that they lack the syntactic maturity to produce complex structures comparable to those employed by native speakers.

Chapter 5
ENGLISH VS. FRENCH
Comparisons to Beaman's Study

In the previous chapters, the analyses have measured and illustrated the position of each non-native subject and group on the syntactic complexity continuum as compared to native speakers of the target language. The discussion presented in this chapter attempts to show that interference from L1 may account for the deviant or insufficient use of certain syntactic structures by L2 learners. Comparisons are made between native French and native English speakers to determine if L2 students are using structures more commonly used in their native language (English), if they are using certain discourse features to the same degree as native French speakers, or if they fall somewhere between the source and target language on the 'continuum' towards mastery of the target language. The native English speaker data come from a study conducted by Beaman in which she investigated subordination and coordination. Native English speakers provided narratives of a film in both oral and written discourse. It is assumed that Beaman intended her results to be extended to narration as a genre and not to be confined simply to the experiment conducted. Comparisons to Beaman's study allow discussion of the use of certain syntactic features in French and English which may indicate problem areas for native English speakers learning French. We may also be able to determine if the same general oral versus written differences and tendencies occur regardless of the language used to elicit the data.[48]

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[48]The total number of words found in the oral and written descriptions used in Beaman's study were approximately the same as the results found in the present study. For the 20 subjects in Beaman's study, the total number of words found in the oral descriptions was 12,594, while in this experiment the total was 12,823 for 21 subjects. In the written descriptions, the total number of words was 7,072 for Beaman's subjects and 7,153 in this study. Therefore, approximately the same amount of data in each modality was elicited despite the difference in language, the film itself and the proficiency level of the speakers. It should also be noted that subjects used in Beaman's study (who actually came from Chafe's study) were all university students. They were all women, and although a few men were used in the current research, the majority were female and all but one was a university student.

Not all of the analyses conducted in the present research were undertaken by Beaman; therefore, comparisons at the clause level include only comparisons of the use of two non-finite clause types and the use of certain relative pronoun, subordinate, coordinate and anaphoric adverb constructions. If certain clause types were not found in both studies, they were eliminated before the frequency indices were calculated so that only like structures were compared, and the results would not be distorted by an imbalance of features analyzed. At the sentence level, comparisons were made in terms of the percentage breakdown of the six sentence types measured in both studies.

5.1 Non-Finite Clauses

Although the basic oral versus written findings for finite and non-finite clauses in this study coincide with Beaman's in that there were more non-finite clauses in the written than in the oral modality, there were differences between the two studies in terms of the types of non-finite clauses found in the data. Tables 41 and 42 present the oral and written frequency indices of the two non-finite clause types - Infinitive and Present Participle - found in both studies. It should be noted that non-finite clauses containing Past Participle and "Other" types of constructions were found in this study as reported in Chapter 3, Section 3.4. As Beaman did not include these non-finite structures in her study, they were disregarded in the current analyses. There were differences in the use of these structures between Native and non-native speakers; therefore, these two non-finite structures would appear to lend themselves to further investigation to determine if there are actual language differences or merely stylistic differences involved in the use of these non-finite clause structures.

In oral discourse, as illustrated in Table 41, we find that Infinitive non-finite clauses occur approximately six times or more in French oral narratives than in English narratives. Although there was a significant difference between the Native and Non-

Immersion group, we see that the Non-Immersion group is behaving more like their native French than native English counterparts.

Table 41

Frequency Indices of Non-finite Clause Types[49]
Oral - Group Comparisons

Type	I	NI	N	B
Infinitive	13.1	11.4	15.8	2.5
Present Participle	0	1.2	.54	15

I=Immersion NI=Non-Immersion N=Native B=Beaman

Present participles, on the other hand, occurred almost 15 times more often in English than in French for all three French speaking groups. In Beaman's study, present participles occurred six times more often than infinitives, while in French infinitives occurred 11 or more times as often as present participles. Obviously, French and English differ in the use of these two non-finite constructions, with Infinitive being the predominant non-finite construction in French and Present Participle in English.

When oral and written non-finite clause types are compared, based on the data in Tables 41 and 42, both non-finite clause types occurred more frequently in the written descriptions than in the oral descriptions for all three French groups, as well as for Beaman's native English speakers. In written discourse, Infinitive constructions were again more common in French than in English, with Infinitive constructions

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[49]It should be noted that the numbers found in Chapter 3 for the frequency of specific non-finite clause types, subordinators and coordinators, and the percentages for the six sentence types in Chapter 4 were means for each group so that statistical analyses could be performed and comparisons between the subject groups and modalities could be made. Beaman, however, did not use means in her study. She also does not appear to have conducted any statistical analyses to determine if the results for each modality were significantly different, but rather used frequency indices and percentages representing the group as a whole. In the discussion presented in this chapter, the same types of calculations were used. The numbers represent the data for the entire group and not the mean for the group which explains the difference between the numbers used in this chapter and those found in Chapters 3 and 4.

being used at least three times as often, if not more, in French than in English. As in oral discourse, we see that the two non-native speaker groups are operating more like French speakers than English speakers.

Table 42

Frequency Indices of Non-finite Clause Types Written - Group Comparisons

Type	I	NI	N	B
Infinitive	28.7	22.4	33.2	7.6
Present Participle	6.5	24.1	9.4	22.8

I=Immersion NI=Non-Immersion N=Native B=Beaman

However, for present participles, there are mixed results for the three French speaking groups as compared to Beaman's subjects. For the Immersion group and the Native group, considerably fewer present participle constructions were found in their written descriptions than in Beaman's study, with present participles occurring at least two and one-half times more often in English than in French. The Non-Immersion group, on the other hand, actually used slightly more present participles in the written descriptions than did Beaman's native English speakers. This suggests an area where the L2 learner is experiencing interference from L1. This is supported by the fact that 31% of the occurrences of the present participle in the written descriptions of the Non-Immersion group were incorrect. 40% of those errors should have been infinitives while the other 60% should have been finite clauses. If these are removed, since they appear to be English translations into French, then the frequency of present participles in French by the Non-Immersion group drops to 16.7, which is still far more than the frequency of present participles used by the Immersion or Native group.[50] Non-Immersion subjects appear to be clinging to English non-finite structures, but they are

[50]It should be noted that all of the uses of the present participle by the Immersion group were correct.

also capable of using present participle structures in 'grammatically' acceptable ways in French.

Finally, when infinitives and present participles are combined, as illustrated in Table 43, to show the distribution of non-finite clauses in the two modalities, we see that the non-native French speakers used fewer non-finite clauses in the oral narratives than either native speaker group. The use of non-finites appears to be quite similar for the two native speaker groups, suggesting non-finites are used to the same degree in the two languages, but the distribution of specific non-finite clause types differs with Infinitive the prevalent structure in French and Present Participle in English. Non-native French speakers appear to lag slightly behind their native speaker counterparts in the use of non-finites in oral discourse.

Table 43

Frequency Indices of Total Number of Infinitive and Present Participle Non-finite Clause Types

Modality	I	NI	N	B
Oral	13.1	12.5	16.3	17.5
Written	35.2	46.5*	42.7	30.4

I=Immersion NI=Non-Immersion N=Native B=Beaman

*This number does not take into consideration incorrect use of the Present Participle. If this were taken into consideration, the number would be 39.2.

In written discourse, however, we see that the Immersion group used only slightly more non-finites than Beaman's subjects, while the Native and Non-Immersion groups used considerably more. Even when incorrect uses of the present participle are not considered, the Non-Immersion group used almost nine more non-finites per 1000 words than Beaman's subjects, and the Native speakers used more than 12 additional non-finites for the same amount of data. This implies that

non-finite structures are used more frequently in French than in English written discourse, and the two non-native French groups seem to be operating more like French speakers than English speakers when they have enough production time to manipulate their discourse.

5.2 Subordination and Coordination

Since Beaman was interested in investigating subordinating and coordinating constructions, she provided detailed analyses of the frequency of these structures. Table 44 presents comparisons to Beaman's results for relative pronouns which include relative clauses in which the relative pronoun has been omitted. In the oral, the Immersion and Non-Immersion groups appear to be behaving more like their English speaker counterparts than native French speakers, since the native French speakers used more than twice as many relative pronouns than they did.

Table 44

Frequency Indices of Relative Pronouns

Modality	I	NI	N	B
Oral	10.5	10.2	21.6	11.7
Written	14.1	13.5	20.2	6.9

I=Immersion NI=Non-Immersion N=Native B=Beaman

In the written, the two non-native groups fall between the two native speaker groups. It is interesting to note that in Beaman's study, relative pronouns occurred more often in oral discourse than in written discourse. For the two non-native French groups, the opposite was true, relative pronouns occurred slightly more often in written discourse than in oral discourse, while for native French speakers, the use of relative pronouns is almost the same in the two modalities, but considerably higher than any other speaker group. This suggests that relative pronoun constructions are

used more frequently in French than in English in both modalities, but especially in writing.

Table 45

Frequency Indices of Adverbial Subordinate Conjunctions

Modality	I	NI	N	B
Oral	34.3	26.2	18.1	8.40
Written	21.0	16.7	12.1	13.0

I=Immersion NI=Non-Immersion N=Native B=Beaman

The frequency comparisons for Adverbial Subordinate Conjunctions (ASC) may be found in Table 45.[51] Here, we note that in the oral descriptions, clauses containing ASCs appear to be more frequent in French than in English. We also note that the non-native French speakers appear to use ASCs to a greater degree than native speakers of either French or English. The Non-Immersion group used ASCs three times more often than their native English speaking counterparts, and the Immersion group more than four times as often. Native French speakers tended to use fewer subordinate conjunctions than did the non-native groups, but still used more than twice the number of subordinate conjunctions used by subjects in Beaman's study. This may simply indicate that this kind of structure is more common in oral narratives in French than in English, but why non-native speakers use this type of structure so frequently is not easily discernable. Perhaps this is a device that non-native speakers have learned which has helped them to buy production time. Many of the structures were of the type: *Je pense que* ... or *Je crois que* ...; thereby offering an opinion and giving the subjects additional time to decide what it is they wish to say.

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[51] As mentioned at the beginning of the chapter, structures not found in both studies were eliminated. In this case, Beaman concentrates on 'adverbial' subordinate conjunctions; therefore, all other subordinate conjunctions were deleted before calculations were made so that the two studies would be comparing the same items in both languages.

In the written descriptions, the two native speaker groups appear to use ASCs to approximately the same degree. The two non-native groups (and especially the Immersion group), however, used more subordinate conjunctions than either of the native groups. The increased use of subordinate conjunctions by non-native subjects compared to native speaker groups of either French or English is not clear, but it may indicate that these are structures L2 students feel comfortable and confident in using. This is supported by the fact that few errors were found in connection with ASCs. They also tended to use the same ones repeatedly, and generally avoided adjectival subordinate conjunctions requiring the subjunctive or some other tense. They may use an overabundance of ASCs in order to compensate for the lack of other 'complex' structures such as relative pronouns and/or reduced clauses.

For Coordinate Conjunctions, it should be noted that *ou/or* and *mais/but* occurred infrequently for all four groups in both the oral and written descriptions. The real difference occurs for the use of the conjunction and weak connector *et/and*. In the oral descriptions (Table 46), we find that the native English speakers in Beaman's study use coordinating conjunctions (and basically that means *and*) almost three times as frequently as native French speakers. French speakers do not seem to use or need this type of filler word or weak connector to the same degree as native English speakers which may be due to the well defined intonation system associated with 'standard' French. Non-final clauses will have a clearly rising intonation which allows the speaker to hold the floor and gives him/her additional production time. The rising pitch is the overt marker that more is to come rather than a coordinating conjunction.

For the two non-native French groups, we find that in the Immersion data there were more than 30 fewer occurrences of coordinating conjunctions per 1000 words than those found in Beaman's data, while the Non-Immersion subjects had at least ten less per 1000 words than Beaman's subjects.

