Marked Structures in Italian:
a Processability Theory Approach

Dissertation presented to the Faculty Arts and Philosophy in order to obtain the academic degree of Master Taal-en Letterkunde: English - Italian by Liesbeth Vanhaverbeke

Supervisor: Prof. dr. Klaas Willems
Co-supervisor: Kristof Baten
Marked Structures in Italian:
a Processability Theory Approach

Dissertation presented to the Faculty Arts and Philosophy in order to obtain the academic degree of Master Taal-en Letterkunde: English - Italian by Liesbeth Vanhaverbeke

Supervisor: Prof. dr. Klaas Willems
Co-supervisor: Kristof Baten
Acknowledgements

First, I would like to thank those who made this thesis possible such as my supervisor Prof. Dr. Klaas Willems and co-supervisor Kristof Baten. I am grateful for the shared knowledge, supervision and counsel Mr. Baten has offered me during the completion of my dissertation. Next, I would also like to convey thanks to Prof. Dr. Claudia Crocco who helped me to gather participants for this study. Finally, I appreciate all the moral support and help I received from Lien Vanhaverbeke and Joke Toye.
# Table of Contents

1  Introduction .......................................................................................................................... 1
2  Processability Theory ............................................................................................................. 3
   2.1  Processability Theory: basic version ................................................................................ 3
       2.1.1  Introduction ........................................................................................................... 3
       2.1.2  Key elements of Processability Theory ................................................................. 5
           2.1.2.1  The processability hierarchy ........................................................................... 5
           2.1.2.2  Exchange of grammatical information ......................................................... 7
           2.1.2.3  Developmental dynamics and generative entrenchment ............................... 9
       2.1.3  Lexical Functional Grammar .................................................................................... 10
       2.1.4  Comparison of L1 and L2 acquisition ..................................................................... 11
   2.2  Extended version of Processability Theory ..................................................................... 12
       2.2.1  Introduction ........................................................................................................... 13
           2.2.1.1  a-, c- and f-structure ...................................................................................... 13
           2.2.1.2  Non-canonical word order .............................................................................. 15
       2.2.2  Non-linearity ........................................................................................................... 16
           2.2.2.1  Mapping c-structure onto f-structure ............................................................... 17
           2.2.2.2  Mapping a-onto f-structure .............................................................................. 19
       2.2.3  New hypotheses formulated in PT’s extended version ............................................ 21
           2.2.3.1  The Unmarked Alignment Hypothesis ............................................................... 21
           2.2.3.2  TOPIC Hypothesis ........................................................................................... 23
           2.2.3.3  Lexical Mapping Hypothesis ............................................................................ 25
       2.2.4  Conclusion ............................................................................................................... 27
   2.3  Processability Theory and Italian ................................................................................... 28
       2.3.1  Typological plausibility of Italian ........................................................................... 28
       2.3.2  Focus-on-form and development in L2 learning ..................................................... 30
       2.3.3  Postverbal subject in Italian L2 .............................................................................. 32
   2.4  The difference in written and spoken language ............................................................... 34
3  The study ............................................................................................................................... 38
   3.1  Research question ........................................................................................................... 38
   3.2  Methodology ................................................................................................................... 38
4.3.3 Language complexity .................................................................82

4.4 Conclusion ....................................................................................85

4.4.1 Hierarchy between the four structures........................................85

4.4.2 Differences between written and spoken production..................86

5 Conclusion .......................................................................................87

6 Bibliography ....................................................................................89

6.1 Primary sources ............................................................................89

6.1.1 Texts .........................................................................................89

6.1.2 Dictionaries .............................................................................92

6.2 Secondary Sources .....................................................................93
Figures

Figure 1: Illustration of structural development as generative entrenchment ..............................................10
Figure 2: Relationship between explanandum and explanans ........................................................................11
Figure 3: Relation between explanandum and explans by PT ......................................................................12
Figure 4: F-structure for Noah eats spaghetti ..............................................................................................14
Figure 5: The Young Woman is Playing The Guitar ..................................................................................14
Figure 6: Adjunction ..................................................................................................................................18
Figure 7: The TOPIC Hypothesis ..............................................................................................................25
Figure 8: Lexical Mapping Hypothesis ......................................................................................................27
Figure 9: Design of the study ..................................................................................................................30
Figure 10: Word order patterns in transitive constructions in Italian ......................................................41
Figure 11: Tree diagram of piacere ............................................................................................................52
Tables

Table 1: Processing Procedures applied to English .......................................................... 6
Table 2: Types of feature unification ............................................................................ 8
Table 3: Four structures examined by Di Biase ............................................................. 29
Table 4: Structures examined by Di Biase ................................................................. 31
Table 5: Four Types of Verbs with VS order ............................................................... 33
Table 6: Use of SVO and AdvSVO structures in the written part ............................... 60
Table 7: Use of the passive in the written part ............................................................. 63
Table 8: OVS/SVO structure results in written test ...................................................... 64
Table 9: Results of the written test .............................................................................. 69
Table 10: Use of the passive in the spoken test ............................................................ 73
Table 11: Use of the OVS/OSV structure in the spoken part ....................................... 74
Table 12: Results of the spoken test ............................................................................ 79
Table 13: Comparison between spoken and written results ....................................... 80
1 Introduction

The study of second language acquisition is a rather recent phenomenon (since the second half of the twentieth century) but has become a very popular subject in linguistics (Ellis 2003, IX). Consequently, innumerable approaches, hypotheses and opinions can be detected on this matter and many dissensions have arisen between linguists. One particular second language theory is Processability Theory by Manfred Pienemann, which is a fairly recent theory (1998).

Processability Theory employs a psychological approach and is based on the notion of processing by claiming that the acquisition of a language implies the acquisition of various procedural skills. Only if one structure is processed, the language learner is able to process the next. Processability Theory tries to describe in broad outline the sequences of the interlanguage which the second language learner has to pass through before reaching the target language. This time sequence is reflected in the processability hierarchy which represents five different levels of processing. In addition, Processability Theory corresponds to an universal approach of second language acquisition as every type of language is constrained by the hierarchy of processing. As a second language learner of Italian, it was interesting to apply Italian L2 to Processability Theory. Because of this new approach, the study of PT offers a new light on language acquisition.

In this dissertation, the second language acquisition of Italian is examined in view of Processability Theory. Various studies have already been conducted on Italian L2 and Processability Theory (Di Biase/Kawaguchi 2002; Di Biase 2002; Bettoni/Di Biase/Nuzzo 2009). These studies were concerned with morphosyntactic elements and postverbal subjects in Italian. On the other hand, four different marked structures in Italian are at the centre of this study. According to PT, these structures deviate from the canonical word order and are therefore harder to process than unmarked structures (Pienemann et al. 2005).

By looking at marked structures, the pragmatic choices of second language learners are examined. The aim of this study is to determine whether an order of acquisition is noticed
between the four marked structures. In other words, are some marked structures easier to process than others? Secondly, the difference between the written and spoken results was analysed. According to PT, language learners will perform at the same level of processing in both varieties. But many second language learners (including myself) have the impression that the production in written language is more elaborated than in spoken language.

Nine students of Ghent University, who were at three different stages of language learning, participated in the study. They had to complete two different tests, a spoken and written one, which were conducted at the same day. The tests aimed at eliciting four particular marked structures of Italian, without drawing attention to the focus of the study and consisted of different tasks such as translation tasks, specific sentence formation exercises etc.

This dissertation is structured as follows: chapter two deals with Processability Theory. First, an overview will be given of the basic version of 1998, followed by a more elaborated exposition of the extended version of 2005. Further, the second chapter discusses the previous studies about PT and Italian and concludes with a short summary of the Processability Theory study of Håkansson and Norrby (2008) in which the difference between written and spoken production has been analysed. The third chapter represents the methodology of the study. This chapter also zooms in on the four marked structures in Italian which are explained from a PT point of view. Finally, the results of the study are presented in the fourth chapter, followed by an elaborated discussion. At the end of this chapter, the answers to the research questions are put forward. In the conclusion, the limitations of this research are taken into account and possible directions for future research are formulated.
2 Processability Theory

First of all, an overview of the Processability Theory should be given. The second language theory was first published in 1998 by Manfred Pienemann. Later on, Pienemann elaborated an extended version in 2005 in cooperation with Di Biase and Kawaguchi. The original version is concerned with the developmental problem, which explains why learners follow a particular route of acquisition (Felix 1984 as cited in Pienemann 2005). In the extended version, Pienemann also examines the origin of linguistic knowledge, i.e. the logical problem. These two problems are central themes in any language acquisition theory. In this chapter, the basic version of Processability Theory (PT) is briefly presented in section 2.1., followed by a summary of the extended version in section 2.2. Further, an outline of previous studies about Italian and Processability Theory is summarized in 2.3. To conclude, the difference between written and spoken language has also been examined from a PT point of view. A short discussion of this study by Håkansson and Norrbjörnson (2008) can be found in section 2.4.

2.1 Processability Theory: basic version

This overview of PT’s first version is based on three different texts, all written by Manfred Pienemann (1998, 2005, 2008). The first version focuses on morphosyntactic elements of a language. Therefore, this version is less relevant to this research about syntactic structures. Nevertheless, it is a crucial to understand the general principles of Processability Theory.

2.1.1 Introduction

Processability Theory can be situated in the linguistic field of second language acquisition. In contrast with other second language theories, PT addresses the problem of SLA from a processing point of view. Crucial in the theory is the notion of the architecture of the human language processor. The language processor contains all computational routines which have an influence on linguistic knowledge. PT focuses on these computational routines and predicts in which order they are acquired by the language learner. The computational routines correspond to the procedural skills which the language learner has to possess in order to process the target language.
The main hypothesis of PT is that

“at any stage of development the learner can produce and comprehend only those L2 linguistic forms which the current state of the language processor can handle.” (Pienemann 2008, 9)

Pienemann (2008) wanted to develop an universal theory which is able “to predict developmental trajectories for any second language” (10). According to PT, the order of the procedural skills is the same for each language. Languages such as German and Japanese, which are typologically different, show the same order of processing. This principle in the theory is referred to as the typological plausibility of PT. However, the interlanguage of each language learner tends to be individual given that a certain amount of variation is allowed. Every language learner unfolds his own trajectory while still following the general developmental scheme. So, the acquisition of a language consists of fixed stages which are also open to individual learner variation. The aim of PT is to “determine the sequence in which procedural skills develop in the learner” (Pienemann 1998, 2).

Processability Theory is based on an approach by Levelt (1989) and has integrated Bresnan’s Lexical Functional Grammar (2001). Processability Theory is not the first theory about second language acquisition which is based on the idea of processing. For example, the Strategies Approach by Clashen (1984) explained the German L2 word order based on the concept of processing. However, this theory never was developed further in order to apply to language in general.

As already mentioned, Processability Theory has largely been influenced by Levelt (1989) and has integrated the four basic premises on processing elaborated by Levelt. The first premise states that “processing components are relatively autonomous specialists which operate largely automatically” (Pienemann 1998, 2). According to Levelt, it is necessary that the processing components are autonomous. If not, a central control would regulate the processing and render it into a relatively slow process. Further, these processing components are able to operate on specific grammatical information (for example: only on noun phrases) which contributes to the speed of processing. Secondly, Levelt states that processing is incremental. It is possible to construct a processor which is based on the
unfinished output of a previous processor since processing occurs gradually. Thirdly, “the output of the processor is linear, while it may not be mapped onto the underlying meaning in a linear way” (Pienemann 1988, 3). According to this premise, the order of clauses and the natural order of events do not necessarily have to correspond, as in following example:

(1) Before the girl left the house, she made a phone call.

In (1), the second part occurs before the first part, creating non-linearity. Linearisation problems are often found in the morphosyntax. In the example, the verb and the subject have to show agreement in person and number before the two constituents can be uttered. The grammatical properties of the verb and subject are first stored in the grammatical memory. This is brings us to the last premise: “grammatical processing has access to a grammatical memory store” (Pienemann 1998, 3). Specific grammatical information has to be stored before it can be processed (for example: information about the verb such as person and number).

2.1.2 Key elements of Processability Theory

Processability Theory contains a few key notions which are crucial to understand this second language theory and its idea of processing. These notions (processability hierarchy, exchange of grammatical information and generative entrenchment) will be elaborated in this section.

2.1.2.1 The processability hierarchy

Processability Theory tries to determine the order of the procedural skills which are needed to process the target language. In addition, this order can be retrieved in any second language (typological plausibility of PT). This particular order of processing in PT is referred to as the processability hierarchy. The concept is founded on the idea of “transfer of grammatical information within and between the phrases of a sentence” (Pienemann 2008, 13). Pienemann (2008) exemplifies this principle with the following sentence:

(2) Little Peter goes home
In order to construct a grammatically correct sentence, both the subject and the verb, which belong to two different phrases, have to contain the grammatical information *third person singular* (subject-verb agreement). Also within the noun phrase *little Peter*, the elements have to be matched. It is the language processor which verifies whether both elements show agreement. Only if a second language learner has acquired the procedures which build phrases in the language, the checking operation can occur. These procedures consist of the storage and the comparison of grammatical information. Because of these procedures, the second language learner is able to distinguish between grammatically acceptable and unacceptable utterances. For instance, the sentence *Little Peter go home* will not be perceived as grammatically wrong by a learner who has not yet fully mastered the sentence procedure (subject-verb agreement). The process of matching grammatical information between the elements in a phrase and in a sentence is referred to as *feature unification* in Lexical Functional Grammar.

A hierarchy between the matching of grammatical information has been distinguished by Pienemann. A noun phrase such as *two kids* is generated before a verb phrase as *Little Peter goes home*. There is a difference in time sequence between the different phrases: the formation of noun phrases occurs before the formation of verb phrases while the sentence is created last. The processability hierarchy, which is at the base of the Processability Theory, consists of five levels of processing. The five levels are represented in Table 1 and are applied to English L2.

**Table 1: Processing Procedures applied to English**

<table>
<thead>
<tr>
<th>Processing levels</th>
<th>L2 process</th>
<th>Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Word/lemma</td>
<td>Words</td>
<td>Invariant forms</td>
</tr>
<tr>
<td>2 Category procedure</td>
<td>Lexical morpheme</td>
<td>Plural</td>
</tr>
<tr>
<td>3 Phrasal procedure</td>
<td>Phrasal information</td>
<td>NP agreement</td>
</tr>
<tr>
<td>4 Sentence procedure</td>
<td>Interphrasal information</td>
<td>SV agreement</td>
</tr>
<tr>
<td>5 Subordinate clause procedure</td>
<td>Main and subordinate clause</td>
<td></td>
</tr>
</tbody>
</table>

Source: Pienemann 2003, 695

The existence of a hierarchy for developing a language is founded on two reasons. First, Pienemann (2008) claims that “the hierarchy is implicationally ordered” (15). This means that a certain procedure can only be acquired if the preceding procedure is already internalised. For example, a language learner of English L2 cannot produce NP agreement
when he is unable to create plural forms. When he has to produce a structure which is at a level of processing that he has not yet reached, the structure will be avoided or the particular elements will be left out. Secondly, the time sequence in language acquisition is reflected in the hierarchy. In other words, a language learner cannot choose a different order of acquisition and has to acquire a (second) language following this hierarchy. It is for example impossible to create phrases without first acquiring words.

The processability hierarchy predicts that language learners have to follow a fixed sequence of procedures. However, the development of the second language grammar still allows some room for leeway. The Hypothesis Space elaborates the interaction between the hierarchy and the possible leeway. Since language learners are constrained to follow the processability hierarchy, they can only produce those structures of which they have acquired the procedures. Yet, language learners always try to find solutions for these structures which they have not yet acquired. An example is the formation of WH-questions in English in which the auxiliary is positioned in second place. To produce this structure, English second language learners need to have acquired processing procedures at sentence level (fourth level). If this is not the case, learners can still produce WH-questions, but they will avoid placing the auxiliary in second position, as in the following examples.

(3) Where he has been?
   He has been where?

(Pienemann 2008, 11)

The options they have in constructing an alternative structure are limited due to the resources of the stage they are in. The constraints created by the hierarchy cause that the learners have to circumvent certain structures.

2.1.2.2 Exchange of grammatical information

The processability hierarchy is linked to the principle of exchange of grammatical information or feature unification, which means that the grammatical information between the elements in the sentence is being matched or unified. Pienemann (2008, 19) states that “every entry in the learner’s mental lexicon needs to be annotated for the specific features
of the target languages”. For instance, the lemma Peter needs to be recognised as a singular noun. Three types of grammatical information, founded on different processes, can be distinguished. Table 2 shows the three different types of feature unification, accompanied with examples from English.

Table 2: Types of feature unification

<table>
<thead>
<tr>
<th></th>
<th>No exchange of grammatical information</th>
<th>Exchange of grammatical information within the phrase</th>
<th>Exchange of grammatical information within the sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lexical morphemes</td>
<td>Phrasal morphemes</td>
<td>Interphrasal morphemes</td>
</tr>
<tr>
<td></td>
<td>Past –ed</td>
<td>Plural –s</td>
<td>Third person –s</td>
</tr>
</tbody>
</table>

These types influence the PT hierarchy. The first type of processing does not rely on temporary storage (for example: morphological marking of verbs). The marking of the past tense in English (for example: *wait-ed*) is already part of the verb lemma and no phrasal procedure is needed in this process. Pienemann refers to this as the class of lexical morphemes. Secondly, the phrasal morphemes require an exchange of grammatical information within the elements of a particular phrase. An example is the NP *a child* in which the agreement between the noun and the determiner is obligatory. Thus, the diacritic feature singular of the noun child has to be stored in the NP-procedure and remains there until the determiner has been activated. A last type of transfer of grammatical information exists between the heads of different phrases. These classes of interphrasal morphemes, such as subject-verb agreement, rely on the S-procedure. As long as the verb lemma is not activated, the diacritic features of the subject have to be stored in the S-procedure (Pienemann 1998).

As already mentioned, a clear correlation can be discerned between feature unification and the processability hierarchy. The hierarchy represents the time sequence which is determined by the types of feature unification. Second language learners will first acquire procedures which require no exchange of grammatical information, followed by structures with exchange of grammatical information within the phrase and eventually within the sentence. This hierarchy is universal and can consequently be applied to any language. For example, a second language learner of English will first acquire the formation of the plural (+ s) before learning how to form the verb in the third person singular present tense.
2.1.2.3 Developmental dynamics and generative entrenchment

Second language learners do not all attain the same level of proficiency. Despite the fixed hierarchy of processing, language learners are able to develop their own interlanguage. Pienemann states that this variation among learners is influenced by the difference in developmental dynamics. Early decisions have an important influence on later developments in language learning. The idea of developmental dynamics in PT has been influenced by the model of generative entrenchment. The term originated in biology and philosophy and was coined by Wimsatt (1986, 1991 as cited in Pienemann 1998) who applied it to the embryonic development of animals. Wimsatt noticed that the fertilized egg consecutively develops into an increasingly complex structure. Pienemann transferred this idea of biology to language acquisition. As the early developments in the growth of an embryo are crucial, early decisions during language acquisition have more consequences for the final stage of the development of the target language. It is very hard, or even impossible, to alter the developmental path once a decision has been made.

The importance of generative entrenchment for language acquisition is “that a massive computational saving can be made if structural decisions do not have to be revised in the developmental process every time a structural change occurs” (Pienemann 2008, 21). The early decisions influence the ultimate outcome of the structure without having to be consulted over and over again. This idea is clarified with an example: if a developmental process has ten stages and if in each stage ten options can be chosen, a learner would need ten million different trials if a revision would be necessary each time. On the other hand, only a hundred trials are needed when the solution for every stage is preserved by the learner. Because the basic body plan remains unaltered, the concept of computational saving represents a more economic and efficient way. Figure 1 illustrates the idea of generative entrenchment. The model shows how the structure is very simple at the beginning but how it becomes more complex by each choice that is made. The tree diagram also represents the possibility of different developmental paths. When a certain path is chosen, it is very difficult to change direction.
2.1.3 **Lexical Functional Grammar**

Lexical Functional Grammar (LFG) is the grammatical theory that supports Processability Theory. LFG belongs to the frame of generative grammar and feature unification is the main characteristic of this grammar (Fabri 2008). The original version was published in 1982 by Kaplan and Bresnan but was revised in 2001 by Bresnan and contains additional features that were necessary to maintain the principle of typological plausibility. The original design of the grammar was however not altered. While the original version only accounted for the constituent structure, Bresnan incorporated an argument and functional structure (a- and f-structure). These structures only appear in the extended version of PT since the original version (1998) was based on the early LFG. More information about these three levels of representation will be given in the next section (2.2.1.1.).

Pienemann’s choice for Lexical Functional Grammar was inspired by a multitude of factors. First and foremost, the processability hierarchy of PT depends on the concept of feature unification and this concept is also a central notion in LFG. The concept of feature unification is very important to PT because it

“captures a psychologically plausible process that involves (i) the identification of grammatical information in the lexical entry, (ii) the temporal storage of that information and (iii) its utilisation at another point in the constituent structure” (Pienemann 2005, 18).
Lexical Functional Grammar also attunes to PT because the grammar has proven to be typological plausible. According to Pienemann, PT has to be applicable to any given language. Finally, LFG considers language acquisition as a lexically driven process, thus it represents a lexical approach to grammar. In a lexically driven grammar, lexical items can also contain grammatical information. The words of a language are considered the atoms of the syntactic structure, signifying that they are the smallest units of the language (Fabri 2008).

**2.1.4 Comparison of L1 and L2 acquisition**

According to Pienemann (1998), many second language acquisition theories adhere to the *Fundamental Difference Hypothesis* (among who Felix 1984 and Clashen 1988.) The hypothesis states that L1 learners can access the Universal Grammar while L2 learners do not. Pienemann refers to a study of Clashen and Muysken (1996) in which they claim that L1 and L2 learners follow different developmental paths, as illustrated in Figure 2. This difference results from the fact that children can access universal grammar while adults have to adopt inductive learning strategies. Clashen and Muysken posit that only the acquisition of a second language occurs according to processing strategies, for which they have been repeatedly criticised.

**Figure 2: Relationship between explanandum and explanans**

![Diagram](image)

Source: Clashen and Muysken, 1986 as cited in Pienemann 1998,12

Pienemann (1998) reacts against these UG theories and argues that language processing applies both to first and second language acquisition. According to Pienemann (1998), UG addresses the logical problem, but is not able to solve the developmental problem independently. On the other hand, Processability Theory accounts for both problems and in
addition can be applied to L1 and L2 acquisition. Figure 3 illustrates how processing strategies address the developmental problem both in L1 and L2.

Figure 3: Relation between explanandum and explans by PT

However, Pienemann also acknowledges that different developmental paths exist for first and second language acquisition. He exemplified this statement with a detailed comparison between German L1 and L2 in which a different developmental schedule is clearly showed. Given that PT accounts for first language acquisition, it also has to elaborate the developmental problem in L1. Pienemann predicts that L1 learners are also constrained by a processability hierarchy. While L2 learners initially use the canonical SVO order, L1 learners start off with SOV or other variable word order structures. This subject will however not be further examined, since the comparison between L1 and L2 is not relevant to this research question.