Table 46

Frequency Indices of Coordinate Conjunctions[52]

Modality	I	NI	N	B
Oral	47.1	68.4	30.9	78.8/89.2[53]
Written	27.1	26.1	16.6	38/39.3

I=Immersion NI=Non-Immersion N=Native B=Beaman

In the written descriptions, there were far fewer coordinating conjunctions than in the oral descriptions for all four groups. However, Beaman's subjects still tended to use more coordinating conjunctions than any of the three groups in the current study. The two non-native groups used approximately the same number of coordinating conjunctions per 1000 words, however, this was 12 to 13 coordinating conjunctions less per 1000 words than found in Beaman's results. Native French speakers again used far fewer coordinating conjunctions than any of the native English speaker groups, and compared to Beaman's data, they used almost two and one-half times fewer coordinating conjunctions than those found in the English narratives. It is obvious that coordinating conjunctions occur less frequently in French than in English in both oral and written discourse and that non-native French speakers tend to fall between the two native speaker groups.

For anaphoric adverbs, illustrated in Table 47, in the oral descriptions the Non-Immersion group and the Native group seem to be the most similar. The subjects in Beaman's study used slightly more anaphoric adverbs than did these two groups, but it

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[52]In French, the coordinating conjunction *car* was also found in some descriptions. Since no equivalent conjunction was found in Beaman's results, those numbers were eliminated so that the data in the two studies would be comparable.

[53]The first number is the result presented in Beaman's findings, however, it appears that she counted combinations separately. Since the frequency results in this study represent all occurrences of coordinating conjunctions whether used alone or in conjunction with some other marker such as an anaphoric adverb or subordinating conjunction, the appropriate adjustments were made leading to the second number given which should represent a number calculated in the same way in the two studies.

was the Immersion group that used notably more than any of the other three groups. This is explained by the aberrant behavior of two subjects in this group who appeared to be using the anaphoric adverb *puis* as a weak connector in the same way other subjects used the coordinating conjunction *et*. Thus, the use of anaphoric adverbs in oral discourse is generally similar between English and French with English speakers using only slightly more.

Table 47

Frequency Indices of Anaphoric Adverbs[54]

Modality	I	NI	N	B
Oral	26.4	12.8	11.3	17.2
Written	2.00	4.50	4.00	7.90

I=Immersion NI=Non-Immersion N=Native B=Beaman

Considerably more anaphoric adverbs occur in the oral descriptions than in the written for all four speaker groups. In the written descriptions, the native English speakers in Beaman's study tend to use more anaphoric adverbs than any of the three groups speaking French. In fact, Beaman's subjects used almost four times as many anaphoric adverbs in the written descriptions than did the Immersion group and nearly twice as many as the Non-Immersion and Native groups. Thus, the two anaphoric adverbs measured here seem to be used less frequently in French than in English with the exception of two subjects in the Immersion group.

5.3 Sentence Types

The final comparison to Beaman's study involves the breakdown of sentence types as defined in Chapter 4, Section 4.1. First, Simple Finite sentences were used

[54]The only comparable anaphoric adverbs in the two studies are *puis/then* and *alors/so*; therefore, these are the only anaphoric adverbs considered in the following comparisons.

more often by the subjects in all three French speaking groups and in both modalities than Beaman's native English speakers (see Table 48). In the written narratives, non-native speakers used Simple Finite sentences to the same degree, which was 11% higher than the usage of this sentence structure by Beaman's native English speakers. Native speakers used Simple Finite sentences 6% more often than Beaman's subjects. This may mean that, stylistically, this is more common in written French than in written English.

Table 48

Percent Breakdown of Sentence Types
Group Comparisons

Group »	Immersion	Non-Immersion	Native	Beaman
S-Type	O - W	O - W	O - W	O - W
Sim-Fin	36% - 29%	44% - 29%	26% - 24%	20% - 18%
Sim-NonFin	3% - 10%	5% - 8%	7% - 8%	6% - 11%
Coordinate	18% - 27%	18% - 32%	22% - 21%	25% - 38%
Subordinate	23% - 19%	20% - 22%	18% - 24%	13% - 12%
Coor/Sub	19% - 14%	12% - 10%	25% - 18%	27% - 18%
Fragment	.6% - .8%	2% - 0%	3% - 6%	9% - 3%

O=Oral Discourse W=Written Discourse Sim-Fin=Simple Finite Sentences
Sim-NonFin=Simple Non-Finite Sentences
Coor/Sub=Coordinate/Subordinate Combination Sentences

In the oral, the native French use of Simple Finite sentences is again 6% higher than the quantity used by native English speakers. As one might expect of non-native speakers, there was a definite tendency for the non-native speakers to use Simple Finites in oral discourse more often than native speakers of either language. The Immersion group used Simple Finite sentences 16% more often, and the Non-Immersion subjects, 24% more often (more than double Beaman's subjects).

Beaman's results indicate that the use of Simple Finite sentences is approximately the same in the two modalities. The same is true for the Native group

in this study. However, it is the non-native speakers who use this structure considerably more often in oral discourse than in written discourse. This is obviously due to their oral competency in the target language. Simple Finite sentences would be the easiest sentence structure to use, and it is probably the one with which the subjects are the most familiar and comfortable.

For all four groups, we find that Simple Non-Finite sentences do not account for a very high percentage of the sentences found in the oral narratives, and they account for only slightly more in the written narratives. We note that the use of Simple Non-Finite sentences is almost the same in the two modalities for native French speakers, while for the Non-Immersion group it was slightly higher in written discourse than in oral discourse. Beaman's subjects used non-finite structures 5% more often in the written than in the oral, while Immersion subjects more than tripled their use of non-finite structures in the written. This is what one would expect given that these non-finite structures, particularly for non-native subjects, are more 'complex', thus requiring more processing time. It is then curious as to why native French speakers seem to make no distinction between the use of this type of structure in the two modalities. It should be noted, however, that the only group for which there was a significant difference between the use of Simple Non-Finite sentences in the two modalities was for the Immersion group.

For Coordinate sentences, Beaman claimed that there were significantly more found in the written descriptions than in the oral. This was also true for the subjects in the Non-Immersion group. While there were more found in the written descriptions for the Immersion group, this difference was not significant. However, for native French speakers, the percent of Coordinate sentences found in the two modalities were approximately the same. Slightly more Coordinate sentences were found in Beaman's oral narratives than those in this study for all three groups. In the written descriptions,

native English speakers seemed to use considerably more Coordinate sentences than did native French speakers. The two non-native groups tended to fall between the two native groups, with the Immersion group being closer to native French speakers and the Non-Immersion group being closer to native English speakers. When tested, the only significant difference in the use of Coordinate sentences found in the two modalities was for the Non-Immersion group where this structure occurred significantly more often in written discourse than in oral discourse. It is more than likely they used coordinators to combine clauses and lengthen sentences while at the same time avoiding potential errors linked to more complex structures. This implies greater 'syntactic maturity' on the part of Immersion subjects than Non-Immersion subjects.

For Subordinate sentences, Beaman's results were approximately the same in the two modalities. This was also true for the three subject groups in the current study, as there were no significant differences between the oral and written percentages for each subject group. However, when we compare Beaman's results with those of the present study, we find that this structure occurred more often in French than in English in both modalities. It would then appear that Subordinate sentences are used more often in French than in English, while Coordinate sentences occur more frequently in English than in French.

When the Coordinate/Subordinate combination sentences were analyzed for the three subject groups who participated in this study, no significant differences were found between the two modalities. The two native groups appear to use this type of structure to the same degree in both modalities, while there is a decline in the use of this structure found in the narratives of the Immersion group and an even greater decline on the part of the Non-Immersion subjects. Again, if this structure is considered to be more 'complex' than other structures, it would follow that the use of

this structure would occur less frequently in narratives produced by non-native speakers than by native speakers.

Finally, for Fragments, we find that the grammatical notion that Fragments should be avoided is supported by the low numbers presented for the two non-native speaker groups. It is not uncommon in language classes for teachers to insist that students respond orally in complete sentences. This is done to encourage students to practice various structures. In writing, both in one's native language and in the target language, one would also be discouraged from using fragments. The numbers for Fragments, however, are higher for the two native groups. It is interesting to note that Fragments in the oral narratives of native English speakers occurred three times as often as in the oral narratives of native French speakers, however, in the written narratives, they occurred twice as often for native speakers of French as for native speakers of English. It would then appear that Fragments are somewhat more prevalent in written French narratives than in written English narratives. This appears to contradict Beaman's claim that Fragments occur more often in oral discourse than in written discourse. It would appear that the greater use of fragments in oral discourse than in written discourse is not universal, indicating the use of fragments may be a language specific feature of discourse.

Chapter 6
DISCUSSION and CONCLUSIONS

The data in the preceding chapters have presented measurable differences between native and non-native discourse for specific discourse structures at the clause and sentence levels in both oral and written discourse. The evidence not only confirms the assumption that the organization of non-native discourse differs distinctively from that of native discourse, but provides empirical data as to the degree of deviation for each syntactic feature analyzed at both the group level - so that some generalizations about the syntactic maturity of intermediate level L2 learners may be made - and at the individual level - since syntactic maturity is highly idiosyncratic.

Generally speaking, at the clause level we find that non-native speakers' oral and written discourse consist of clauses that are shorter than those produced by native French speakers; they use more finite and fewer non-finite constructions. Non-native speakers do not use as many relative pronouns, and in oral discourse they use more overt markers to link clauses to one another rather than relying on intonation or other prosodic features. These generalizations, however, do not necessarily apply to every subject in each modality, as illustrated by the variation amongst the subjects of a particular group for certain features.

In terms of clause length, non-native clauses were on average slightly more than one word per clause shorter than native clauses in both oral and written discourse. Although the written clauses were longer than the oral clauses for all three subject groups, suggesting that the additional production time available in written discourse does allow speakers, both native and non-native, to produce longer clauses, greater production time resulted in a larger number of non-native subjects failing to meet the native 'norm'. That is, in oral discourse nine of the 15 non-native subjects fell within the established native range (with two others being very close to the native 'norm'). In

written discourse, on the other hand, only two subjects (one from each non-native group) produced clauses comparable in length to those produced by native French speakers. Perhaps in oral discourse, due to the lack of production time, there is a natural restriction to the potential length of a clause. This is reminiscent of Chafe's (1980) 'idea units' occurring in short bursts in oral discourse and Miller's (1956) magical number seven, plus or minus two in terms of the limitations on one's processing ability. It is possible that the restrictive nature of the length of oral clauses (lack of production time and limited processing ability) works as somewhat of an equalizer for non-native subjects, allowing more subjects to attain native speaker levels. The results for length generally coincide with those of Dvorak (1987) and others who found that length increased with the proficiency level of the speaker. Dvorak also found that for her intermediate and advanced level learners, length was slightly greater in written discourse than in oral discourse.

In terms of the distribution of finite clauses, non-finite clauses and fragments, we found that native French speakers used more non-finite structures and fewer finite structures than non-native speakers in both oral and written discourse. At the individual level, in oral discourse nine subjects failed to meet the native 'norm' for the use of non-finite structures, while in written discourse 11 non-native speakers fell below the minimum native level.

The breakdown of non-finite clauses into four distinct categories then allowed us to pinpoint the differences between speaker groups. In oral discourse, Native speakers used more infinitives than the Non-Immersion group, and in written discourse they used more past participles than either non-native group. There was also a strong tendency for them to use more "Other" constructions. One aspect of discourse we notice throughout the descriptions for both finite and non-finite clauses is the variety of structures used in Native discourse, while the discourse of non-native

speakers tends to show a greater amount of repetition. As expected, subjects repeatedly use structures with which they are the most familiar and comfortable (e.g., more infinitives and present participles rather than past participles and 'Other' non-finite constructions).

When we compared the use of infinitives and present participles with Beaman's results, we found that native English and French speaking groups used approximately the same amount of non-finites in the two modalities, but English speakers used more present participle constructions while French speakers used more infinitive structures. Thus, the use of non-finite clauses is comparable in English and French, but a clear distinction is made between the two languages in terms of the predominant non-finite structure found in narrative discourse. This would indicate a potential area in which interference from the source language could occur. In looking at individual results, we find that in oral discourse, while the general numbers tend to be more like those found in the native French data, ten non-native subjects (four I and six NI) failed to reach the native 'norm' for infinitive non-finite clauses. Present participle structures do not occur very often for any group in oral discourse, suggesting that this type of structure is limited in use to written expression.