2.2 Extended version of Processability Theory

In this section, an overview is given of the extended version of Processability Theory (Pienemann, Di Biase and Kawaguchi 2005). The extended version is more relevant to this study since it examines the development of non-linear structures. This section is structured as follows: in the introduction, the design of Lexical Functional Grammar is explicated in order to understand non-linearity from a processing point of view. In 2.2.2., the principles of non-linearity are put forward. The following segment (2.2.3.) discusses three hypotheses which are developed in the extended version and account for the processing of marked structures. The final conclusions are formulated in 2.2.4.
2.2.1 Introduction

The original version of PT mainly dealt with feature unification, the result of the transfer of grammatical information at phrasal and sentence level. Whereas the first version was concerned with morphosyntactic elements, the extended version focuses on non-linear syntactic structures.

2.2.1.1 a-, c- and f-structure

Important for this theory are the three different structures distinguished in the revised Lexical Function Grammar: the argument, constituent and functional structure (Bresnan 2001). The first version of PT only included the c-structure. Non-linearity results from two different processes of mapping. The first is caused by the mapping of the c-structure onto f-structure and the second by the mapping of a-structure onto f-structure. In order to understand the extended version of PT, it is crucial to comprehend these three structures.

The functional structure examines the various functions in a sentence. Constituents of a sentence always stand in relation to other constituents and consequently, they each display a function. For example, the subject function contains characteristics which differ from the object function. In addition, the order of the constituents can contribute to distinguish the functions of a sentence. Consider following examples:

(4) The boy kisses the girl
(5) The girl kisses the boy

In English, the subject function is assigned to the element located in first position. This principle does not apply to all types of languages. Some languages, such as Latin, use morphological marking to distinguish grammatical functions. The f-structure determines the relation between the functions of the sentence (for example between the predicate and its arguments). Further, the grammatical qualities, such as number, gender and tense, are represented by the f-structure. The f-structure of a sentence is illustrated as follows:
Besides the properties of each constituent, Figure 4 represents the functions between the elements. The verb *eat* requires two arguments (*<x, y>*), subject and object. Importantly, the properties of the f-structure are invariant and represent “the universal aspects of grammar” (Fabri 2008, 42). Grammatical functions (such as object and subject) and properties (such as person and number) are retrieved in each language.

The constituent structure represents the structural relations between the constituents of a sentence and reflects the hierarchy of the sentence. In contrast with the f-structure, the c-structure contains language-specific properties because each language organises its constituents in its own way. For example, constituent order in English is very strict (SVO) whereas the position of S, V and O in Latin is relatively free. The c-structure is represented by phrase-structure trees, as in Figure 5.
Thirdly, the a-structure links the f-structure with the thematic structure (i.e. the level which reflects the core participants). Core participants have specific roles, which are lexically determined by the meaning of the verb. For instance, the transitive verb *eat* requires two core arguments, the subject (somebody who eats) and the object (what is eaten). These predicate arguments of agent and theme often correspond to the functions of subject and object (as exemplified by Fabri (2008, 54) in (6)).

\[(6) \text{EAT }<x \quad y> = \text{‘somebody EATS something’} \]

\[\begin{array}{cc}
\text{[agent]} & \text{[theme]} \\
\text{EATER} & \text{VERB OBJECT EATEN}
\end{array}\]

According to LFG, the a-structure is first mapped onto the f-structure, which is then in its turn mapped onto the c-structure. The mapping between the three structures is not a sequential process, but happens simultaneously (Fabri 2008). In conclusion, the f-structure represents the functions in a sentence whereas the c-structure looks at the relation between the constituents. The argument roles of the constituents are situated at the a-structure.

### 2.2.1.2 Non-canonical word order

When canonical word structures are produced, direct mapping between the three structures is employed. Pienemann illustrates this concept as follows: direct mapping occurs when the agent (a-structure) is mapped onto the subject (f-structure) and this subject is in its turn mapped onto a NPsubj in first position (c-structure). Nonetheless, the relationship between a-, c- and f-structure cannot always be linear. Otherwise it would not be possible to create utterances which deviate from the canonical word order. However, we are able to utter active and passive sentences, affirmative and declarative sentences, etc. These devices in language production are necessary to grab the listener’s attention. But deviations from canonical word order have consequences for language processing given that the relationship between the three different structures is altered and results in linguistic non-linearity.

As mentioned above, the first type of deviation is induced by the mapping of the c- onto the f-structure. Deviations of the canonical structure are caused by the addition of adjuncts and by assigning discourse functions (focus and topic) to the constituents in the sentence.
(7) He likes Anne.
(8) Anne, he likes.

(Pienemann et al. 2005, 202)

In example (7), there is a one-to-one relationship between the c- and f-structure because the first NP represents the subject. In the second example, it is the object Anne that is situated in first position. Non-linearity is caused due to the assignment of the discourse function TOPIC.

The second type of non-linearity results from the mapping of a non-canonical argument structure (a-structure) onto the f-structure and involves exceptional lexical entries, passives and causative constructions. Exceptional lexical entries are verbs such as please and receive which have an “intrinsic non-canonical a-structure” (Pienemann et al. 2005, 202).

(9) The result pleased him.

(Pienemann et al. 2005, 202)

In (9), the role of the experiencer is occupied by the object him and the subject the result represents the theme in the sentence. In canonical mapping however, it is the agent (or the experiencer) which is mapped onto the subject and the theme onto the object. These two mechanisms of non-linearity are highlighted in the extended version and will be examined in more detail in the following sections.

2.2.2 Non-linearity

Language users often deviate from canonical structures in order to capture the listener’s attention. Thus, deviations frequently occur to underline important information. Second language learners are unable to produce marked structures when they have not processed these yet. Consequently, non-linear language structures are produced by more mature language learners. The non-canonical word structures are situated at the fourth level of processing while the canonical structures occupy the second level. Linearisation problems are not only caused by devices such as topicalisation or focalisation. The natural order of events does not always correspond to the representation in the language production. For example:
(10) He drove off after he jumped into the car.  
(Pienemann et al. 2005, 207)

The first part of the sentence actually took place after the second action, but the natural order is not preserved in the utterance. This type of utterance also requires temporary storage in the memory. The second part of the sentence *he jumped into the car* has to be stored in the memory of the speaker until the first part has been uttered. This principle is similar to the concept of SV-agreement in which features as *subject* and *number* are also temporarily stored in the memory. In the following section, an extended exposition of the two mechanisms causing non-linearisation will be presented. It is important to bear in mind that the two processes creating linguistic non-linearity are quite different from each other.

### 2.2.2.1 Mapping c-structure onto f-structure

The first type of non-linearity is caused by the mapping of c- onto f-structure. A crucial fact is that the c-structure is language-specific while the f-structure is characterised by its universality. Languages have two different ways of organising the c-structure:

"In highly configurational languages c-structure is organised hierarchically following the so-called 'endocentric principle', whereas in non-configurational languages c-structure is organised in a lexocentric manner with flat c-structures where all arguments are sisters of the verb." (Pienemann et al. 2005, 209)

However, Bresnan (2001) acknowledges that some languages can show a combination of these two types. At an early stage, language learners do not know the canonical mapping of the (second) language because they are not familiar with the type of c-structure. With regard to the f-structure, Bresnan makes a distinction (2001) between the different grammatical functions:

<table>
<thead>
<tr>
<th>argument functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP, FOC, SUBJ, OBJ, OBL, XCOMP, COMP</td>
</tr>
<tr>
<td>ADJUNCTS</td>
</tr>
<tr>
<td>non-a-fns</td>
</tr>
<tr>
<td>non-a-fns</td>
</tr>
</tbody>
</table>

(Pienemann et al. 2005, 209)
She distinguishes between argument functions on the one hand and non-core functions on the other hand. Unlike non-argument functions, argument functions are bound to the predicate. Secondly, multiple occurrences of non-core functions are possible, whereas argument functions can only appear once in a sentence. Bresnan makes a second distinction, namely between discourse and non-discourse functions.

<table>
<thead>
<tr>
<th>non-discourse functions</th>
<th>discourse functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP, FOC, SUBJ</td>
<td>OBJ, OBJe, OBLe, XCOMP, COMP, ADJUNCTS</td>
</tr>
</tbody>
</table>

(Pienemann et al. 2005, 210)

The addition of discourse functions to grammatical functions is a recent phenomenon. According to Bresnan (2001), discourse roles such as TOPIC and FOCUS are influenced by the syntax and as a consequence should also be included in the f-structure. Interestingly, SUBJ is the only function that is both a discourse and an argument function. The relation between c- and f-structure is regulated by two principles. The first states that “specifiers of functional projections are grammaticalised discourse markers (i.e. TOP, FOC or SUBJ)” (Pienemann et al. 2005, 210). The selection of these markers is language-specific. Secondly, “constituents adjoined to XP are one of the non-argument functions TOP, FOC or ADJUNCT” (Pienemann et al. 2005, 211).

**Figure 6: Adjunction**

Source : Pienemann et al. 2005, 211
Figure 6 illustrates the mapping of c- onto f-structure. The mapping of c-onto f-structure is non-linear because the first position is not occupied by the subject. The addition of the LFG components, TOP, FOC and ADJ function, to PT entails an innovation in the Processability Theory.

2.2.2.2 Mapping a-onto f-structure

The Lexical Mapping Theory (LMT) accounts for the possible relations between grammatical functions and argument roles. Look at following examples:

(11) Peter sees a dog.
(12) A dog is seen by Peter.

(Pienemann et al. 2005, 213)

Both sentences are governed by the verb see which has two arguments Peter and a dog. Still, a difference is immediately noticed between the two sentences. In (11), the subject Peter is the experiencer while the object dog has theme as argument role. In (12), these roles are reversed. Consequently, the sentences have another a-structure. LMT tries to explain how thematic roles are mapped onto grammatical functions by looking at the a-structure. A regularity can be found in the relation between the grammatical functions and their thematic roles, as in (11), but deviations are also possible (for example in (12)). The Lexical Mapping Theory clarifies that in the active sentence (11) the arguments of the a-structure have been mapped onto the f-structure (SUBJ,OBJ) in a default mode. As a result, canonicity is preserved in the c-structure. In the passive structure (12), the mapping of a- onto f-structure occurs in a non-default fashion, which results in non-canonicity.

However, mapping from a- onto f-structure is not free and happens according to certain principles (Darlymple 2001, as quoted in Pienemann et al 2005). For instance, the SUBJ can take any kind of thematic role while the OBL cannot. Pienemann et al. (2005) refer to the work of Bresnan and Kanerva (1989) who have differentiated four principles which guide the mapping from a- onto f-structure.
Hierarchically ordered semantic role structures.
A hierarchy of the thematic roles in the a-structure has been distinguished by various scholars (among who Givon 1984, as cited in Pienemann et al. 2005). Moreover, this hierarchy is universal.

(13) Thematic Hierarchy:
Agent > beneficiary > experiencer/goal > instrument > patient/theme > locative

(Bresnan 2001, 307)

A classification of syntactic functions.
As already mentioned above, the mapping from a- onto f-structure is not free from restrictions. Two characteristics are important to bear in mind. The first is the characteristic \([+/- r]\) which refers to a thematic restriction. For instance, a syntactic function which can express any thematic role, is thematically unrestricted (such as SUBJ). The second characteristic,\([+/- o]\) expresses the presence or absence of objectivity. OBJ is characterised by \([+ o]\).

Lexical mapping principles from semantic roles to syntactic functions.
Bresnan and Kanerva (1989) state that lexical mapping principles can add syntactic functions, but cannot delete or change those who are already there. For example, ditransitive verbs can add a third argument, but cannot become intransitive. The verb *to buy* is a transitive verb, but is able to add a third argument (for example: he buys clothes for Mary). On the other hand, the verb cannot leave out an argument (* he buys).

Well-formedness conditions on lexical forms.
According to Bresnan (2001), well-formedness is guaranteed by the following two principles:

\[1. \text{Function-argument Bi-uniqueness: each a-structure role must be associated with a unique function, and conversely.}\]
\[2. \text{The subject condition: every predicator must have a subject.} \]

“ (311)
2.2.3 New hypotheses formulated in PT’s extended version

Crucial in the extended version of Processability Theory is the addition of three new hypotheses which will be explained in this section: the Unmarked Alignment Hypothesis, the TOPIC Hypothesis and the Lexical Mapping Hypothesis. The three hypotheses correspond to the different mapping principles.

2.2.3.1 The Unmarked Alignment Hypothesis

Mapping between the a-, c- and f-structure is not always linear since it does not always follow the same pattern as in (14):

<table>
<thead>
<tr>
<th>agent</th>
<th>patient</th>
<th>... argument roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT</td>
<td>OBJECT</td>
<td>... grammatical functions</td>
</tr>
<tr>
<td>NPsubj</td>
<td>NPobj</td>
<td>... c-structure</td>
</tr>
</tbody>
</table>

(Pienemann et al. 2005, 226)

The above scheme represents the canonical mapping between the three structures. Pienemann et al. (2005) refer to a study of Bever (1970) in which four-year-old children, whose native language is English, were subjected to a few psychological tests concerning sentence interpretation. Bever concluded that the first noun was almost always interpreted as the agent. This result corresponds to the universal hierarchy of thematic roles, proposed by e.g. Givon (1984) in which the agent occupies the first position of the hierarchy. However, exceptions were noticed when a violation occurred against the likelihood of events. For example in the following sentence:

(15) The dog pats the mother.

(Pienemann et al. 2005, 226)

It is unlikely that the dog is being identified as the agent in the sentence because this construction conflicts with the logic of events. In addition, Bever discovered that the children interpreted the sentences according to the canonical SVO order. This phenomenon of canonical word order preference is not only characteristic of children’s language, but has
also been observed in adult language. Pienemann et al. (2005) make reference to various studies (Weyerts, Penke, Münte, Heinze and Clashen, 2002) which have observed word order phenomena in German. When the subject is located in first position, less difficulties are noticed qua language processing. In second language acquisition, the reliance on the canonical word order is even stronger. Another important study cited by Pienemann et al. (2005) is that of Pinker (1984), which was based on the early version of LFG. Pinker developed his own scheme of direct canonical mapping, which eventual lead to the Unmarked Alignment Hypothesis.

\[
\begin{array}{cccc}
\text{SUBJ} & \text{OBJ} & \text{OBLIQUE} \\
\text{agent} & \text{theme/patient} & \text{goal/source/location} \\
\end{array}
\]

(Pienemann et al. 2005, 228)

According to Pinker, direct canonical mapping is violated when the links between the grammatical functions and the thematic relations cross each other. An example is the mapping of the agent onto the object function. The Unmarked Alignment Hypothesis is influenced by these earlier theories and expresses the following idea:

" In second language acquisition learners will initially organise syntax by mapping the most prominent semantic role available onto the subject (i.e. the most prominent grammatical role). The structural expression of the subject, in turn, will occupy the most prominent linear position in c-structure, namely the initial position." (Pienemann et al. 2005: 229)

The hypothesis states that in an early phase of second language acquisition, mapping between a-, c- and f-structure is direct. If this definition is linked to Pinker’s scheme (16), this means that no crossing occurs between the two different types of elements.

Pienemann (1998) assumes a different canonical order in L1 and L2. In German, L1 learners’ initial word order consists of SOV, whereas German L2 learners start from a SVO order. Consequently, native and non-native language learners follow a different developmental
trajectory. PT does not try to explain the origin of these different canonical word orders. According to the *Unmarked Alignment Hypothesis*, L2 learners have a basic knowledge of the three different structures (a-, c- and f-structure). In contrast with a- and f- structure which are universal and are therefore already known by L2 learners, the c-structure is language-specific, resulting in an initially flat knowledge of the latter. Consequently, “the S-procedure as well as phrasal procedures are unable to act as linguistic memory stores for grammatical information because such information is language-specific” (Pienemann et al. 2005, 231).

In conclusion, the *Unmarked Alignment Hypothesis* states that at the beginning of language acquisition, the association between the a-, c- and f-structure is fixed. That is why early language learners can already form sentences with the help of a simple canonical word order. Only when the language learner becomes more proficient, he/she may produce utterances which deviate from the canonical word order. The deviations are accounted for by the *TOPIC* and *Lexical Mapping hypothesis*.

2.2.3.2 *TOPIC Hypothesis*

The *TOPIC hypothesis* is chiefly concerned with non-linearity caused by the addition of discourse functions. When departing from the *Unmarked Alignment Hypothesis*, the first deviations from canonical word order are manifested. In English and German for example, these deviations correspond to the insertion of adverbials and the formation of WH-questions. In both structures, the SUBJ is no longer situated in first position. This mechanism induces that non-argument functions are added to the element located in first position (*TOPIC, FOCUS, ADJUNCT*) and creates non-linearity. Both structures result from the mapping from c-onto f-structure while the mapping from a-onto f-structure is not affected here.

The first type, XP adjunction, already occurs at an early stage of language acquisition because the other elements of the sentence can still be produced by one-to-one mapping after the addition of the adjunct. The order of the constituents is not affected by the insertion of the adjunct. However, in some Germanic languages such as German and Swedish, the insertion of an initial adjunct triggers the movement of the verb into second position. This process in second language is acquired much later than XP adjunction. In the
early stages, the language learner will produce sentences with XP adjunction without putting the verb in second place, as in following example provided by Pienemann (1981, 58):

(17) Auf ein blatt wir schreiben was die sagt
   On a sheet we write what she says
   'We write on a sheet of paper what she says.'

This example was uttered by an eight-year old girl, which native language is Italian. Of course, the sentence is not grammatically correct. After the insertion of the adjunct, the girl applies canonical mapping of c-onto f-structure. A German native speaker would produce following sentence:

(18) Auf ein blatt schreiben wir, was sie sagt.
   On a sheet write we what she says.

The difference is immediately clear: in (18), the verb is in second position, which is required in German when an adverb is situated in first place. Pienemann et al. (2005, 235) would explain the first example as follows: “at this stage the c-structure produced by L2 learners can be accounted for by two principles: (i) XP-adjunction and (ii) unmarked alignment”. The developmental pattern of inserting an adverb without putting the verb in second position has been recorded in several studies (Håkansson, Pienemann and Sayheli, 2002; Pienemann, 1998). For instance, Swedish learners of L2 German will initially not place the verb in second position, although this structure also exists in Swedish.

The second mechanism, the formation of WH-questions in English and in German, is rather similar to the process of XP-adjunction. The interrogative constituent, which is situated in first position instead of the SUBJ, contains two elements of information, namely FOCUS and OBJ. Because of this, exchange of information is necessary, triggering non-linearity. In English, XP-adjunction causes no further consequences for the c-structure, while WH-questions require the verb in second position. As a result, the first process will be easier to acquire at an early stage. Now, let us move to the essence of the TOPIC Hypothesis. The development predicted by the TOPIC hypothesis is seen in Figure 7.
The **TOPIC Hypothesis** is formulated as follows by Pienemann et al. (2005, 239):

"In second language acquisition, learners will initially not differentiate between SUBJ and TOP. The addition of an XP to a canonical string will trigger a differentiation of TOP and SUBJ which first extends to non-arguments and successively to core-arguments (sic) thus causing further structural consequences."

Thus, early language learners tend to rely on canonical word order with subject-firsts. If however another constituent occupies the first position, expressing FOC, language learners begin to deviate from the canonical order and start to produce non-linear structures. The **TOPIC hypothesis** is thus related to the non-canonical mapping from c-onto f-structure.

### 2.2.3.3 Lexical Mapping Hypothesis

In contrast with the previous hypothesis, the **Lexical Mapping Hypothesis** is concerned with the mapping from a- onto f-structure. As discussed earlier, Lexical Mapping elaborates the relation between grammatical functions and argument roles. The **Unmarked Alignment Hypothesis** states that at the initial stage, only default mapping occurs from a-onto f-
structure. Deviations from default mapping which create non-linearity imply the addition of mapping principles and exceptional lexical entries. When the a-structure is altered, early language learners are not able to produce these marked structures. They will map their argument roles in a canonical way. The passive construction in English is a good example in which an alteration between a- and f-structure is noticed. The relation between the grammatical functions and the argument roles is affected by deleting or changing the position of an argument role.

(19) Peter sees a dog.

see <experiencer, theme>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>
SUBJ          OBJ

(20) A dog is seen by Peter.

seen <experiencer, theme>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>
Ø            SUBJ (ADJ)

(Pienemann et al. 2005, 241-242)

The first sentence is an example of default mapping, in which we notice canonical word order. In the second sentence however, a passive construction, the relation between argument roles and grammatical functions is altered. A dog, which is the OBJ of the active sentence, becomes the SUBJ of the passive sentence. Consequently, the experiencer role is not filled in. The experiencer of (20) can be expressed by an adjunct, but this is not obligatory.

The a-structure might also be influenced by the lexicon (i.e. exceptional lexical entries). Certain lexical items require specific argument roles. The language learner only acquires the a-structure of these lexemes item by item.
The adjectives in (21) and (22) have a similar meaning, but yet require another type of mapping. In (21), the theme has to be mapped onto the subject (as in: it is confusing) whereas (22) requires the mapping of the experiencer onto the subject (for example: I am confused). A third type of non-default mapping between the a- and f-structure is realised by causative constructions. This construction will not be discussed since it is not relevant to the present research. The different stages of non-linearity caused by the mapping of the a- onto the f-structure are exemplified in Figure 8.

**Figure 8: Lexical Mapping Hypothesis**

<table>
<thead>
<tr>
<th>a- to f-structure mapping</th>
<th>Structural outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-default mapping.</td>
<td>Complex predicates e.g. Causative (in Romance languages, Japanese, etc.), raising, light verbs.</td>
</tr>
<tr>
<td>(single clause)</td>
<td></td>
</tr>
<tr>
<td>↑</td>
<td></td>
</tr>
<tr>
<td>Non-default mapping.</td>
<td>Passive</td>
</tr>
<tr>
<td>(single clause)</td>
<td>Exceptional verbs</td>
</tr>
<tr>
<td>↑</td>
<td></td>
</tr>
<tr>
<td>Default mapping, i.e.</td>
<td>Canonical Order</td>
</tr>
<tr>
<td>Most prominent thematic role is Mapped onto SUBJ</td>
<td></td>
</tr>
</tbody>
</table>

Source: (Pienemann et al. 2005, 240)

**2.2.4 Conclusion**

While the first version of Processability Theory especially examines the concept of feature unification, the extended version looks at the relation between the a-, c- and f-structure. Three hypotheses are at the forefront: the *Unmarked Alignment Hypothesis* predicts what happens at the initial stage of second language acquisition. Language learners will first solely depend on the canonical word order. Only after a while, deviations from the canonical
mapping will be noticed, caused by non-default mapping from the c-onto f-structure and a-onto f-structure. The TOPIC and Lexical Mapping Hypothesis elaborate the further developments in the language acquisition of more proficient language learners. The TOPIC Hypothesis predicts what happens when the SUBJ is no longer situated in first position while the Lexical Mapping Hypothesis examines syntactic structures which require a non-canonical a-structure.

2.3 Processability Theory and Italian

Since it is a universal language theory and therefore applicable to every language (Pienemann 1998), Processability Theory has already been applied to many different languages, among which Italian. Italian is one of the languages which has been subject of several PT studies about second language acquisition. In this section, an overview will be given of the three main PT studies about Italian so far. Interestingly, the three studies focus on different aspects of the Italian language and of Processability Theory.