In written discourse, non-native speakers again appear to produce clauses more like their native French rather than native English counterparts in the production of infinitive non-finite clauses. In this case, only four non-native speakers (one I and three NI) failed to meet the minimum native level, indicating that the additional production time afforded in written discourse does allow more non-native speakers to use non-finite infinitive clauses in a comparable way to that found in native French narratives. It would also appear to allow interference from L1 to become a factor in terms of the use of present participles for the Non-Immersion group. Non-Immersion subjects produced present participles to a degree more comparable to native English

speakers than native French speakers. Four non-native speakers (one I and three NI) used considerably more present participles in their narratives than were found in the Native group's narratives.

For specific finite clause types in oral discourse, native speakers tended to link more clauses using intonation than did non-native speakers. This suggests that non-native speakers have not acquired native French intonation patterns resulting in the overproduction of various overt markers to link clauses rather than holding the floor with a rising pitch at the end of a clause. This is one area where we would have expected the Immersion group to use intonation patterns which more closely resembled those of native French speakers since they have had considerably more exposure to oral French than subjects in the Non-Immersion group. However, the use of intonation to link clauses in oral discourse is almost the same for the two non-native groups. Even more surprising is that if the five categories containing overt markers (Relative Pronoun, Subordinating Conjunction, Coordinating Conjunction, Anaphoric Adverb and Combination) are combined to form a category consisting of marked clauses, and are compared to the two categories which did not contain overt markers (Main and Punctuation/Intonation), we find that the Immersion group used significantly more marked clauses and fewer unmarked clauses than did the Native group, but there were no significant differences between the Non-Immersion group and the other two subject groups.

In written discourse, the conventions of writing seem to govern the use of marked and unmarked clauses resulting in strong similarities between the three groups. These data indicate that the gap between native and non-native speakers (in this case Immersion subjects) in the use of marked and unmarked clauses is considerable in oral discourse, but negligible in written discourse.

In terms of the specific overt markers used by the non-native groups, Non-Immersion subjects used significantly more coordinating conjunctions than did Native speakers, while the Immersion group used fewer coordinating conjunctions than did the Non-Immersion group, but still considerably more than Native speakers. However, there is probably no statistical difference between the Immersion group and the Native group due to the aberrant behavior of two subjects in the Immersion group. These two subjects appeared to be using the anaphoric adverb *puis* the same way that other subjects used *et*, which skewed the results.[55] The excessive use of weak connectors to link clauses by L2 learners as compared to native French speakers may again be the result of interference from L1. The weak connector *and* would appear to be a frequently used device in English to link clauses in both oral and written discourse (albeit more in speech than in writing) according to Beaman's results. The use of coordinating conjunctions in English was found to occur generally more than twice as often as what was found in French in both modalities. It is not surprising then to find non-native French speakers using this device to a greater degree than native French speakers. It should be noted, however, that non-native speakers appear to be aware that this structure does occur less frequently in French as they do not use quite as many coordinating conjunctions as their native English speaking counterparts. Non-native speakers are using coordinating conjunctions to a degree somewhere between English and French, but still leaning more toward the source language than the target language.

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[55]Two subjects in the Immersion group used *puis* 58 and 70 times per 1000 words. There were no significant differences between the three groups in terms of the use of anaphoric adverbs. When *puis* and *alors* were compared to Beaman's results, in oral discourse it was found that native English speakers used these two anaphoric adverbs more often than the Native and Non-Immersion groups, while the Immersion group used considerably more anaphoric adverbs than any of the other three groups. This is again attributed to the two subjects who used *puis* excessively. In written discourse, these two anaphoric adverbs occurred most often in the native English descriptions with the fewest occurrences being found in the Immersion group's narratives. The aberrant behavior found in the data does not allow for any conclusions to be made in regards to the use of anaphoric adverbs.

The main area of difference between native French speakers and non-native speakers in terms of the use of certain finite structures is the use of relative pronouns. Non-native speakers use considerably fewer relative pronoun clauses than do native French speakers. We found, however, that in oral discourse this may again be due to L1 interference and not necessarily an inability to use these structures. Non-native speakers used almost the same number of relative pronouns as native English speakers which was approximately half the number of relative pronouns found in the native French descriptions.

In written discourse, there was a sharp drop in the number of relative pronouns used by native English speakers, whereas non-native speakers appeared to use slightly more than they did in oral discourse, but nevertheless used far fewer than those found in native French narratives. This suggests that the use of relative pronouns is different in French and English. Perhaps it would not be natural for non-native speakers to link numerous clauses in discourse with relative pronouns. Since relative clauses are used less frequently in English, it is possible that non-native French speakers are uncomfortable using them, although they can and do use them correctly when necessary. The additional production time available in written discourse seemed to slightly lessen the gap between native and non-native speakers as 11 subjects fell below the native level in oral discourse, while only nine failed to attain the native 'norm' in written discourse.

Although statistically speaking there were no differences between the three subject groups for subordinating conjunctions, these results do suggest that in oral discourse non-native speakers use subordinating conjunctions to compensate for the lack of 'complex' structures in other areas. There was a strong tendency for Immersion subjects, in particular, to use more subordinating conjunctions than native French speakers. Subordinating conjunctions appear to be more common in French

than in English, as native French speakers used more than twice as many subordinating conjunctions than their native English speaking counterparts. The Non-Immersion group used more than three times as many subordinating conjunctions as did the subjects in Beaman's study, and the Immersion group more than four times as many as the native English speakers, as well as more than twice as many as the native French speakers. This is obviously a form with which they feel comfortable, a form that allows them to create 'complex' sentences without the pitfalls of other complex forms such as certain relative pronoun and non-finite constructions. It should be noted that the numbers compared to Beaman's study included only adjectival subordinating conjunctions which do not require the subjunctive or some other verb tense which is different from what would be used in the equivalent English sentence. This is not to say that they never used these structures, but they were rare for non-native subjects.

In written discourse, native French and English speakers appear to use approximately the same number of subordinating conjunctions while the results for non-native French speakers are slightly higher than those of native speakers. Thus, non-native speakers still appear to use these conjunctions to create complex structures, but to a lesser degree in written than in oral discourse.

Analyses of specific features do not allow for individual stylistic differences, whereas the clausal quotients computed in Chapter 3, Section 3.6 do. It is not surprising, based on the previous data, to find significant differences between native and non-native speakers in both modalities. In oral discourse, only three subjects (all in the Immersion group) managed to attain the native 'norm'. In written discourse, six non-native subjects (five I and one NI) barely surpassed the minimum native level. What is surprising in the results for clausal quotients is that for the individual features measured there were no significant differences between the two non-native groups, (although there were strong tendencies in terms of the use of coordinate structures in

oral discourse and present participles in written discourse), but when all of the individual elements are combined to create clausal quotients, there is a significant difference between the two non-native groups in oral discourse, but no difference in written discourse. This suggests that the additional exposure to spoken French does affect the overall discourse of Immersion students as compared to Non-Immersion students at the clause level. This may also suggest that no differences were found in written discourse because of the restrictive nature of writing and the greater consistency with which the conventions of writing have been taught to second language learners. This implies that for written discourse the two non-native groups produce discourse in approximately the same manner, while participation in immersion programs does affect the oral discourse of L2 learners at the clause level which coincides with Swain and Lapkin (1989) who found early immersion subjects performed better on speaking and listening tasks while no differences were found between late and early immersion students for literacy functions.

At the sentence level, we found that non-native speakers' sentences were generally shorter than Native speaker sentences. Non-native speakers linked fewer clauses together, thus confining themselves to using more one and two clause sentences. No differences were found in the distribution of sentence types in oral discourse, and in written discourse the Non-Immersion group used more Coordinate sentences than the Native group, while the Native group used more Fragments than the Non-Immersion group.

Non-native speakers linked fewer clauses together than did native French speakers in both oral and written discourse. This is another area where we find a difference between the two non-native groups. The Immersion group linked significantly more clauses per sentence than did the Non-Immersion subjects in oral discourse which confirms findings that participation in an immersion program does

affect the production of oral discourse. However, as mentioned earlier, although Immersion subjects appear to link more clauses together to form sentences, they are not using native French intonation patterns to do so, but rather use a greater number of overt markers. Only one of the Immersion subjects fell below the native French range, while five of the Non-Immersion subjects failed to attain even the minimum native level. The same results were found for sentence length. Again, native speakers' sentences were longer than those produced by non-native speakers, but it was also found that the Immersion subjects' sentences were longer than those elicited by Non-Immersion subjects in oral discourse.

It is not surprising then that when the elements measured at the sentence level were combined to compute sentential quotients, significant differences were found between the Native group and the two non-native groups in both modalities, and between the Immersion and Non-Immersion subjects in oral discourse. The Native/non-native difference is attributed to the fact that the majority of sentences found in the non-native data consisted of only one or two clause sentences (over 70% of the clauses in both modalities were one or two clause sentences). This is not surprising given that non-native speakers tend to simplify when producing discourse in the target language.

The current study has examined the oral and written discourse of intermediate level second language learners of French as compared to native French discourse in the two modalities. Few surprises were found, but what has been revealed is an empirical quantification of the differences between Native and non-native speakers for various discourse features.

The production of language is affected not only by the proficiency level of the speaker, but also by individual stylistic differences, indicating the amount of syntactic complexity found in discourse is idiosyncratic. In fact, we saw that for several

features in both oral and written discourse there were significant differences amongst the members of that subject group for the feature measured. We also know that all subjects will not have the same distribution of use of various syntactic features. This resulted in the computation of clausal and sentential quotients so that individual stylistic differences could be considered. At the clause level in oral discourse, three subjects in the Immersion group were able to produce discourse which resembled that of native French speakers, but none of the Non-Immersion subjects were successful in this area. At the sentence level, on the other hand, five Immersion subjects and one Non-Immersion subject were able to attain the Native level in oral discourse. This indicates that three subjects had discourse which resembled native discourse at the sentence level, but not at the clause level which implies that although the types of clauses they used did not measure up to the use of these same clause types by Native speakers (i.e., non-finites and relative pronouns) they were able to link clauses together and make their sentences long enough so as to compensate for the clausal deficiency.

Conclusions

The primary goal of this study has been to measure the 'syntactic maturity' of intermediate level L2 learners at both the group and individual level, with secondary goals of investigating the effect of length and type of instruction on discourse production, as well as differences between L1 and L2 that may lead to potential areas of difficulty for L2 learners. We have found that the clauses and sentences of L2 learners deviate significantly from those of native speakers of the target language in both oral and written discourse, that the length and type of instruction L2 students receive play an important role at the clause and sentence level in oral discourse, but

not in written discourse, and that French and English differ in the distribution of non-finite clauses and overt markers of subordination and coordination in both modalities.

At the individual level, it has been shown that for certain features, a subject may have attained the native level in one discourse modality, but not the other, suggesting that the level of syntactic maturity exhibited by a L2 learner is modality sensitive. We have also found that if a subject attains the native level for clauses, it does not necessarily follow that this same subject will attain the native 'norm' at the sentence level. The data in the current research have presented specific areas and the degree to which intermediate level L2 learners' discourse resemble or deviate from native speaker 'norms'. In some cases, the secondary goals - effect of length and type of instruction and differences between the source and target languages - may explain why subjects deviate from native speaker 'norms' for certain discourse features, but not for others.

The results suggest that in order for non-native speakers to attain more native-like competence at the discourse level, they will need to learn and use more devices such as relative pronouns and various non-finite structures, and more emphasis needs to be placed on learning French intonation patterns and other prosodic features to avoid the overuse of overt markers.

Although other researchers have found correlations between syntactic maturity and the proficiency level of the speaker, the actual analyses conducted were severely limited in scope. Use of the clausal and sentential quotients may be more accurate measures of syntactic maturity than length or the use of certain complex structures alone as they allow for individual stylistic differences, enabling one to plot the progression of syntactic maturity on the continuum towards the target language. Future research should explore the relationship between proficiency and syntactic maturity as well as transfer or interference from L1. To my knowledge no one has

examined the quantitative use of various syntactic structures between the source and target languages. Since not all aspects of the current study could be compared to Beaman's results, further investigation is necessary as to the distribution and frequency of use of certain syntactic features. The results here indicate that the frequency of use of certain structures may be language specific and can affect L2 learners' organization of discourse. Future research may be able to determine other structures which are used more often in one language than another causing L1 interference for L2 learners.