2.3.1 Typological plausibility of Italian

The first study about Italian was carried out in 2002 by Bruno Di Biase and Satomi Kawaguchi. They aimed at testing the typological plausibility of Processability Theory by applying the theory to two different types of languages, namely Japanese and Italian. Only the study of Italian will be discussed here as Japanese is not relevant to the present study. Di Biase and Kawaguchi were the first to test the typological plausibility of Processability Theory to non-Germanic languages. Di Biase mainly focused on four different elements of the Italian grammatical structure, ranging from the second to the fourth level of processing. He tried to prove that second language learners of Italian follow the universal hierarchy of processing distinguished by Pienemann. As Italian is a Romance language, it shows some important differences in comparison with Germanic languages. For instance, Italian is a SVO language, but the subject is not always obligatory, unlike Germanic languages.

(23) English: He drinks the wine.
Italian: Beve-3SG il vino.
Given that the morphological marking of the verb is much stronger, the subject can be deduced from the inflection. Secondly, Italian is a stem-based language while English and German are word-based. This means that the Italian language is built up of stems, which “do not constitute full words and must bear some inflectional ending” (Di Biase/Kawaguchi 2002, 280). Due to these differences, the study of Italian proved out to be very interesting and enriching.

The four structures which have been investigated by Di Biase were the plural marking on nouns and the marking of the past participle, both belonging to the category procedure (second level). NP agreement, which is a phrasal procedure (level three), was the third structure and finally, Di Biase also focused on the agreement between topic and object (S-procedure, fourth level).

<table>
<thead>
<tr>
<th>Processing procedures</th>
<th>Italian morphosyntax</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>4  S-procedure</td>
<td>Topic-object agreement</td>
<td>i biscotti li compra</td>
</tr>
<tr>
<td>3  Phrasal procedure</td>
<td>NP agreement (plural –i)</td>
<td>i biscotti -3PL ‘the biscuits’</td>
</tr>
<tr>
<td>2  Category procedure</td>
<td>-to past marking on verbs</td>
<td>ritorna-to ‘returned’</td>
</tr>
<tr>
<td>1  Word/lemma</td>
<td>-i plural marking on nouns</td>
<td>biscott-i ‘biscuits’</td>
</tr>
</tbody>
</table>

Source: Di Biase, Kawaguchi 2002, 281

Six English L1 learners from the University of Western Sidney participated in the study and were divided into three different levels (beginner, intermediate and advanced). The participants were interviewed over two sessions. As regards the acquisition criteria, not the accuracy of the answers but the emergence of the structures mattered. A syntactic rule is acquired when it is more than once applied in various lexical and structural environments. The acquisition criteria of PT will be elaborated more extensively in the following chapter (3.4.).

Di Biase demonstrated that all L2 learners of the study followed the hierarchy of the processing levels, proving that the typological validity of Processability Theory also applies to other types of languages next to the Germanic ones. The participants which were at a beginner stage were not able to produce the same grammatical structures as the advanced
learners and as a consequence had reached a lower level of processing. The same results were acquired in the study of Japanese, which is a completely different typological language compared to Italian. The main aim of the study was thus to prove that the typological plausibility of PT was not only restricted to Germanic languages. Di Biase and Kawaguchi gathered enough evidence to demonstrate that other types of languages also follow this universal hierarchy of processing.

2.3.2 Focus-on-form and development in L2 learning

Di Biase conducted a second study about Italian in relation to Processability Theory in 2002. The main aim of the study differed entirely from the previous study. Di Biase tried to investigate the different approaches which can be applied in teaching a second language in a classroom environment. He wondered whether developmentally moderated instruction and the use of focus-on-form feedback techniques lead to more effective learning. Secondly, he examined whether this effective learning can be attained without adding resource inputs. Processability Theory was applied to formulate a possible answer to this experimental study. Di Biase wanted to show that feedback can be an important advantage in learning a second language efficiently.

For the experiment, L2 learners of Italian from a primary school in Sydney were selected and divided into two groups, an experimental and a control group. The control group received an unrestricted amount of feedback from the teacher whereas the experimental group only was given feedback which was concerned with the target structure (viz. focus-on-form feedback). Secondly, teachers in the experimental group did not correct grammatical mistakes if they were not relevant to the targeted structures. In the control group, all mistakes were corrected. The experiment consisted of a pre- and a post-test in which Di Biase examined the Italian morphosyntax.

Figure 9: Design of the study

| Pre-test | Treatment: Developmentally-guided instruction + | Delayed post-test |
In particular, he focused on the contrast between the single and plural form in nouns and adjectives as well as on plural number agreement between noun and adjective in the Italian noun phrase. These two structures belong respectively to the second and third stage of processing. In the pre-test, Di Biase tried to elicit some simple structures which belong to the early stages of the five-level-hierarchy distinguished by Processability Theory in order to determine the grammatical level of the children.

<table>
<thead>
<tr>
<th>Processing procedure</th>
<th>Morphosyntax</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Phrasal procedure</td>
<td>Noun + Determiner</td>
<td>i gatti belli ‘the beautiful cats M.PL’</td>
</tr>
<tr>
<td>2 Category procedure</td>
<td>Plural Nouns</td>
<td>gatti ‘cats M.PL’</td>
</tr>
<tr>
<td></td>
<td>Plural Adjectives</td>
<td>belli ‘beautiful M.PL’</td>
</tr>
</tbody>
</table>

Source: Di Biase (2002)

The result of the pre-tests demonstrated that the children still were at stage one, even after two or three years instruction of Italian. They were for instance not capable of producing plural forms or did not apply agreement between a noun and an adjective. Between the pre-test and the post-test, Italian was again instructed to the two groups of children. This time, special attention was paid to the plural forms of nouns and adjectives (stage two) and to the agreement between noun and modifier (stage three), as illustrated in Table 4.

Eight weeks after the instruction, Di Biase conducted the post-test. This test demonstrated more progress in the second and third stage of the children of the experimental group. All children of the experimental group were at the third stage whereas only six out of nine children from the control group reached this same stage. So the experiment pointed out the advantages and the effectiveness of developmentally guided form-orientated instruction. Further, the study demonstrated that second language learning goes in the direction of “more conceptually transparent and iconic features (e.g. number) to conceptually opaque or purely ‘grammatical’ ones (e.g., gender and phonological class)” (Di Biase 2008, 215). For example, number is a characteristic which is more transparent than gender. Consequently, more mistakes were made by the children with feminine gender nouns (-e) than with default agreement in –i.
2.3.3 Postverbal subject in Italian L2

The third study was conducted in 2009 by Camilla Bettoni, Bruno Di Biase and Elena Nuzzo. This recent study is based on the extended version of Processability Theory (Pienemann, Di Biase and Kawaguchi 2005) which focuses on the structural-pragmatic choices of the second language learners. Therefore, this study shows the most similarities with this present study because both studies are based on the extended version while the other two were linked to the first version of PT. In the study, the postverbal subjects in L2 Italian are the centre of interest. Normally, the canonical word order of Italian consists of SVO but some verbs have an unmarked VS structure. The choice between SV and VS in Italian is influenced by pragmatic factors (for instance: topic and focus). Bettoni et al. hypothesise that, according to PT, a difference in acquisition of postverbal subjects will be noticed depending on the type of verb and on the type of structure. Important in this study is the distinction between the different structures in Italian with canonical VS. Bettoni et al. (2009) distinguished four postverbal constructions. These constructions are either determined by semantic-syntactic characteristics of the verb or by pragmatic choices.

The postverbal subjects in Italian are predominantly characterised by having a focal function. Certain Italian verbs always require a focal NP. Some of these verbs, referred to as unaccusatives (26) and unergatives (27), have only one argument and consequently, only the subject can be focal.

(26) È arrivato l’ambasciatore
    Has arrived the ambassador

(27) Ha telefonato la nonna
    Has phoned grandma

(Bettoni et al. 2009, 156)
According to Bettoni et al. (2009), these VS structures will be easier to acquire for second language learners than transitive structures with a VS order. Transitive verbs require two arguments and when the subject is situated in the focal position, a violation of the canonical order occurs. The postverbal position of the subject is pragmatically determined. A last type of verbs with a postverbal subject are the exceptional verbs, for example *piacere* (to like), *sembrare* (to seem) and *interessare* (to be interested), which correspond to the English verbs such as *please* and *receive*. They differ from other verbs for two reasons. First, SV is not their unmarked word order. Secondly, not the subject, but the indirect object has the semantic role of the experiencer. Therefore, no direct mapping of the semantic roles onto the grammatical functions occurs (more information in section 2.2.1).

**Table 5: Four Types of Verbs with VS order**

<table>
<thead>
<tr>
<th>Types of verbs</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 One-arguments verbs lexically requiring a focus</td>
<td>Poi viene un polisiotto</td>
</tr>
<tr>
<td>2 One-argument verbs not requiring a focus</td>
<td>Then comes a policeman</td>
</tr>
<tr>
<td>3 Two-argument verbs, with either argument in</td>
<td>Pianega solo Pierino</td>
</tr>
<tr>
<td>contrastive focus</td>
<td>Is crying only Pierino</td>
</tr>
<tr>
<td>4 Exceptional verbs</td>
<td>A Maria piace la cioccolata</td>
</tr>
<tr>
<td></td>
<td>To Mary is pleasing chocolate</td>
</tr>
</tbody>
</table>

Source: Bettoni et al. 2009

Following the predictions of Processability Theory, structures which are least marked, will be acquired first as the processing is less costly. When this is applied to VS acquisition in Italian, these structures will be acquired in a certain sequence. First, single-argument verbs of which the focus is lexically determined will be learned first before single-argument verbs of which the focal subject is the result of a discourse-pragmatic choice. Next are the transitive verbs and two-argument intransitive verbs which have a canonical SVO order. Exceptional verbs are acquired last because the processing is very complex.

For the study, two learners of Italian L2 from India and Ghana participated. The data was gathered in a large corpus during a period of three years. From the data, Bettoni et al. (2009) concluded that the two learners adopted the canonical SVO structure most of the times, which is to be expected from a SVO language in which the new information is often
expressed by the object. However, the study revealed some interesting developmental phenomena.

The two learners had no real difficulties using postverbal subjects with the first type of single-argument verbs. Exceptional verbs, on the other hand, appeared to be very challenging to them. They tended to use these verbs especially in formulaic expressions, as in (28).

\[(28) \text{Non mi piace questa scuola.} \]
\[\text{Not to me pleases this school} \]
\[\text{‘I don’t like this school’} \]

*(Non) mi piace* is a first person construction which is frequently used in Italian. Occurrences of postverbal subject in transitive constructions were rare. Often, the participants forgot to produce a clitic when the object was focal, as in (29).

\[(29) \text{[l’] ha già preso il polisiotto} \]
\[\text{[him = Charlot] has already caught the policeman} \]

The subject of the sentence is placed in postverbal position, but has to be retaken by a clitic in Italian (*lo*). In (29), the clitic is missing. Bettoni et al. thus demonstrated that the first type of verbs was most easy to process and the fourth type the hardest. The participants indeed respected the hierarchy of processing and therefore, the hypotheses of Processability Theory were once again confirmed by the study.

### 2.4 The difference in written and spoken language

In addition, the possible difference between processing in spoken and written language production is also examined in this study. In the literature about second language acquisition, various studies have already dealt with the diamesic variation. But the majority of these studies are not relevant to this research because they do not deal with the problem of processing. The second language studies examine the difference in complexity and
accuracy of a certain structure. This signifies that the consistency and thus the mastery of a
certain linguistic structure is analysed and not the emergence of the structure (Håkansson &
Norrby 2008). The difference between written and spoken language has already been
investigated in the light of Processability Theory. The only study so far was conducted by
Håkansson and Norrby in 2008 and focused on the differences between written and spoken
language in Swedish. Now follows a short recapitulation of the study.

Håkansson & Norby investigated the morphosyntactic structures in Swedish. For the study,
they gathered twenty learners, which had studied Swedish for the same amount of time. The
participants were divided into two groups, the Malmö and Melbourne group. The written
data was collected at two different points in time in order to measure the development over
time and consisted of free compositions and translation tasks. The oral data, gathered at the
same time as the second collection of written data, aimed at eliciting specific structures
which belonged to PT levels three to five (attributive agreement, predicative agreement and
subordinate word order). Håkansson and Norrby applied an emergence criterion to
determine whether a structure was acquired by the learner. One example of a structure was
not sufficient because it could well be part of a mono-morphemic chunk. Therefore, it was a
necessary that the structure was more than once present in the data proving that the use of
a particular structure was productive.

The results in the Malmö group only indicated a small difference between the level of
written and oral language. All learners can be situated at the same level of processing in
speech and writing. In the Melbourne group, five students attained a higher level of
processing in the written test but this can also be attributed to a lack of context. Håkansson
and Norrby claim that if the concept of monitoring would also be included in Processability
Theory, greater differences would be observed between the written and spoken results.
When a language is spoken, the language user has no time to control the language
production. In the case of written language, the language user is able to monitor his
utterances. So it would be expected that in written production, the learners of Swedish
acquire a higher level of complexity. However, this concept of monitoring was not included
and the prediction of Processability Theory was correct by stating that the same constraints
applied to written and spoken language.
Regarding the criteria of Processability Theory, all the participants reached more or less the same level of processing in the written and the spoken test. But Håkansson and Norrby also examined the difference in complexity, which is often the focus of interest in other second language theories. In the study, they refer to the work of Krashen (1981, 1985) who developed the *Monitor Hypothesis*. This hypothesis is part of Krashen’s broader theory about second language acquisition. His theory consists of five separate hypotheses which together account for second language acquisition in general (Gregg 1984). In his hypothesis, Krashen (Krashen 1982,15 as quoted in Gregg 1984, 82) states that “learning has only one function, and that is as Monitor, or editor.” For the Monitor to function, three necessary conditions have to be fulfilled: planning time, focus on form and rule knowledge (Gregg 1984). Because of these three conditions, second language learners will perform better during written production since the planning time is higher. Especially during grammar tests, in which all these three conditions are present, language performance increases. In daily communicative circumstances on the other hand, attention to these three conditions diminishes and therefore language learners attain a lower level of accuracy. As a consequence, greater accuracy in written language leads to greater complexity. Håkansson and Norrby also noticed more language complexity in the written part.

They explain the difference in processability and in complexity with following example.

“The very occurrence of subordinate clauses is [...] an indication of complexity, whereas the differentiation of main clause and subordinate clause word order patterns (in language where there is such a difference, e.g. Swedish) is a sign of high level of grammatical processability.” (Håkansson & Norrby 2008, 92)

When analysing complexity, two types of complex structures were exclusively observed in the written part, namely the NP-copula-adjective and subordinate clauses. For instance, some participants did not produce subordinate clauses in the oral part. Håkansson and Norrby state that this variation in complexity is caused by a difference in planning time. In written production, more planning time is provided. Hence, they agree with the *Monitor Hypothesis* of Krashen.
The theory of Krashen has been extremely popular during the 1980s but has also been the subject of a lot of criticism, for example by Gregg (1984). Gregg refuted the Monitor Hypothesis of Krashen by criticising the three conditions. First, he argues that the concept of time is rather straightforward and logical. A language learner needs more time to produce an utterance when he relies on the rules in a conscious way. Secondly, focus on form cannot be separated from focus on content as one focuses on the form, one is reflecting on the message too. Finally, the knowledge of the rule is a rather arbitrary condition. The rule perceived by the language learner and that defined by the linguist do not necessarily coincide.

To conclude, Processability Theory predicts that no differences are noticed in the matter of processing with written and spoken language production. This hypothesis has been confirmed by the study of Håkansson and Norrby, the only study on this matter up till now. It is important to bear in mind that only from a point of view of complexity, planning time does have an influence on written language. Thus, variation between spoken and written language is noticed with reference to language complexity but does not affect the level of processing.
3 The study

3.1 Research question

In my study, I have investigated four different structures in Italian which show deviations from direct canonical mapping. I especially tried to answer following research questions:

**RQ1:** Are there significant differences noted between the four marked structures? Is there any kind of hierarchy between the four structures? Does one structure appear to be more easily processed than the others?

**RQ2:** Is there a difference in level of processing in the written and spoken language production? In other words, does the diamesic variation influence the level of proficiency?

In this section, I will give an overview of the present study and the four marked structures I focused on. Next, a presentation of the acquisition criteria of Processability Theory will be put forward (3.3). This chapter concludes with a few hypotheses which might provide an answer to the research questions (3.4.).

3.2 Methodology

3.2.1 Participants

Nine participants collaborated in this study; all of which were students of Italian at Ghent University and have Dutch as their native language. They were divided into three groups, corresponding to the year of study they were in. The first group contained students from Bachelor 1, the second from Bachelor 2 and the last group were Master students. In this way, the three groups of students represented three different levels of language proficiency: from beginners over intermediate to more or less advanced. At the moment of the test, which took place in March 2010, the students of Bachelor 1 had only been studying Italian less than a year. It is also important to bear in mind that all students have acquired Italian at the same institution, namely at Ghent University. This means that they all have the same basic knowledge to begin with.
The students also studied another second language, but this has no effect on their performance of Italian according to Processability Theory. The developmental trajectories of first and second languages are fundamentally different and the transfer from L1 to L2 is fairly limited (Pienemann 2005). An example which supports this hypothesis has been provided in the 2002 study of Håkansson, Pienemann and Sayehli. They demonstrated that German L2 learners, which had Swedish as their native language, do not transfer the verb-second structure from Swedish to German. The language learners used a canonical word structure in German in the early stage of acquisition, even if the same structure is also present in Swedish. Håkansson et al. (2002) proved with this study that direct transfer from L1 to L2 did not take place. Further, no special criteria were applied to select the participants in each year. It is expected that each student per year should have more or less the same language level. One exception could maybe be found between the Master students. Two out of three students studied in Italy for six months and therefore we can assume that their level of proficiency should be slightly higher in respect of the student who did not study abroad.

3.2.2 Data Collection

Since the aim of the study consisted of eliciting certain marked structures, no natural user data was examined. Therefore, the data collection was controlled and various procedures were applied to elicit these structures (such as structured exercises, completion tasks and translations). The test constituted of two parts: a written and a spoken part. The participants first had to fill in a written part, which took about thirty to forty-five minutes. The amount of time they had to complete the written part was relatively short. Consequently, they almost had no time to verify their answers. In this way, it was assured that their answers were spontaneous and not much reflected on. Immediately after the written part, the students were subjected to a spoken test, which was registered by a voice recorder. The spoken part took between fifteen and twenty-five minutes depending on the level of the student. Anew, the participants had to answer as quickly as possible. As both tests were hold at the same time, differences between the written and spoken performances could not be explained due to an increase in language proficiency realised overtime. In both tests, four particular structures in Italian which deviate from the canonical word order were examined. These four structures will be elaborated in the next section (3.3.). The structures had to be elicited in an inconspicuous mode so that the participants were not aware of the subject of interest.
In this way, no extra attention was given to certain features of Italian. Both parts began with a general question in which they were asked to describe their favourite movie or to talk about their favourite country. This exercise gave them the chance to form plain sentences, in which the canonical word order SVO was expected to appear. Another task consisted of describing a certain picture. After these so-called ‘icebreakers’, they had to complete specific exercises in which the marked structures had to be produced. All exercises contained a mix of the specific structures and other more general structures, in order to distract the participants from the exact purpose of the study. The exercises in the written and spoken part were very similar, consisting particularly of blank exercises and sentence formation exercises. At the end, the aim of the study was to investigate whether a hierarchy existed between the marked structures at the fourth level. Further, possible differences between the written and spoken test were analysed.

3.3 The structures

In the study, four particular structures in Italian, which deviate from the canonical SVO order, were selected. The mechanisms behind these structures are elaborated in this chapter. But first, it is important to get an insight in the basic word order mechanisms of Italian.

3.3.1 Italian word order

The basic word order in Italian consists of SVO, for first as well as second language acquisition (Ramat 2007). However, the word order in Italian tends to be relatively free (Bettoni et al. 2009). Pragmatic choices often influence the word order. According to Sornicola (1994), a language can have a certain basic word order (for example SVO), but this order does not necessarily have to coincide with the dominant word order. In her study, Sornicola investigated word order patterns of Italian on the basis of a corpus of modern Italian. In written production, the SVO order was mainly used in transitive constructions. Other word structures were rarely found with transitive verbs and had a very low frequency of use, as can be seen in Figure 10.
Figure 10: Word order patterns in transitive constructions in Italian

<table>
<thead>
<tr>
<th></th>
<th>SVO</th>
<th>SOV</th>
<th>OVS</th>
<th>VOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>87.5 %</td>
<td>8.15 %</td>
<td>2.5 %</td>
<td>1.25 %</td>
<td></td>
</tr>
</tbody>
</table>

Source: (Sornicola 1994, 31)

Yet, some verbs have a canonical VS word order, as was already mentioned in section 2.3.3. Intransitive verbs chiefly have an unmarked VS order, but variation between SV and VS order is still noticed. Consider this following example of the verb *venire*:

(1) Paolo viene / Viene Paolo

‘Paolo comes.’

Sornicola (1994) states that “the (linear) surface order is affected by semantic and pragmatic factors rather than by structural properties (i.e. by the deep structure configurations of these verbs).” (32) In example (1), the choice between the two structures depends on pragmatics. If the new information in the sentence is localised in the subject, the subject will probably be in the postverbal position. In spoken Italian, Sornicola discovered other tendencies with respect to the written production (for instance, a higher frequency of structures such as left dislocation, topicalisation, etc.). In transitive constructions, the SVO order remained the most dominant word order. In contrast, a strong tendency towards the use of VS was noticed in the intransitive constructions. Sornicola concluded that the word order in Italian is a rather dynamic instead of a static phenomenon. Importantly, Italian is a head-marking language because the pronominal arguments can be incorporated in the morphology of the verb (Bresnan 2001). Hence, the subject can be omitted. As a conclusion, the canonical word order of Italian is SVO but many deviations from the canonical word order are caused by pragmatic differences in the sentence. Important is the difference between *Tema* and *Rema*, which will be further discussed in 3.3.3.

3.3.2 Passive construction

The first non-linear construction which is analysed is the passive construction. The passive has already been briefly discussed in the theoretical section about PT’s extended version.
Here follows a short recapitulation of the structure, as discussed in Pienemann, Di Biase and Kawaguchi (2005). They referred to Pinker (1984) who analysed English data and noticed that native speakers prefer the use of active sentences to passive constructions. In active sentences, the canonical word order, which is the most easy structure to process, is often detected. The passive however is a construction in which “the highest thematic role (i.e. agent) is suppressed” (Pienemann et al 2005, 216). As a result, non-linearity is created as the relation between the argument roles (a-structure) and grammatical functions (f-structure) is altered. The following sentences, already used in section 2.2.4., exemplify the statement:

(2) Peter sees a dog.
(3) A dog is seen by Peter.