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APPENDIX A

Chrisina Tannous #_____

RESEARCH QUESTIONNAIRE[56]

Please complete the following questionnaire.

1. Sex: _____M _____F

2. Age: _____

3. Education level: _____ 1st year university
   _____ 2nd year university
   _____ 3rd year university
   _____ 4th year university
   _____ M.A. grad student
   _____ Ph.D grad student
   _____ Other (please indicate level completed)
   _____

4. Are you an honors student? _____ Yes _____ No

5. If you are a grad student, please indicate how long you have been in the program. _____

6. What is your native language? _____
   (If your native language is French you need not complete the rest of the questionnaire.)

7. How long have you been studying French? _____

8. How many French courses have you taken at the university level?
   _____

9. What French courses are you currently enrolled in?
   _____

10. Do you speak French outside of the classroom? _____ Yes _____No
    If yes, approximately how many hours per week do you speak French outside of the classroom? _____

11. Have you ever spent time in a French speaking environment?
    _____ Yes ____ No If yes, please indicate where, how long you spent there and what you did there (i.e. studied, worked, tourist, visited friends or relatives, etc.)
    _____
    _____
    _____

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[56]Most of the following questions come from Prokop *et al.*, 1982, p. 133.

12. Have you studied any other languages? ____ Yes _____ No
If yes, what languages have you studied and for how long?
_____
_____

13. Do you consider yourself fluent in any of these lanuguages?
_____ Yes _____ No If yes, which ones?
_____

14. What was the final mark in the last French course you took? _____

15. What was the final mark in the last English course you took? _____

16. What was the final mark in the last Math or Science course you took?
Math _____ Science _____

17. What was your overall average last semester (or last year if you are enrolled only in thesis this year)? _____

18. Do you have a certain competence in playing a musical instrument or singing?
_____ Yes _____ No

19. Are you majoring in French? _____ Yes _____ No
If no, is French compulsory to your program of study? _____ Yes _____ No

20. How strong is your desire to speak French fluently?
_____ not very _____ average _____ strong _____ very strong

21. How strong is your desire to write French well?
_____ not very _____ average _____ strong _____ very strong

22. Are you studying French mainly because it might help you get ahead in your career later on?
____ No _____ Yes _____ very definitely so

23. Are you studying French mainly so that you can communicate with the speakers of the language, understand their thoughts and ways of behaving?
_____ No _____ Yes _____ very definitely so

24. Are you studying French mainly so that you can better enjoy the literature and the artistic and intellectual achievements of the culture.
_____ No _____ Yes _____ very definitely so

APPENDIX B

LINGUISTIC RESEARCH
Participant Consent Form

The following experiment will take approximately one hour. You will be asked to watch a six minute film put out by the National Film Board twice. You are then to describe this film in as much detail as possible in French to a native French speaker who has not seen the film. Finally, you are to write out a detailed description of the film. You may use a dictionary for the written portion of the experiment. For the oral portion of the experiment you will be videotaped. You will also be asked to complete a short questionnaire.

The purpose of the study cannot be disclosed until after the experiment has been completed, since this may result in influencing or biasing your description. However, you are free to ask questions about the purpose of the experiment after having completed all of the tasks. The final results of the experiment will also be made available to anyone who is interested.

Your participation in this study will remain confidential and your identity will not be disclosed in any of the papers or oral presentations in which the results are reported.

You may withdraw from the study at any time, and may refuse to answer any question you find objectionable.

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I have read and understand the conditions under which the experiment will be carried out. I also understand what tasks I am expected to perform, and I hereby accept to be a participant in this study.

Signature:_____ Date:_____

APPENDIX C

ENGLISH DESCRIPTION OF FILM

"The Spring and Fall of Nina Polanski"

The film may be divided into four distinct parts. In the first part of the film, we see the principal character, Nina, walking outdoors. She could be in a garden, forest, woods, etc. She is humming while walking through this area and appears to be quite happy. The scenery is lush, lots of flowers, leaves on the trees. It appears to be Spring. Nina is young and blonde. A bird flies by and a few leaves fall from the trees. Nina is carrying a flower and plucks the petals from the flower. As she reaches the last petal, the scene shifts.

The second part appears to be a series of photographs of Nina at her wedding. It is presented as if one were looking at individual phctos: 1) Wedding picture of the bridal party; 2) Nina throwing the bouquet; 3) The bride and groom; 4) Nina holding her dog; 5) Guests drinking champagne and making the traditional toast; 6) The couple cutting the wedding cake (just the hands are shown).

The third part and the longest part of the film presents Nina at home. In the beginning, she still appears quite happy, she is still humming. She is carrying flowers and then arranges them. The wallpaper contains lots of fruits and vegetables representing a very domestic scene. Nina is wearing an apron and we see her next in the kitchen, cutting carrots. She puts the carrots into a bowl. Then she is seen performing numerous domestic tasks - mixing food with a hand mixer; washing the dishes. While washing the dishes, a baby suddenly appears in her arms. It is as if the baby popped out of the dishwater. Nina is startled as she lets out a gasp of surprise. We then see Nina walking with the baby. She puts the baby in its cradle, kisses the baby. The baby has roses on its sleeves and we see it sucking its thumb. Then Nina continues with her household chores. She gets the laundry basket, irons clothes, carries off the clothes basket. While carrying the basket, she is suddenly followed by one child, then a second child. She walks into the kitchen and as she passes the refrigerator, it suddenly attaches itself to her and appears to become part of her body. She is standing in front of the stove stirring something when a child appears, opens the refrigerator which is still attached to Nina's body and takes out a piece of fruit. Another child, still crawling then appears. Suddenly the stove attaches itself to Nina as well. She then walks to the kitchen table and it attaches itself to her body. She is now carrying the refrigerator, the stove and the kitchen table. She gives each child his/her lunch box as they leave to go to school. The school bus is waiting for them and she waves goodbye to them from the window. As she walks towards the door, the table falls off, then the stove and finally, the refrigerator falls off just as she exits the house.

The final scene shows Nina outdoors again, presumably in the same place as at the beginning of the film, however, Nina appears much older and quite tired. It is Fall. The trees are bare and there are no flowers. More leaves are falling than at the beginning of the film. She sits down on a rock. She is not humming and as the camera closes in on Nina's face, she appears saddened and depressed.

APPENDIX D

WRITTEN DESCRIPTION SAMPLES

D-1 Written Immersion Group Sample

Au commençement du film on voit une jeune film qui marche dans un jardin. Le jardin est plein de fleurs et d'arbres et il y a plusieurs oiseaux qui chantent. La jeune fille tient une fleur dans sa main et elle arrache les pétals une par une. Je soupçonne qu'elle pense à son petit-amie quand elle arrache les pétals et se demande s'il l'aime où s'il l'aime pas.

Le film change d'image et on voit que la jeune fille se mari. Le marriage consiste de tous les affaires traditionelles, pour exemple on voit les grand-parents où parents, des amis, le chien de la jeune fille et enfin le gateau qu'ils coupent.

Après cette scène on voit la jeune fille dans sa nouvelle maison. En arrangeant des fleurs elle siffle une chanson. Elle prépare le diner, fait les vaiselles, et le lavage. Bientôt elle a un bébé dans ses mains, elle regarde très contente. La vie de la fille continue et avant long temps elle a trois enfants. Maintenant la fille commence a prendre l'indentité de seulement être une mère, pas une personne. Elle devienne l'image de l'ice box et le poêle. On la voit envoyer ses enfants à l'école.

Après que ses enfants sont partient elle marche dans le même jardin qu'on a vu au commençement du film. En marchant elle perdre l'image de l'ice box et du poêle et devienne une jeune fille encore. Le jardin, comme avant, est plein de fleurs et des oiseaux qui chantent.

D-2 Written Non-Immersion Group Sample

Je crois que le film que j'ai vu cet après-midi est essentiellement une expression des difficultés spirituelles de la manière de vie que notre société place sur les femmes. Quand le film commence, on voit la protagoniste (qui s'appelle Nina Polanski) marchant dans le forêt. ~~On~~ Elle apporte une fleur, et on a l'impression qu'elle pense des choses sublimes (on voit, naturellement que c'est le printemps). Soudainement, la fleur devient un bouquet de fleurs, et on voit la scène de la marriage de Nina. Cette scène est composée de quelques photos: quelqu'un tranche le gateau; Nina apparaît avec un chien; quelques invités boivent du vin. Puis, on a une nouvelle scène, où Nina entre dans sa maison et place le bouquet dans un vase. Dans la maison, elle travaille dans la cuisine: elle ~~coute~~ découpe en tranches une carotte, elle netto(~~y~~)ie la cuisine, et ainsi de suite. Puis, en faisant la vaisselle, elle trouve un bébé dans l'eau. Elle le met dans un lit d'enfant; et soudainement, il y a un autre enfant près d'elle. On voit que les enfants de Nina grandissent rapidement; et, en leur donnant ce dont ils ont besoin de la cuisine, elle devient elle-même une sorte d'appareil. Un part(~~i~~) de son corps ressemble à un réfrigérateur; un autre part(~~i~~) ressemble à un fourneau. Finalement, les enfants quittent la maison pour aller à l'école, et elle peut partir elle-même. Et finalement, elle ne ressemble qu'à elle-même.

Nina quitte la maison, et retourne ~~dans le~~ au forêt. C'est maintenant l'automne. L'air est silencieux, et des feuilles tombe sur elle. Elle s'assoit, et regarde fixement en avant. On peut deviner ce dont elle pense, dans cette manière solonnelle. Elle se lamente sur la perdu de la vie de sa jeunesse.

D-3 Written Native Group Sample

La première scène se passe dans la forêt: c'est le printemps, tout est en fleur, il y a des bourgeons sur les arbres, les arbustres sont touffus, fleuris; Une jeune fille se promène dans cette forêt, semblable à elle, une robe très colorée, de la dentelle, des frous-frous... Le rose aux joues; Elle effeuille une fleur... elle rêve de sa vie, de ce qu'elle peut en attendre, tout autour d'elle semble si prometteur! Puis la voilà marriée, sans qu'elle est même le temps de s'en rendre compte: ce qu'il y a de plus frappant c'est la couleur de l'image qui palit tout de suite, la couleur des jours qui devient déjà blafarde?? Elle arrive dans son foyer où elle travaille comme ~~elle~~ doit le faire toute ménagère. Son decors familier, symbole de tous ses rêves et de ses espoirs en l'existence sont autour d'elle, sur la tapisserie, (veritable potager), dans les fleurs qu'elle pose sur la table ~~de son~~ où elle travaille... Mais, cela semble déjà loin et elle le sacrifie au profit de sa nouvelle vie: symbolisé par la carotte coupée en rondelles.

Et les jours se suivent et sa destinée s'enchaîne: les enfants qui arrivent sans qu'elle en est formée la moindre envie, sans qu'ensuite le moindre plaisir se trace sur son visage... mais l'enfant porte l'espoir sur lui avec les fleurs déssinées sur ces bras... Comme beaucoup de femmes, pense-t'elle que un enfant peut changer son existence?? Deception par la suite où elle est assimilée à la machine à laver, le réfrigérateur, le four, qui résume si bien le rôle qui lui est imparti!

Enfin, quand les enfants sont à l'école, quand ils sont grands dirais-je un peu plus géneralement, elle recommence à avoir du temps à elle: tout de suite elle repart dans sa forêt, son décors bien-aimé mais se rend compte que c'est l'automne, que son espoir est mort, qu'il n'y a plus rien à attendre.. Les feuilles continuent à tomber.... comme elles tombaient déjà au printemps... Le commencement de la fin était-il donc amorçé dès les premières images du film??

APPENDIX E

ORIGINAL AND EDITED SAMPLES OF ORAL DESCRIPTIONS

Legend for All Oral Transcripts

S=Subject X=Native French Listener (LF)=Laugh ?=Questioning Intonation
:=Lengthening of Syllable (.)=Pause Markers (the more dots, the longer the pause)
[ ]=Phonetic Transcription of Utterance[57]

E-1 Original Oral Transcript - Immersion Group

X: Allez!

S: Ah, décrire ... uh L'histoire commence à le prin le printemps. (X: mm hmm)[58] Et il y a un [f] un femme qui je pense que c'est solitaire. Et elle marche dans un forêt. (X: oui) Puis après de ça elle épouse [epus] sa sa sa mari.

X: Elle marche dans dans une forêt et et elle épouse?

S: Et après ça, ... um je pense qu'il y a um um: du temps passe (X: Après la forêt?) après après de le forêt. (X: uh huh) Et puis l'autre section [sɛ̃ksjɔn] de sa vie (X: oui) et son mariage, son mariage avec son mari. (X: D'accord.) Et il y a beaucoup de pictographes (X: uh huh) avec um avec sa chien (X: son chien mmm hmm mm hmm) à le mariage - et uh son mari, des uh des invités. (X: Oui, oui.) Et um elle coupe [ku] le gâteau ...

X: Elle coupe le gâteau, ok.

S: Coupe le gâteau. Et uh ...

X: Gâteau de mariage je suppose, alors?

S: Oui.

X: D'accord uh huh.

S: Et après ça, um le film uh s va vient à à sa maison, chez (X: D'accord.) chez elle. (X: uh huh) Et elle arrange des fleurs et fait des des travail d'une d'une femme. um

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[57]Most of these markings come from Ochs (1979).

[58]Indicates this was said while the other person was talking.

Elle coupe [ku] des vég végétables. Et uh elle fait des nourritures et elle lavait les vêtements et. etc. (X: D'accord.) um Puis elle elle a un bébé.

X: Un bébé.

S: Oui. Et elle uh elle se elle se garde avec tendresse et ...

X: Elle? Pardon, elle?

S: Se garde? Sa garde um?

X: Qu'est-ce qu'elle fait? Je comprends pas je ne comprends pas le le mot.

S: C'est protège. um Sa garde. Elle ...

X: Les enfants tu veux dire? C'est quelque chose qu'elle fait avec son enfant?

(S: Oui.) Ou:?

S: Avec l'enfant.

X: Elle le protège, c'est ça ou:?

S: um Non. C'est comme elle uh garde. Elle voit. um Elle aide [ad ad] le bébé. Elle ... um non, je ne sais pas.

X: (LF) Je ne comprends pas. (LF) Je ne comprends pas du tout, moi. Est-ce que tu peux décrire ce qu'elle fait avec cet enfant alors?

S: umm (....) Elle (..) hmm J'ai étudi se garde beaucoup pour ça.

X: Elle garde l'enfant, c'est ça?

S: Elle garde, c'est comme elle uh (..) fait tout pour pour l'enfant.

X: D'accord, elle fait tout pour l'enfant.

S: Oui.

X: Ok d'accord.

S: Okay. Et um uh elle a deux autres enfants après de ça. Et ...

X: Après?

S: Oui.

X: D'accord okay.

S: Et dans ce temps elle est changée, elle est transformée. (X: Oui.) Elle n'est pas le le jeune fille. um Elle a changé à un une femme et puis à un mère. Et uh parce que à cause de les enfants, elle semble les oeuf les oeuf dans sa ...

X: Elle semble les?

S: Les des oeufs non des des machines [masIn] de sa cousine [kuzin].

X: Attend. Elle semble des machines de sa cousine?

S: Oui. Elle est transformée.

X: Elle est uh transformée.

S: Elle n'est pas comme une personne, elle est comme un machin. um Elle ressemble [rɛzɑ̃t'] les (...)

X: Elle ressemble à.

S: Elle ressemble à les les machins dans sa cousine [kuzin] comme ...

X: Ah, c'est pas machin. C'est quoi?

S: C'est ...

X: Elle ressemble aux ...

S: aux je pense que le mot c'est ...

X: Il y a pas il y a pas de ... C'est quoi? Qu'est-ce que tu employais? Il y a des exemples dans le film ou pas?

S: um C'était une boîte de glacés. Et uh ...

X: (LF) Une boîte de glacés?

S: Un réfrigérateur, je pense.

X: Un réfrigérateur, d'accord. uh huh

S: Et um je pense que l'autre c'est un divan [divɛ̃].

X: Un divan? D'accord uh huh.

S: Un divan [divɛ̃], oui.

X: Tu veux dire qu'elle est assimilée? C'est ça?

S: Oui.

X: Elle est assimilée au au réfrigérateur?

S: Oui. (X: D'accord.) Elle c'est une une part de sa de sa um son uh de sa personne. (X: D'accord.) Quand les enfants part à l'école, (X: Oui.) elle je pense que c'est ressemble comme les enfants part de sa vie. Elle (X: D'accord.) est transformée encore a une une personne. Et elle marche dans le forêt, encore.

X: Ça c'est ses enfants partent à l'école (S: Oui.) et après donc?

S: Elle marche.

X: Dans la forêt (S: Oui.) encore? D'accord.

S: Et quand elle elle part de de la maison, elle ressemble un personne, encore. (X: De nouveau, de nouveau.) Elle n'est pas et ...

X: D'accord, tu veux dire qu'elle n'a plus elle n'a plus le réfrigérateur avec elle, c'est ça?

S: Oui.

X: Okay, d'accord.

S: Et dans la forêt, elle assis et elle regarde les changes de la forêt.

X: Les changes?

S: Les uh les transformés de les arbres que c'est c'est automne.

X: Les changements.

S: Les changements.

X: D'accord. Dans la forêt. mmm hmm.

S: Dans la forêt, oui.

X: La forêt, elle elle était comment la forêt au départ?

S: um C'est automne.

X: C'est l'automne. (S: Oui.) Au début du film, c'est l'automne? (S: Oui.) C'est ça? Okay, d'accord et là maintenant c'est quoi alors? Je dis il ...

S: Non, non, non, le prin le printemps au commencement de le film et c'est l'automne (X: D'accord.) à la fin de le film.

X: uh huh Okay et qu'est-ce que qu'est-ce que ça veut dire ça:

S: um Je pense que c'est une cycle dans dans la vie de le le femme. (X: Oui.) Elle elle change d'une fille à une femme et puis à un mère. (X: mm hmm) Et uh c'est comme les les saisons uh du printemps à l'automne.

X: Oui, oui. Tu veux dire que la faite d'être mère, toi, tu vois la la jeune fille et puis après l'automne pour toi c'est euh c'est le faite qu'elle devient mère?

S: Yeah oui, je je pense.

X: Il ne peut pas y avoir de printemps quand on est maman?

S: Pardon?

X: Il ne peut pas y avoir de printemps quand on est maman? Quand on est mère? C'est fini le printemps?

S: Oui, je pense que c'est fini. Mais à la fin, elle elle uh est très content mais ...

X: Oui, elle est très contente à la fin?

S: Oui. Durant tout le temps, elle est très content; um elle chan. Mais je pense que à la fin, elle est um plus vieille. (X:Oui.) Parce à le au commencement de le film, elle marchait dans le forêt, mais (X: Oui.) à la fin, elle elle assis et elle regarde (X: Oui.) le forêt. Au commencement, elle marche dans le forêt forêt, mais elle ne regarde pas la le beauté de la le forêt.

X: mmm hmm D'accord, okay.

S: D'accord.

X: Okay. C'est tout ce que tu as à dire?

S: Oui.

E-2 Edited Oral Transcript - Immersion Group

L'histoire commence à le printemps. Et il y a un femme qui je pense que c'est solitaire. Et elle marche dans un forêt. Puis après de ça, elle épouse sa mari. Et après ça, je pense que du temps passe après de le forêt. Et puis l'autre section de sa vie est son mariage avec son mari. Et il y a beaucoup de pictographes avec sa chien à le mariage - et son mari, des invités. Et elle coupe le gâteau. Et après ça, le film vient à sa maison, chez elle. Et elle arrange des fleurs et fait des travail d'une femme. Elle coupe des végétables. Et elle fait des nourritures et elle lavait les vêtements etc. Puis elle a un bébé. Et elle se garde avec tendresse. Et elle a deux autres enfants après de ça. Et dans ce temps elle est changée, elle est transformée. Elle n'est pas le jeune fille. Elle a changé à une femme et puis à un mère. Et à cause de les enfants, elle semble des machines de sa cousine. Elle est transformée, elle n'est pas comme une personne, elle est comme un machin. C'était une boîte de glacés. Et je pense que l'autre c'est un divan. C'est une part de sa personne. Quand les enfants part à l'école, je pense que c'est ressemble comme les enfants part de sa vie. Elle est transformée encore a une personne. Et elle marche dans le forêt, encore. Et quand elle part de le maison elle ressemble un personne, encore. Et dans la forêt, il assis et il regarde les changes de la forêt. Les transformés de les arbres que c'est automne. Le printemps au commencement de le film et c'est l'automne à la fin de le film. Je pense que c'est une cycle dans la vie de le femme. Elle change d'une fille à une femme et puis à un mère. Et c'est comme les saisons du printemps à l'automne. Mais à la fin elle est très content mais... Durant tout le temps, elle est très content; elle chan. Mais je pense que à la fin elle est plus vieille. Parce au commencement de le film elle marchait dans le forêt, mais à la fin elle assis et elle regarde le forêt. Au commencement, elle marche dans le forêt, mais elle ne regarde pas le beauté de le forêt.

E-3 Original Oral Transcript - Non-Immersion Group

S: Okay. uh Je pense que le film est essentiellement une histoire de la vie de la femme moderne. (X: oui) uh Quand le film commence, on on voit une femme qui s'appelle uh Nina Polanski, je pense. (X: d'accord) uh Elle est dans une forêt dans le printemps. (X: ok) uh Elle elle marche avec une une fleur et uh elle pense des choses uh poétiques peut-être. Et uh soudainement on voit la fleur on voit que la fleur est est est est maintenant uh un bouquet. Et elle se marie avec quel quelqu'un et on est dans une mariage.

X: Okay, attends. La fleur devient un bouquet, c'est ça?

S: Oui.

X: D'accord, okay.

S: Oui. umm C'est une esp c'est une impression artistique. (X: d'accord ok) Et uh et puis uh on voit la mariage. Il y a quelques scènes. uh Première on on voit euh quelqu'un coupe [kut] le gâteau.

X: D'accord, c'est son mariage, uh c'est ça?

S: Oui.

X: Okay, d'accord.

S: Oui. Et um et on voit des des gens qui qui qui boit, (*to drink*) (X: uh huh) peut-être. Et uh puis elle retourne à la maison. (X: oui) Et *now* elle est elle est mariée avec quelqu'un. (X: d'accord) Et uh elle entre dans dans le maison. Elle elle uh elle met les les fleurs dans une une (comment je pense pas comment le dire *vase*?) (X: un vase) un vase. (X: mm hmm) uh Et puis elle commence de faire quelques travails dans la dans la cuisine. (X: mmm hmm) Elle uh elle coupe [kut] des des carottes. (X: d'accord) Et puis elle uh fait la vaisselle [vasej]. (X: uh huh) Et dans l'eau quand elle le fait, uh elle trouve une bébé.

X: Dans dans l'eau de la vaisselle?

S: Oui. L'eau (X: d'accord) uh transforme à une bébé. (X: d'accord uh huh) uh Encore c'est une c'est une impression artistique. (X: d'accord mm hmm) uh Et alors elle emmène la bébé dans un um (...) (Je pense pas comment le dire uh ou je sais pas comment le dire *crib*?) (X: un berceau) un berceau. (X: d'accord uh huh okay) Okay. Et uh après ça, on voit qu'elle uh a beaucoup plus de d'enfants. (X: oui) et uh elle commence à faire les les travails uh d'une mère. (X: oui) Et uh et puis on voit une autre impression arti artistique: elle il y a des des des choses dans la cuisine comme le réfrigérateur (X: oui) et puis et elle uh elle elle devient uh une grand réfrigérateur elle-même.