The SUBJ in (2) is defocused in (3) and expressed by an adjunct. According to Bresnan (2001), the passive renders the transitive verb of the active sentence into an intransitive one. In (2) and (3), both sentences have the same predicate argument structure, but the argument role of the object in the first sentence is given to the subject of the passive sentence. This transformation is illustrated in the following scheme:

\[
\begin{array}{c}
\text{active} \\
\text{R} \prec x \succ y \\
\text{obl} \\
\text{s} \prec o \\
\end{array}
\leftrightarrow
\begin{array}{c}
\text{passive} \\
\text{R} \prec x \succ y \\
\text{obl} \\
\text{s} \prec (obl) s \\
\end{array}
\]

(Bresnan 2001, 26)

The scheme exemplifies that the argument role y of the object (o) in the active sentence is given to the subject (s) of the passive construction, while the argument role x is not longer obligatory. It can be produced by an oblique function. Kawaguchi (2005) considers the passive as an derivational process. To form a passive, unification of V and N is required, which happens at the S-node. So the passive is not only a deviation from default mapping between the a-structure and the f-structure, but “this construction requires also the S-procedure (242)”. Therefore Processability Theory predicts that the passive construction will be acquired at a more advanced level of language proficiency (stage four).
In Italian, the passive structure can be constructed in various ways (Cardo/Proudfoot 2005, II). The construction discussed in this section is the periphrastic passive. The periphrastic passive consists of two parts: an auxiliary and a past participle (participio passato). The other passive constructions are formed with the pronoun si (si impersonale and si passivante) and will discussed in section 3.3.4. In the Italian passive, three auxiliaries can be applied to form the passive, but the use of each auxiliary depends on certain pragmatic choices. The standard auxiliary to form the passive is essere (to be), as in following example:

(5) Pochi leggono i giornali.
   Few read-3P the newspapers

(6) I giornali sono letti da pochi.
   The newspapers are-3P read by few

(Katerinov 2007, IV, 421)

In this example, the agent, which is expressed by an adjunct, is preceded by the preposition da in Italian. However, it is not always necessary to express the agent in the passive. The second auxiliary which can be used is venire (to come). This verb is produced in more formal settings and can only be used with simple tenses. Further, when using venire, the language user underlines that the action occurs regularly. It also serves to avoid ambiguity: some Italian verbs tend to sound static when the agent is not present, for example:

(7) La porta è chiusa.
   ‘The door is shut.’

(8) La porta viene chiusa.
   ‘The door is being shut.’

(Cardo/Proudfoot 2005, II, 195)
The last auxiliary *andare* (to go) is used in a prescriptive sense, viz. it expresses how things should be done. However, the passive construction with *andare* is rather specific and is not often used by second language learners.

(9) L’influenza va curata come ogni altra malattia.
    The influenza needs treated like any other illness
    ‘Influenza needs to be treated like any other illness.’

(Katerinov 2007, IV, 429)

Finally, in passive constructions, agreement between the subject and past participle is required. In (9), the subject and the past participle agree in number and gender (i.e. singular and feminine).

### 3.3.3 OVS / OSV

As mentioned in 3.3.1., the canonical word order of Italian is SVO. Deviations from this word pattern however are frequently detected. One particular word structure is the OVS/OSV structure, which is marked because the object precedes the verb. In Italian, this structure is referred to as *dislocazione a sinistra* (literally translated as: dislocation to the left). Simone (2007, IX) explains this phenomenon as a structure in which the object is transferred from the postverbal to the preverbal position. Due to this movement, the object has to be obligatory retaken by a clitic (*pronome clitico*), as in following example:

(10) Il latte, l’ho comprato.
    The milk-M.3SG it-M.3SG have-1SG bought
    ‘The milk, I have bought it.’

(Simone 2007, IX, 88)

In (10), we notice that the object *il latte* is put in first position, before the verb. Therefore, it has to be recaptured by the clitic *lo*. Obviously, agreement takes place between the object and its clitic. Objects are not the only constituents which can be dislocated, also other complements or subjects can be moved. Beside *dislocazione a sinistra*, *dislocazione a destra* (dislocation to the right) is also possible, as in (11):
Here, the object remains in the same position, but it is being highlighted as it is anticipated by a clitic. These structures are particularly applied to emphasise certain constituents in the sentence. The *dislocazione a sinistra* is especially used in spoken language and has two main purposes. The first intention is to signal that the discourse is more or less informal. Secondly, as already stated, the structure is extremely adequate to emphasise constituents. Moreover, it is a very old phenomenon of the Italian language and it is becoming increasingly frequent, especially in spoken language. Because of this, people tend to consider it even as an unmarked structure (Simone 2007, IX).

The structure cannot only be analysed from a syntactic point of view, but also from a pragmatic point (Sobrero 2007, IX). In pragmatics, a distinction is made between *tema* (topic) and *rema* (comment). The topic corresponds to what is already known in an utterance while the comment reveals the new information. Normally, in a non-marked structure, the topic is expressed first and is followed by the comment, as in (12).

(12) Maria compra le patate.

‘Maria buys the potatoes.’

(Sobrero 2007, IX, 424)

The topic is expressed by the subject *Maria* while the predicate *compra le patate* represents the comment. In Italian, several strategies are adopted in order to express the topic in a sentence. First, the topic is predominantly situated in first position. A second way of conveying the topic is by pausing or by the use of intonation. Finally, *pronomi atone* (i.e. pronouns which are unstressed) are applied as a form of recapitulation of the topic, which can also be noticed in the left dislocation. Here, the topic corresponds to the dislocated element. The structure *dislocazione a sinistra* also demonstrates that the topic does not
always coincide with the grammatical subject. In (13), the topic is not expressed by the grammatical subject but by the object *le sigarette* which is dislocated to the left.

(13) *Le sigarette, Gianni le ha comprate.*

'Ve bought the cigarettes to the left, Gianni.'  

(Sobrero 2007, IX, 423)

This particular structure has already been investigated in the light of Processability Theory by Di Biase (Di Biase/Kawaguchi 2002), but was analysed as a type of topic-object agreement. While agreement between subject and verb is obligatory in Italian, this type of agreement is optional and is often caused by certain pragmatic choices of the speaker. Di Biase labelled the structure as an interphrasal procedure (stage four). In this structure, the information between phrases of different heads, NP and VP, is been exchanged. The NP of the object is located in first position and has therefore acquired the discourse function of TOPIC. As a consequence, the constituent is highlighted in the sentence. Information such as gender and number is attuned between the NPtop and the clitic, which is part of the VP.

*Dislocazione a sinistra* is a structure which has often been the subject of second language research. Valentini (1992, as cited in Ramat 2006, XI) noticed that L2 learners often make mistakes when using a dislocation. These errors are often caused by the absence of a clitic and the influence of the mother tongue. In 95 percent of all languages, the subject precedes the verb in the canonical word order (SVO, SOV or OSV) (Tomlin 1986). Also in Dutch, the preverbal position of the object is a marked structure but shows major differences with the Italian phenomenon of *dislocazione a sinistra*. This structure can be compared with the topicalisation of the object. In contrast to Italian, the movement of the object to the first position does not add any lexical material to the sentence. The object is only given a more prominent position (Koster s.d.). Consider following examples of the topicalisation of the object:
Koefoed (1978, 14) claims that this mechanism “has an unfavourable effect on the transparency between the functional relations in the sentence”. The hearer has to discover independently that *de bloemen* does not correspond to the subject, although it is situated in the canonical position of the subject. In Dutch, topicalisation gives extra attention to a certain constituent, but makes it more difficult for the hearer to process the structure. In the utterance, no extra indications are given to signal the movement of the object, as in Italian. The only given indication might be that the relocated element is given more emphasis in spoken language.

In conclusion, the OVS structure in Italian requires the addition of an extra element, the clitic, which differs fundamentally from the Dutch structure. Because of this, exchange between different heads is needed which happens at the fourth level of processing. The structure is thus situated at the same level as the passive.

### 3.3.4 *Si passivante*

The third structure I focused on, is the *si passivante* structure. It is a rather complex phenomenon in Italian. Basically, the structure is composed by three main constituents: the element *si*, an inflected verb and a NP. It is the element *si* which renders the active meaning of the verb into a passive one, as in following example:

\[
(15) \text{Nella mia famiglia si parlano tre lingue.} \\
\text{In the my family-SG si talk-3P three languages-F.P} \\
\text{‘In my family three languages are spoken.’}
\]

(Cardo/Proudfoot 2005, II, 31)

Further, this structure requires agreement between the verb and the noun phrase. *Si passivante* is very similar to another structure in Italian, *si impersonale*. *Si impersonale* is
especially used in two specific occasions: when the subject is not mentioned and when the identification with a person or thing turns out to be impossible (cf. the use in English of *one*). However, *si impersonale* differentiates from *si passivente* for two main reasons. First, the verb in the *si impersonale* construction is always in third person singular, while in the *si passivante* alternations between third person singular and plural are possible. Secondly, the *si impersonal* structure is only constructed with intransitive verbs whereas the *si passivante* is only possible with transitive verbs (Cardo/Proudfoot 2005, II).

In fact, the above was only a very simple exposition of the *si passivante*. Many studies have already been conducted about the Italian structures with *si*. Especially about the nature of the element *si*, many researchers tend to disagree and because of this, many different hypotheses have already been developed. The work of reference for this study is *Impersonal si-constructions* by Roberta D’Alessandro (2007). D’Alessandro examines the difference between the presence and absence of verb-object agreement, as in (16) and (17):

(16) In Italia si mangiano gli spaghetti.
     In Italy si eat-3P spaghetti-P
     ‘In Italy they eat spaghetti.’

(17) In Italia si mangia (gli) spaghetti.
     In Italia si eat-3SG spaghetti-P
     ‘In Italy they (keep) eat(ing) spaghetti.’

(D’Alessandro 2007,36)

In (16), the agreement between the verb and the object is realised, while in (17) it is not. Both structures are also perceived differently by native speakers. D’Alessandro gathered ten native speakers and let them judge various structures involving impersonal si-constructions. (16) was considered grammatical by all ten participants. On the other hand, only four speakers out of ten also considered (17) as perfectly grammatical. According to Vender (1967, as cited in D’Alessandro 2007) the distinction between agreement and non-agreement is caused by aspectual differences. When the verb agrees with the object, the structure encodes an accomplishment. Conversely, the structure expresses an activity
(without a fixed endpoint) when agreement is lacking. Further, the element *si in (16) and (17) shows semantic differences. In (16), “*si is merged in the specifier of a VP-internal projection” (D’Alessandro 2007, 37). Moreover, D’Alessandro claims that both structures differ due to the case of both arguments. In (16), the argument carries Nominative Case, because it can be replaced by a personal pronoun, as in (18). In (17) on the other hand, the constituent has to be replaced by a direct pronoun and therefore carries Accusative Case.

(18) In Italia essi / * li si mangiano.
   In Italy they-NOM.3P them-ACC.3P si eat-3P
   ‘In Italy they eat it’

(19) In Italia li / *essi si mangia.
   In Italy them-ACC.3P they-NOM.3P si eats-3SG
   ‘In Italy they eat it’

(D’Alessandro 2007: 45)

Because *gli spaghetti in (16) carries Nominative Case, it agrees with the verb. In (17), the constituent carries Accusative Case and therefore the agreement is not realised.

Both structures (16) and (17) have also been designated in many different ways that a complete overview would lead us to far. A lot of researchers make a distinction between the passive *si (16) and the impersonal *si (17) (Salvi 1991, as quoted in D’Alessandro 2007). This distinction often returns in the traditional Italian grammar books. A different distinction is made by Beletti (1982) and Roberts (1987) (as cited in D’Alessandro 2007) who refer to ‘impersonal passive *si’ (16) and ‘impersonal active *si’ (17). Apart from that, disagreement also arises about the nature of *si. One group of researchers considers *si as a pronoun while others perceive *si to be a functional head (Manzini & Savoia 2002, as quoted in D’Alessandro 2007).