X: Ah elle-même.

S: Oui.

X: D'accord.

S: Oui, oui. Et uh les les les enfants s'approchent de de lui pour uh pour obtenir du lait (X: d'accord) et ainsi de suite. uh Et um c'est la même chose pour pour le les autres choses dans la dans la cuisine. Finalement les les enfants part de la cuisine. uh Ils ils vont à l'école. (X: d'accord) et elle part de la cuisine, aussi. Et elle devient elle-même et [s] uh um et elle entre rentre dans le forêt. Et c'est maintenant...

X: Elle était... Attends. Elle était dans la cuisine? (S: oui) Elle était un réfrigérateur, c'est ça?

S: Oui. Et quand on quand on part de la cuisine, elle n'est pas ré réfrigérateur.

X: Qu'est-ce qui s'est passé, alors?

S: Ah ah le le fridge uh uh se tombe (X: uh huh) dans dans la rue, je pense, (X: uh huh est tombé, oui) de de se se son propre corps. (X: d'accord) Et uh elle rentre dans le forêt. C'est c'est maintenant l'automne.

X: D'accord. Donc elle est elle a quitté sa maison?

S: Oui. Oui. Pour pour marcher. (X: d'accord uh huh) Et elle marche dans le forêt, (X: d'accord) encore une fois. C'est c'est maintenant l'automne uh.

X: C'était quoi alors avant? C'était pas l'automne avant?

S: Non, c'était le printemps. (X: ah d'accord ok) Et uh je pense que c'est une expression arti artistique du de sa vie aussi. (X: oui) Elle commence (X: oui) dans le printemps et c'est maintenant l'automne de sa vie. (X: d'accord) Et elle trouve que qu'elle n'est pas uh elle ne elle n'est pas des des des aspirations. Et...

X: Elle n'est pas? Attends. Je comprends pas.

S: Oh pardon.

X: Elle?

S: uh Elle n'ont pas elle n'a pas plus (X: oui) des aspirations. Peut-être, elle est ça c'est ça c'est ma...

X: Oui, oui, mais tu as peut-être raison. Moi, je sais pas.

S: Okay. Ah et elle s'assoit dans le forêt. (X: oui) Et elle regarde fixement dans l'air et...

X: Oui. Elle pense alors ou elle?

S: Elle pense, (X: oui) on peut on peut deviner peut-être qu'elle pense que sa vie est est a a devenue uh uh [mund n].

X: ah On dit monotone monotone (S: monotone) monotone. (S: oui) Et insignifiant.

S: Oui. Okay. Et ça c'est c'est la fin la fin du film.

X: D'accord. Donc elle est peut-être pas contente avec ce qu'elle a, c'est ça ou?

S: Uh peut-être pas. Je suis pas certaine. Elle n'est elle ne paraît pas triste (X: oui) dans le forêt. (X: uh uh) uh Peut-être seulement um seulement uh calme (X: calme) et et et silent silencieuse. (X: mm hmm mm hmm) Et uh ...

X: Il y a à ton avis il y a quelque chose qu'on a essayé de dire dans ce film ou ou pas? Est-ce que tu crois qu'il y a une moralité ou?

S: Oui. Je pense que c'est une expression de la um de la mon la structure monotone que notre société place sur le le la vie de sa femme. (X: uh huh d'accord) Et uh peut-être ça c'est la...

X: La moralité. C'est ça que tu veux dire? D'accord, merci,

okay, d'accord.

E-4 Edited Oral Transcript - Non-Immersion Group

Je pense que le film est essentiellement une histoire de la vie de la femme moderne. Quand le film commence, on voit une femme qui s'appelle Nina Polanski, je pense. Elle est dans une forêt dans le printemps. Elle marche avec une fleur et elle pense des choses poétiques peut-être. Et soudainement on voit la fleur, on voit que la fleur est maintenant un bouquet. Et elle se marie avec quelqu'un et on est dans une mariage. C'est une impression artistique. Et puis on voit la mariage. Il y a quelques scènes. Première on voit quelqu'un coupe le gâteau. Et on voit des gens qui boit, peut-être. Et puis elle retourne à la maison. Et *now* elle est mariée avec quelqu'un. Et elle entre dans le maison. Elle met les fleurs dans un vase. Et puis elle commence de faire quelques travails dans la cuisine. Elle coupe des carottes. Et puis elle fait la vaisselle. Et dans l'eau quand elle le fait, elle trouve une bébé. L'eau transforme à une

bébé. Encore c'est une impression artistique. Et alors elle emmène la bébé dans un berceau. Et après ça, on voit qu'elle a beaucoup plus d'enfants. Et elle commence à faire les travails d'une mère. Et puis on voit une autre impression artistique: il y a des choses dans la cuisine comme le réfrigérateur et puis elle devient une grand réfrigérateur elle-même. Et les enfants s'approchent de lui pour obtenir du lait et ainsi de suite. Et c'est la même chose pour les autres choses dans la cuisine. Finalement les enfants part de la cuisine. Ils vont à l'école. Et elle part de la cuisine, aussi. Et elle devient elle-même et elle rentre dans le forêt. Et quand on part de la cuisine, elle n'est pas réfrigérateur. Le fridge se tombe dans la rue, je pense, de son propre corps. Et elle rentre dans le forêt. C'est maintenant l'automne. Et elle marche dans le forêt, encore une fois. Et je pense que c'est une expression artistique de sa vie aussi. Elle commence dans le printemps et c'est maintenant l'automne de sa vie. Et elle trouve qu'elle n'est pas des aspirations. Et elle s'assoit dans le forêt. Et elle regarde fixement dans l'air. Elle pense, on peut deviner peut-être qu'elle pense que sa vie a devenue [mund n]. Et ça c'est la fin du film. Elle ne paraît pas triste dans le forêt. Peut-être seulement calme et silencieuse. Je pense que c'est une expression de la structure monotone que notre société place sur la vie de sa femme.

E-5 Original Oral Transcript - Native Group

X: Alors, vas-y, je t'écoute.

S: Alors, tu veux que je te donne un résumé de de ce que j'ai vu?

X: Oui moi, je ne l'ai pas vu, moi.

S: Non? Okay, alors um le titre c'est le l'automne le printemps et l'automne de Nina Polinski.

X: D'accord.

S: Alors euh ça commence, euh on voit une une femme qui se promène dans un jardin de de fleurs; tout a l'air apparemment enfin toute l'ambience est très très positive - beaucoup de couleurs, beaucoup de fleurs. Euh ça a l'air tout à fait harmonieux, joyeux.

X: mm hmm.

S: Et euh cette femme on la voit qui est en train de d'enlever, de retirer les pétales d'une fleur un à un. (X: mmm hmm) Et puis ensuite euh tout ça s'est suivi tout de suite après par le mariage. (X: uh huh) Alors euh donc on voit les différentes étapes du mariage, à l'église, ensuite euh les invités qui offrent des toasts qui s'offrent des toasts, euh on coupe le gâteau, euh tout est bien, tout est joyeux. (X: mm hmm) Puis on voit

Nina qui qui rentre chez elle. Et puis alors là il est encore une une atmosphère de joie, elle est bien habillée, elle chante, elle est elle est elle est contente, elle arrange, elle s'occupe de la maison, elle uh elle arrange les fleurs dans le vase. Euh (X: mmm hmm) ensuite on la voit occupée aux tâches euh matérielles de la maison. Alors elle elle coupe des des légumes, elle euh elle fait un gâteau, elle euh elle lave le linge. Et puis euh ensuite le bébé arrive - (X: mm hmm) le premier enfant arrive. Alors elle s'occupe de l'enfant, elle le cajole, elle s'en occupe. Puis on la voit encore qui qui monte et descends, euh c'est pour aller pour faire le linge, (X: mm hmm) pour euh qui repasse, qui très occupée aux tâches euh aux tâches ménagères. Et puis euh le deuxième enfant euh arrive, le premier a grandi, le deuxième arrive. Euh je crois qu'en tout elle elle va en avoir trois. (X: oui) Et euh ça continue euh les enfants euh enfin là je crois qu'il y a on on a peu l'image une vision de ce que les enfants pensent d'elle. On ne sait pas trop si si si finalement euh c'est elle qui qui pense cela d'elle ou si (X: oui) c'est les enfants, mais un moment donné elle le le frigidaire est confondu avec la la personalité de avec sa personne (X: oui) et l'enfant ouvre le frigidaire et ça c'est c'est comme le frigidaire forme le corps de la mère. (X: d'accord) Alors est-ce que c'est est-ce que c'est l'enfant qui a cette image-là de sa mère, d'une ménagère? (X: mm hmm) Ce apparemment c'est comme ça qu'il que c'est présenté d'après ce que ce que je vois. Puis et aussi le le mixeur le le euh la machine qui sert à faire les les gâteaux, la même chose, le: se confond avec euh (X: mmm hmm) le le corps de la mère. (X: mm hmm) Les enfants ont l'air de de prendre leur mère pour un frigidaire, pour un une machine à faire des gâteaux. Et elle continue, euh elle s'en occupe. Elle les envoie en classe. Elle leur dit au revoir à travers la fenêtre. L'autobus. La routine. Donc et de chaque jour avec les les tâches de chaque jour. Et puis finalement le: tout se termine la scène finale euh elle se retrouve dans un jardin, mais cette fois-ci c'est c'est plus vraiment un jardin, c'est un bois. Euh c'est l'automne. Il y a il y a il y a

quelques feuilles qui tombent. (X: mm hmm) Et elle est seule, elle a tout à fait changé de d'apparence, alors qu'avant elle était euh elle avait une robe euh tu sais avec un petit peu euh un on la voyait un petit peu coquette et tout ça, maintenant elle a juste un tablier blanc et elle a enfin un grand contraste avec le début. C'est c'est l'automne. Elle a son visage est très triste, elle est seule au milieu de ce de ces arbres dénudés. (X: mm hmm) Et puis euh ça se termine comme ça.

X: Okay, d'accord.

E-6 Edited Oral Transcript - Native Group

Okay, alors le titre c'est le printemps et l'automne de Nina Polinski. Alors ça commence, on voit une femme qui se promène dans un jardin de fleurs; enfin toute l'ambience est très positive - beaucoup de couleurs, beaucoup de fleurs. Ça a l'air tout à fait harmonieux, joyeux. Et cette femme, on la voit qui est en train d'enlever, de retirer les pétales d'une fleur un à un. Et puis ensuite tout ça s'est suivi tout de suite après par le mariage. Alors donc on voit les différentes étapes du mariage, à l'église, ensuite les invités qui s'offrent des toasts, on coupe le gâteau, tout est bien, tout est joyeux. Puis on voit Nina qui rentre chez elle. Et puis alors là il est encore une atmosphère de joie, elle est bien habillée, elle chante, elle est contente, elle arrange, elle s'occupe de la maison, elle arrange les fleurs dans le vase. Ensuite on la voit occupée aux tâches matérielles de la maison. Alors elle coupe des légumes, elle fait un gâteau, elle lave le linge. Et puis ensuite le bébé arrive - le premier enfant arrive. Alors elle s'occupe de l'enfant, elle le cajole, elle s'en occupe. Puis on la voit encore qui monte et descends, c'est pour faire le linge, pour qui repasse, qui très occupée aux tâches ménagères. Et puis le deuxième enfant arrive, le premier a grandi, le deuxième arrive. Je crois qu'en tout elle va en avoir trois. Et ça continue, enfin là je crois qu'on a peu l'image une vision de ce que les enfants pensent d'elle. On ne sait pas trop si finalement c'est elle qui pense cela d'elle ou si c'est les enfants, mais un moment donné le frigidaire est confondu avec sa personne et l'enfant ouvre le frigidaire et ça c'est comme le frigidaire forme le corps de la mère. Alors est-ce que c'est l'enfant qui a cette image-là de sa mère, d'une ménagère? Ce apparemment c'est comme ça qu'il que c'est présenté d'après ce que je vois. Et aussi le mixeur, la machine qui sert à faire les gâteaux, la même chose, se confond avec le corps de la mère. Les enfants ont l'air de prendre leur mère pour un frigidaire, pour une machine à faire des gâteaux. Et elle continue, elle s'en occupe. Elle les envoie en classe. Elle leur dit au revoir à travers la fenêtre. L'autobus. La routine. Et de chaque jour avec les tâches de chaque jour. Et puis finalement tout se termine, la scène finale elle se retrouve dans un jardin, mais cette fois-ci c'est plus vraiment un jardin, c'est un bois. C'est l'automne. Il y a quelques feuilles qui tombent. Et elle est seule, elle a tout à fait changé d'apparence, alors qu'avant elle avait une robe, tu sais on la voyait un petit peu coquette et tout ça, maintenant elle a juste un tablier blanc et elle a enfin un grand contraste avec le début. C'est l'automne. Son visage est très triste, elle est seule au milieu de ces arbres dénudés. Et puis ça se termine comme ça.

APPENDIX F
PERCENT BREAKDOWN OF FINITES VS. NON-FINITES VS. FRAGMENTS

Table F-1

Immersion Group

Clause Type »	Finites	Non-Finites	Fragments
Subject #	O - W	O - W	O - W
2	90 - 93	9 - 7	1 - 0
3	97 - 97	3 - 3	0 - 0
4	99 - 90	1 - 10	0 - 0
14	98 - 96	2 - 4	0 - 0
25	96 - 94	4 - 6	0 - 0
39	93 - 84	7 - 16	0 - 0
44	88 - 82	11 - 15	1 - 3
Group Mean	94.43 - 90.86	5.29 - 8.71	.29 - .38
p	.214	.181	.842

Table F-2

Non-Immersion Group

Clause Type »	Finites	Non-Finites	Fragments
Subject #	O - W	O - W	O - W
6	97 - 92	1.5 - 8	1.5 - 0
7	93 - 88	6 - 12	1 - 0
10	95 - 91	2.5 - 9	2.5 - 0
12	98 - 83	0 - 17	2 - 0
19	96 - 93	4 - 7	0 - 0
23	92 - 93	8 - 7	0 - 0
38	98 - 81	2 - 19	0 - 0
47	98 - 90	2 - 10	0 - 0
Group Mean	95.88 - 88.88	3.25 - 11.13	.88 - 0
p	.002*	.001*	.030*

APPENDIX F (cont.)
PERCENT BREAKDOWN OF FINITES VS. NON-FINITES VS. FRAGMENTS

Table F-3

Native Group

Clause Type »	Finites	Non-Finites	Fragments
Subject #	O - W	O - W	O - W
1	95 - 85	5 - 13	0 - 2
21	87 - 70	10 - 30	3 - 0
28	86 - 68	11 - 23	3 - 9
32	90 - 78	10 - 19	0 - 3
34	88 - 85	12 - 15	0 - 0
43	80 - 81	19 - 19	1 - 0
Group Mean	87.67 - 72.83	11.17 - 19.83	1.17 - 2.33
p	.022*	.019*	.469

APPENDIX G
TOTAL NUMBER OF FINITE CLAUSES

Table G-1

Immersion Group

Subject#	Oral	Written	
2	90	37	
3	60	35	
4	85	47	
14	93	47	
25	100	73	
39	55	70	
44	56	32	
Group Mean	77.00	48.71	p=.012*

APPENDIX G (cont.)
TOTAL NUMBER OF FINITE CLAUSES

Table G-2

Non-Immersion Group

Subject#	Oral	Written	
6	68	46	
7	75	30	
10	38	30	
12	61	48	
19	79	65	
23	60	40	
38	91	43	
47	50	46	
Group Mean	65.25	43.50	p=.009*

Table G-3

Native Group

Subject#	Oral	Written	
1	249	47	
21	81	26	
28	110	30	
32	108	50	
34	85	41	
43	83	52	
Group Mean	119.33	41	p=.015*

Table G-4

Group Comparisons

Group	Oral	Written	p
Immersion	77.00	48.71	.012*
Non-Immersion	65.25	43.50	.009*
Native	119.33	41.00	.015*
Group Comparisons	p=.042*	p=.562	

APPENDIX H
PERCENT BREAKDOWN OF FINITE CLAUSE TYPES

Table H-1

Immersion Group

S#	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
2	8 - 41	14 - 8	11 - 14	31 - 19	11 - 19	37 - 3	13 - 3
3	23 - 60	10 - 6	2 - 3	20 - 3	43 - 20	10 - 9	10 - 0
4	9 - 53	20 - 11	7 - 9	14 - 11	52 - 11	17 - 6	18 - 0
14	14 - 57	10 - 0	5 - 9	25 - 9	50 - 26	10 - 2	15 - 2
25	8 - 30	11 - 10	8 - 8	28 - 23	33 - 26	29 - 7	17 - 4
39	24 - 43	6 - 9	7 - 17	9 - 14	9 - 20	47 - 0	2 - 3
44	16 - 42	13 - 7	5 - 10	39 - 26	29 - 19	7 - 3	7 - 7
Mean	15 - 47	12 - 7	7 - 10	24 - 15	32 - 20	22 - 4	12 - 3
O - W	p=.000*	p=.045*	p=.138	p=.101	p=.097	p=.011*	p=.002*

Table H-2

Non-Immersion Group

S#	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
6	25 - 30	12 - 20	4 - 13	15 - 11	43 - 22	13 - 9	12 - 4
7	32 - 47	8 - 20	1 - 13	20 - 0	35 - 17	11 - 3	7 - 0
10	8 - 53	13 - 7	5 - 3	3 - 7	66 - 27	32 - 10	26 - 7
12	15 - 50	12 - 21	7 - 6	16 - 10	54 - 10	8 - 2	12 - 0
19	14 - 51	3 - 3	14 - 14	10 - 12	49 - 14	20 - 8	10 - 2
23	12 - 45	5 - 10	12 - 5	18 - 13	54 - 18	18 - 15	16 - 5
38	12 - 42	21 - 5	6 - 9	22 - 16	42 - 28	2 - 0	4 - 0
47	28 - 35	16 - 13	2 - 9	30 - 17	26 - 20	6 - 9	10 - 4
Mean	18 - 44	11 - 12	6 - 9	16 - 11	46 - 19	14 - 7	12 - 3
O - W	p=.000*	p=.736	p=.208	p=.111	p=.000*	p=.088	p=.002*

S# = Subject Number
O = Oral Discourse
W = Written Discourse

P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction
AA = Anaphoric Adverb
Com = Combination

APPENDIX H (cont.)
PERCENT BREAKDOWN OF FINITE CLAUSE TYPES

Table H-3

Native Group

S#	Main O - W	P/I O - W	RP O - W	SC O - W	CC O - W	AA O - W	Com O - W
1	11 - 15	24 - 21	23 - 23	17 - 26	24 - 13	14 - 4	12 - 2
21	13 - 50	27 - 15	16 - 12	7 - 0	23 - 15	24 - 8	10 - 0
28	27 - 50	31 - 0	8 - 33	9 - 0	14 - 20	17 - 3	7 - 7
32	24 - 32	11 - 30	16 - 14	17 - 12	30 - 14	11 - 2	8 - 4
34	15 - 34	21 - 17	8 - 20	24 - 10	22 - 12	22 - 10	13 - 2
43	12 - 40	21 - 17	16 - 10	7 - 7	33 - 15	24 - 12	11 - 2
Mean	17 - 37	22 - 17	14 - 19	13 - 9	24 - 15	19 - 6	10 - 3
O - W	p=.008*	p=.29	p=.358	p=.387	p=.008*	p=.001*	p=.000*

S# = Subject Number
O = Oral Discourse
W = Written Discourse

P/I = Punctuation/Intonation
RP = Relative Pronoun
SC = Subordinating Conjunction
CC = Coordinating Conjunction
AA = Anaphoric Adverb
Com = Combination

APPENDIX I
LENGTH OF DESCRIPTION

Table I-1

Immersion Group

Subject#	Oral	Written	
2	616	262	
3	598	237	
4	528	353	
14	577	275	
25	707	531	
39	371	585	
44	426	232	
Group Mean	546.1	353.6	p=.018*

APPENDIX I (cont.)
LENGTH OF DESCRIPTION

Table I-2

Non-Immersion Group

Subject#	Oral	Written	
6	437	302	
7	516	219	
10	269	194	
12	405	364	
19	510	425	
23	405	305	
38	571	338	
47	321	305	
Group Mean	429.2	306.5	p=.016*

Table I-3

Native Group

Subject#	Oral	Written	
1	1863	367	
21	540	286	
28	1023	356	
32	814	463	
34	665	329	
43	661	425	
Group Mean	925.3	371	p=.02*

Table I-4

Group Comparisons

Group	Oral	Written	p
Immersion	546.1	353.6	.018*
Non-Immersion	429.3	306.5	.016*
Native	925.3	371.0	.020*
Group Comparisons	p=.011*	p=.478	

APPENDIX J
FREQUENCY INDICES OF OVERT MARKERS

Table J-1

Immersion Group

Marker »	RP	SC	CC	AA
Subject #	O - W	O - W	O - W	O - W
2	18 - 19	46 - 27	16 - 27	58 - 4
3	2 - 4	20 - 8	44 - 30	12 - 13
4	11 - 11	23 - 11	83 - 14	30 - 9
14	9 - 15	43 - 15	80 - 44	16 - 4
25	11 - 11	40 - 32	47 - 38	42 - 9
39	14 - 21	14 - 17	14 - 24	70 - 0
44	9 - 13	49 - 35	38 - 26	7 - 0
Group Means	10.6 - 13.4	33.4 - 20.6	45.8 - 28.8	32.6 - 5.4
p	.327	.079	.149	.011*

Table J-2

Non-Immersion Group

Marker »	RP	SC	CC	AA
Subject #	O - W	O - W	O - W	O - W
6	10 - 20	23 - 17	66 - 33	21 - 13
7	2 - 18	29 - 0	50 - 23	16 - 5
10	7 - 5	4 - 10	93 - 41	45 - 16
12	10 - 8	25 - 14	82 - 14	12 - 3
19	22 - 21	16 - 19	77 - 21	31 - 12
23	17 - 7	27 - 16	81 - 23	27 - 20
38	11 - 12	33 - 21	65 - 36	4 - 0
47	3 - 13	50 - 30	41 - 26	9 - 10
Group Means	9.8 - 13	25.8 - 15.8	69.3 - 27.1	20.6 - 9.7
p	.336	.095	.000*	.059

RP=Relative Pronouns SC=Subordinate Conjunctions
CC=Coordinate Conjunctions AA=Anaphoric Adverbs

APPENDIX J (cont.)
FREQUENCY INDICES OF OVERT MARKERS

Table J-3

Native Group

Marker »	RP	SC	CC	AA
Subject #	O - W	O - W	O - W	O - W
1	32 - 33	23 - 35	32 - 16	19 - 3
21	25 - 11	11 - 0	36 - 14	44 - 0
28	9 - 28	11 - 0	16 - 17	21 - 3
32	21 - 15	23 - 13	39 - 17	16 - 2
34	14 - 24	26 - 12	29 - 15	30 - 9
43	20 12	9 - 9	41 - 19	30 - 14
Group Means	19.9 - 20.4	17.1 - 11.7	32 - 16.4	26.6 - 5.2
p	.922	.393	.002*	.000*

RP=Relative Pronouns SC=Subordinate Conjunctions
CC=Coordinate Conjunctions AA=Anaphoric Adverbs

APPENDIX K
FREQUENCY INDICES OF NON-FINITE CLAUSE TYPES

Table K-1

Immersion Group

Token Type »	INF	Past	Present	Other
Subject #	O - W	O - W	O - W	O - W
2	16 - 8	0 - 0	0 - 4	0 - 0
3	0 - 0	0 - 0	0 - 0	3 - 4
4	2 - 11	0 - 0	0 - 3	0 - 0
14	3 - 7	0 - 0	0 - 0	0 - 0
25	4 - 6	0 - 4	0 - 0	1 - 0
39	11 - 22	0 - 0	0 - 0	0 - 0
44	14 - 17	2 - 0	0 - 9	2 - 4
Group Means	7.14 - 10.14	.29 - .57	0 - 2.29	.86 - 1.14
p	.430	.663	.101	.748

INF=Infinitive Past=Past Participle Present=Present Participle

APPENDIX K (cont.)
FREQUENCY INDICES FOR NON-FINITE CLAUSE TYPES

Table K-2

Non-Immersion Group

Token Type »	INF	Past	Present	Other
Subject #	O - W	O - W	O - W	O - W
6	2 - 3	0 - 0	0 - 10	2 - 0
7	12 - 9	0 - 0	0 - 0	0 - 9
10	4 - 0	0 - 0	0 - 5	4 - 10
12	0 - 5	2 - 0	0 - 14	2 - 8
19	4 - 7	0 - 0	2 - 5	0 - 0
23	10 - 7	0 - 0	2 - 3	0 - 0
38	4 - 24	0 - 0	0 - 6	0 - 0
47	3 - 0	0 - 0	0 - 16	0 - 0
Group Means	4.88 - 6.88	.25 - 0	.5 - 7.38	1 - 3.38
p	.525	.334	.004*	.194

Table K-3

Native Group

Token Type »	INF	Past	Present	Other
Subject #	O - W	O - W	O - W	O - W
1	7 - 5	0 - 8	1 - 0	1 - 8
21	15 - 7	0 - 10	0 - 3	7 - 10
28	7 - 17	1 - 3	0 - 6	10 - 14
32	15 - 13	0 - 0	0 - 4	0 - 13
34	17 - 18	2 - 0	0 - 3	0 - 0
43	27 - 24	0 - 9	2 - 5	3 - 0
Group Means	14.67 - 12.33	.5 - 5	.5 - 3.5	3.5 - 7.5
p	.544	.039*	.008*	.217

INF=Infinitive Past=Past Participle Present=Present Participle

APPENDIX L
MEAN CLAUSE LENGTH - FINITE CLAUSES

Table L-1

Immersion Group

Subject#	Oral	Written	p
2	6.64	7.08	.523
3	7.03	6.77	.719
4	6.21	7.51	.04*
14	6.20	5.85	.487
25	7.07	7.27	.717
39	6.75	8.36	.065
44	7.50	7.25	.780
Group Comparisons	p=.195	p=.083	

Table L-2

Non-Immersion Group

Subject#	Oral	Written	p
6	6.35	6.57	.70
7	6.76	7.30	.511
10	7.00	6.47	.537
12	6.56	7.54	.145
19	6.46	6.54	.858
23	6.75	7.63	.138
38	6.28	7.86	.01*
47	6.42	6.63	.762
Group Comparisons	p=.910	p=.297	

APPENDIX L (cont.)
MEAN CLAUSE LENGTH - FINITE CLAUSES

Table L-3

Native Group

Subject#	Oral	Written	p
1	7.48	7.81	.623
21	6.49	11.00	.00*
28	8.66	10.37	.105
32	7.54	8.74	.091
34	7.82	8.02	.761
43	7.74	8.17	.58
Group Comparisons	p=.015*	p=.051*	

APPENDIX M
PERCENT BREAKDOWN OF SENTENCE TYPES

Table M-1

Immersion Group

ST»	SF	SNF	C	S	C/S	F
S#	O - W	O - W	O - W	O - W	O - W	O - W
2	33 - 12	7 - 18	7 - 29	33 - 24	19 - 18	2 - 0
3	49 - 54	8 - 4	18 - 33	23 - 8	3 - 0	0 - 0
4	30 - 42	0 - 16	30 - 16	19 - 23	22 - 3	0 - 0
14	32 - 41	0 - 4	19 - 33	19 - 11	30 - 11	0 - 0
25	37 - 14	2 - 4	14 - 36	23 - 14	23 - 32	0 - 0
39	44 - 21	4 - 12	30 - 18	9 - 27	13 - 21	0 - 0
44	24 - 6	0 - 19	14 - 25	29 - 31	29 - 13	5 - 6
GM»	35 - 27	3 - 11	19 - 27	22 - 20	20 - 14	1 - .9
p	.302	.019*	.078	.617	.319	.922

ST=Sentence Type S#=Subject Number GM=Group Mean
SF=Simple Finite SNF=Simple Non-Finite C=Complex Coordinate
S=Complex Subordinate C/S=Coordinate/Subordinate F=Fragment

APPENDIX M (cont.)
PERCENT BREAKDOWN OF SENTENCE TYPES

Table M-2

Non-Immersion Group

ST»	SF	SNF	C	S	C/S	F
S#	O - W	O - W	O - W	O - W	O - W	O - W
6	53 - 16	4 - 5	16 - 47	20 - 16	4 - 16	2 - 0
7	51 - 38	0 - 6	24 - 31	20 - 13	2 - 13	2 - 0
10	59 - 42	4 - 5	15 - 37	15 - 11	4 - 5	4 - 0
12	53 - 32	0 - 14	12 - 29	21 - 18	12 - 7	3 - 0
19	24 - 38	8 - 8	27 - 20	24 - 35	16 - 0	0 - 0
23	41 - 27	6 - 4	13 - 41	19 - 18	13 - 9	0 - 0
38	16 - 20	0 - 10	21 - 20	5 - 20	58 - 30	0 - 0
47	39 - 10	4 - 5	15 - 40	31 - 35	12 - 10	
GM»	42 - 28	5 - 7	18 - 33	19 - 21	15 - 11	1 - 0
p	.055	.224	.002*	.765	.602	.024*

Table M-3

Native Group

ST»	SF	SNF	C	S	C/S	F
S#	O - W	O - W	O - W	O - W	O - W	O - W
1	12 - 7	5 - 7	15 - 14	26 - 26	42 - 29	0 - 7
21	24 - 36	6 - 14	24 - 29	21 - 21	18 - 0	9 - 0
28	38 - 19	5 - 10	26 - 14	10 - 33	15 - 5	7 - 19
32	35 - 11	8 - 0	16 - 26	18 - 16	22 - 37	0 - 11
34	29 - 28	12 - 0	27 - 22	15 - 33	18 - 17	0 - 0
43	22 - 35	6 - 14	31 - 21	13 - 10	25 - 21	3 - 0
GM»	27 - 22	7 - 8	23 - 21	17 - 25	23 - 18	3 - 6
p	.533	.894	.592	.143	.465	.412

ST=Sentence Type S#=Subject Number GM=Group Mean
SF=Simple Finite SNF=Simple Non-Finite C=Complex Coordinate
S=Complex Subordinate C/S=Coordinate/Subordinate F=Fragment

APPENDIX N
PERCENT BREADKDOWN OF FINITE CLAUSES LINKED PER SENTENCE

Table N-1

Immersion Group

S# »	2	3	4	14	25	39	44
#CL	O - W	O - W	O - W	O - W	O - W	O - W	O - W
1	39 - 29	56 - 58	30 - 58	31 - 44	40 - 18	46 - 33	25 - 27
2	27 - 41	36 - 38	46 - 32	33 - 45	16 - 36	18 - 40	25 - 47
3	19 - 24	5 - 4	8 - 10	11 - 7	28 - 28	18 - 15	25 - 20
4	5 - 6	3 - 0	5 - 0	11 - 0	9 - 11	5 - 6	15 - 6
5	10 - 0		5 - 0	3 - 4	2 - 0	9 - 6	
6			3 - 0	8 - 0	5 - 7		
7		3 - 0	3 - 0			10 - 0	
11						4 - 0	

Table N-2

Non-Immersion Group

S# »	6	7	10	12
#CL	O - W	O - W	O - W	O - W
1	59 - 21	52 - 44	67 - 47	55 - 46
2	32 - 42	32 - 37	26 - 47	24 - 39
3	5 - 16	9 - 13	7 - 6	12 - 11
4	4 - 16	7 - 0		6 - 4
5	0 - 5	0 - 6		
6				
7				3 - 0
8				
9				
12				

S#=Subject Number #CL=Number of Finite Clauses Linked Per Sentence

APPENDIX N (cont.)
PERCENT BREAKDOWN OF
FINITE CLAUSES LINKED PER SENTENCE

Table N-2 (cont.)

Non-Immersion Group

S# »	19	23	38	47
#CL	O - W	O - W	O - W	O - W
1	32 - 45	56 - 32	16 - 33	44 - 15
2	41 - 50	16 - 54	16 - 33	33 - 45
3	11 - 3	16 - 14	5 - 29	15 - 35
4	13 - 2	6 - 0	11 - 5	8 - 5
5	3 - 0	6 - 0	11 - 0	
6			16 - 0	
7			10 - 0	
8			5 - 0	
9			5 - 0	
12			5 - 0	

Table N-3

Native Group

S# »	1	21	28	32	34	43
#CL	O - W	O - W	O - W	O - W	O - W	O - W
1	20 - 15	32 - 50	45 - 35	43 - 12	41 - 28	29 - 46
2	24 - 23	29 - 43	28 - 53	29 - 35	26 - 50	26 - 32
3	18 - 23	13 - 0	19 - 12	16 - 18	9 - 6	19 - 11
4	17 - 8	10 - 0	4 - 0	2 - 23	15 - 6	13 - 11
5	7 - 8			4 - 6	6 - 5	7 - 0
6	6 - 15	13 - 0	4 - 0	2 - 6	0 - 5	3 - 0
7	3 - 0	3 - 7		2 - 0		
8	3 - 0			2 - 0		3 - 0
9	1 - 8					
14	1 - 0				3 - 0	

S#=Subject Number #CL=Number of Finite Clauses Linked Per Sentence

APPENDIX O
MEAN NUMBER OF CLAUSES PER SENTENCE

Table O-1

Immersion Group

Subject#	Oral	Written	p
2	2.40	2.41	.967
3	1.62	1.50	.508
4	2.32	1.68	.04*
14	2.68	1.78	.02*
25	2.40	2.75	.305
39	2.57	2.47	.845
44	3.14	2.31	.206
Group Mean	2.38	2.11	.065
Group Comparisons	p=.029*	p=.000*	

Table O-2

Non-Immersion Group

Subject#	Oral	Written	p
6	1.56	2.63	.00*
7	1.82	2.00	.589
10	1.44	1.63	.321
12	1.82	2.04	.474
19	2.22	1.73	.02*
23	2.13	1.91	.509
38	4.79	2.55	.00*
47	1.92	2.60	.02*
Group Mean	2.05	2.09	.789
Group Comparisons	p=.000*	p=.000*	

APPENDIX O (cont.)
MEAN NUMBER OF CLAUSES PER SENTENCE

Table O-3

Native Group

Subject#	Oral	Written	p
1	3.49	3.69	.763
21	2.74	2.21	.379
28	2.15	1.95	.557
32	2.43	2.90	.308
34	2.79	2.53	.705
43	3.19	2.14	.01*
Group Mean	2.82	2.48	.113
Group Comparisons	p=.003*	p=.018*	

APPENDIX P
MEAN SENTENCE LENGTH

Table P-1

Immersion Group

Subject#	Oral	Written	p
2	14.5	15.4	.672
3	10.8	9.90	.362
4	14.3	11.4	.064
14	15.8	10.2	.02*
25	16.4	18.6	.361
39	16.3	17.7	.629
44	20.3	14.5	.146
Group Mean	15.1	14.0	.215
Group Comparisons	p=.017*	p=.000*	

APPENDIX P (cont.)
MEAN SENTENCE LENGTH

Table P-2

Non-Immersion Group

Subject#	Oral	Written	p
6	9.70	15.9	.00*
7	11.6	13.7	.248
10	9.90	10.2	.788
12	11.6	13.0	.387
19	13.8	10.6	.02*
23	13.0	13.9	.677
38	30.0	17.0	.01*
47	12.2	15.3	.079
Group Mean	12.9	13.3	.614
Group Comparisons	p=.000*	p=.000*	

Table P-3

Native Group

Subject#	Oral	Written	p
1	24.7	28.2	.490
21	16.1	20.4	.221
28	16.9	17.0	.990
32	16.6	26.3	.01*
34	19.2	18.1	.794
43	21.2	14.9	.02*
Group Mean	19.6	19.8	.880
Group Comparisons	p=.006*	p=.002*	