Why does this structure cause problems for L2 learners? As mentioned in section 2.3., L2 learners have the tendency to map their structures in a canonical way (cf. Unmarked Alignment Hypothesis). So initially, they will identify the element in first position as the
subject and the constituent in postverbal position as the object. However, when direct canonical mapping is applied to the *si passivante* structure, agreement between the verb and the NP (i.e. the grammatical subject) is not realised. Consider following example:

(20) Qui *si* fabbricano delle case.

Here *si* build-3P      houses

‘Houses are built here’

(D’Alessandro 2007, 36)

When a L2 learner of Italian carries out direct canonical mapping in the given example, he/she will identify the constituent *si* as the subject and *delle case* as the object. As a consequence, no agreement between the verb and *delle case* will be realised. The nature of the NP in the construction is very complex, but can be considered as the grammatical subject. If the word structure of the sentence is altered, the organisation of this structure becomes much more clearer.

(21) Delle case *si* fabbricano qui.

houses *si* built      here

‘Houses are built here’.

This structure is often identified with a similar impersonal structure in Dutch.

(22) Hier bouwt men huizen.

‘Houses are built here’

(own example)

In the Dutch construction, the constituent *men* is a full fledged subject and agreement between the verb and object does not take place. So it is expected that early second language learners of Italian will not apply agreement between the verb and the noun phrase, which is identified as the object. Especially due to the reliance on the canonical word order, the language learners might map their arguments in a direct way instead of non-canonical
mapping which is required here. As the other structures, the si passivante is situated at the fourth level of processing.

### 3.3.5 Exceptional verbs

The last structure examined is that of the exceptional verbs (a term coined by Pinker 1984). Benincà (2007, IX) refers to these verbs as verbs of perception and of psychological activity. These verbs are characterised by having a logical subject which is expressed by a preposition plus complement (i.e. a dative), as in (23):

(23) Questo piace a Giorgio.
    This likes to Giorgio
    ‘Giorgio likes this.’

(Benincà 2007, IX, 271)

Benincà generalises these verbs into a larger category of psychological verbs, in which the logical subject is expressed by a direct or indirect object.

(24) Questo preoccupa Giorgio.
    ‘This worries Giorgio.’

(Benincà 2007, IX, 271)

According to Benincà, the non-marked structure of these verbs locates the semantic subject, expressing the experiencer, in first position. This can easily be managed because the indirect objects are preceded by a preposition and the direct objects are resumed by a pronoun, clearly indicating the grammatical functions in the sentence. Beletti and Rizzi (1988) also studied these type of verbs and referred to them as PSYCH-verbs. PSYCH-verbs reflect a psychological state and contain an experiencer, the person who is experiencing a mental state, and a theme, the object of the mental state. Beletti and Rizzi distinguish three classes of PSYCH verbs including the piacere-type. These verbs are typified by a dative experiencer and a nominative theme. The structure is exemplified in following tree diagram:
Secondly, these verbs take *essere* as auxiliary. Finally, the word order of these verbs is rather free. Either the experiencer or the theme can be located in preverbal position. This is possible due to the assignment of the dative case (*a + NP*). Benincà, Beletti and Rizzi assume that the unmarked structure consists of [Experiencer Verb Theme]. Anyway, either the experiencer or the theme must be put in preverbal position since they cannot both remain in the postverbal position. Following sentence turns out to be ungrammatical:

(25) * Piacciono le tue idee a Gianni.
    Like-3P the your ideas to Gianni
    ‘Gianni likes your ideas.’

(Beletti/Rizzi 1988, 340)

These exceptional verbs have also been examined in Processability Theory. In the extended version of 2005, Pienemann et al. explained this structure through the mapping of the a-onto f-structure. They state that “the relationship between a-structure and f-structure is by no means universal, and learners of a second language will need to learn which constructions and which verbs are exceptional [...]” (222). These exceptional verbs (such as *piacere*) often create problems for second language learners in an early phase. They tend to identify the experiencer as the grammatical subject and the theme as the object, as illustrated in (26).
In (26), the language learner applies the mechanism of direct canonical mapping. In English for example, direct canonical mapping is applied to the equivalent of *piacere*, to like. Applying this to Italian however results to be ungrammatical, proving the statement of Pienemann et al. that these constructions are indeed language-specific. *Piacere* requires non-default mapping, in which the grammatical subject expresses the theme and the experiencer is identified with the oblique function OBJθ. In the above example, *tu* (NOM-2SG) should be replaced by the indirect pronoun *ti* (2SG)

(27) Piacere < Theme Experiencer >
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJ</td>
<td>OBJθ</td>
</tr>
</tbody>
</table>

(Pienemann et al. 2005, 223)

According to Pienemann et al. (2005), this structure goes against the *Thematic Hierarchy* in which the experiencer is ranked higher than the theme. As a consequence, the structure deviates from the canonical mapping.

The experiencer verbs have already been investigated in a study by Di Biase (2009) about postverbal subjects in Italian, which I referred to in section 2.3. Besides the verb *piacere*, Di Biase analysed the use of other exceptional verbs such *divertire* (to divert), *sembrare* (to seem) and *interessare* (to interest). The verbs are described as “intransitive verbs subcategorising two arguments” (159) but exceptional for two reasons. First, their unmarked structure does not correspond to SV as in (28).

(28) A Maria piace la cioccolata.
To Maria likes the chocolate
‘Mary likes the chocolat.’

(Di Biase 2009, 159)
And secondly, as already mentioned in Pienemann et al. (2005), no direct mapping can be found. The highest thematic role present (i.e. the experiencer) does not correspond to the subject. So a L2 learner of Italian has mastered this particular structure when he or she maps the experiencer as the indirect object and puts it in the canonical position of the subject, thus in a preverbal position. In the results of the study, Di Biase concluded that especially *piacere* was mapped correctly. However, the participants often used the verb in a formulaic mode with the indirect pronoun *mi* as in *mi piace*. In general, occurrences of exceptional verbs were rarely perceived and if they were used, the experiencer was mapped onto the subject. As a conclusion, these exceptional verbs prove to be very complex structures to process. They do not only include “marked alignment of c-structure onto f-structure, but also non-canonical (sic) mapping of thematic roles onto syntactic functions” (Di Biase 2009, 164). These exceptional verbs are also acquired at the fourth stage of processing.

### 3.4 Acquisition criteria

The development of acquisition criteria are the centre of focus in many theories about first and second language acquisition. These criteria vary in each theory and therefore are often considered as rather arbitrary. Moreover, they are often expressed in terms of percentages for which each theory has different standards. For instance, according to Ellis (1988, as cited in Palotti 2007) an amount of 75 percent indicates the acquisition of a structure while Dulay and Burt (1974, as cited in Palotti 2007) require 90 percent of correct uses. This example indicates that the definition of acquisition criteria often diverges. Until now, no single theory has proposed any convincing arguments to prove that their criteria are the most reliable to adopt. Further, Palotti (2007) refers to the work of Hatch and Faraday (1982) who claim that the difference in criteria lead to different forms of acquisition of the same structures. They take the view that high percentages (up to 90 percent) do not indicate language acquisition, but designate the mastery of a language. According to Pienemann (1998), an overview of mastery does not reflect the interlanguage of the language learner. Because of this, Pienemann, among others, proposed a new form of acquisition criteria founded on the concept of emergence. This new approach has three advantages in respect to the traditional standard. It looks at the first uses of a language structure and is thus not concerned with the amount of correct uses. Secondly, it is a stable criterion in contrast with the acquisition
criteria which frequently differ. Finally, they examine the order of emergence of each structure.

3.4.1 Theoretical definition

So, Processability Theory is based on emergence criteria and not on acquisition criteria. Pienemann formulated following definition of emergence:

“Emergence refers to a point in time corresponding to the first systematic and productive use of a structure.” (Pienemann 1984, as cited in Palotti 2007, 366)

Palotti examined this theoretical definition of the emergence criterion by elaborating each (underlined) element of the definition in a detailed way.

**Structure**

The linguistic structure to which Palotti refers is situated in the domain of inflectional morphology in which a phonological form is associated with a grammatical function (Stankiewicz 1991, as cited in Palotti 2007).

**Use**

Pienemann refers to the concept of the *first systematic use*. This means that the first productions of a structure are being observed. Also, it is expected that the language knowledge is unplanned and unmonitored (i.e. implicit).

**Systematic**

At an early stage, language use tends to be incidental and random. The use only becomes systematic in a further stage of language acquisition. According to Palotti (2007), systematicity is only demonstrated when a “regular association of a phonological form with a grammatical function” (367) can be determined.

**Productive**

The idea of productivity is demonstrated by Palotti with an example of inflectional morphology. The use of an affix becomes productive when it is applied to various lexical
items among which new ones and non-existent forms. In an early phase, the word use is often retrieved from the memory without any clear function assignment.

First
The focus on the first emergence differs fundamentally from traditional theories elaborating acquisition criteria. Palotti wonders whether the terms first and systematic can be unified in one definition since it are rather paradoxical terms. However, the term first has to be interpreted as the emergence of a beginning phenomenon, in other words as an initial stage of a process. Palotti (2007) states that “‘first systematic use’ thus expresses a moment in interlanguage development in which there are signs of regular, constant use of the structure, but these are the ‘first’ such signs” (367).

Point in time
Finally, the emergence criterion looks at the difference between emergence and non-emergence: the criterion looks back in time and does not look forward. Yet, these criteria also show signs of arbitrariness given that it is difficult to indicate a specific moment in which the language structure emerges. An interlanguage is characterised by its gradual development.

3.4.2 Operational Definition
Next to a theoretical definition of the emergence criteria of PT, Palotti developed an operational definition, in which he looked at data collection, organization and interpretation. During the collection of data, the researcher has to gather production data because the first use of a structure is examined. Further, only a minimal amount of context is needed in order to determine whether a structure has emerged. How the data must be collected is not fixed by PT but is determined by each researcher. The organisation of data is based either on types or tokens. This is an important decision because it leads to different results. When the organisation is based on types, the productivity of a structure is being examined while tokens want to reveal a quantitative distributional analysis. This present study was based on types since the goal of the study is to investigate whether certain marked structures are already produced. Ultimately, the interpretation of the data is based on three different criteria.
Data robustness
The minimal amount of occurrences of a structure has to be determined. Especially the results occurring in obligatory contexts are considered relevant. The minimal level of emergence by Processability Theory is four times.

Productive use
This criterion was especially applied to the grammatical morphemes and is less applicable to syntactic structures. Palotti examined whether the grammatical morphemes were applied to minimal pairs, creative constructions and in variety of lexical items.

Systematic production
Systematic production signifies that the language learners associate a certain form with a grammatical function. For instance, overproduction can be an indication of unsystematic use because the structure is used in too many occasions. Therefore, the language learner is not acquainted with the function of each form. The percentage of correct occurrences does not have a decisive role in the data interpretation. On the contrary, Palotti (2007) states that “the only relevant indicator for stating a structure has emerged is its specificity, targetedness, and selectivity” (372).

3.5 PT’s predictions
Let us now look at how Processability Theory would answer the research questions formulated in 3.1. These answers constitute the hypotheses for this present study. The first research question is concerned with the existence of a hierarchy within the four marked structures. Is one of the structures easier to process by the participants than the others? In fact, Processability Theory does not provide an answer to this question. PT locates all structures in the fourth stage of processing and does not make a distinction between them. They are all situated at the same level without any notable difference in processing. What happens between stage two and four is not clearly elaborated by PT. We can assume that in between these stages, the language learner further develops his interlanguage, which varies between the SVO and marked order. This hiatus can be considered a weakness of the theory since we intuitively notice that a structure such as the passive is easier to process than an
exceptional verbs such as *sembrare*. Therefore, it will be interesting to investigate whether certain patterns can be derived from the results and whether some structures will considered easier to process than others by the participants.

The second research question is concerned with the difference between written and spoken production. The difference in diamesic variation was already investigated by Håkansson and Norbby in 2008 (see section 2.4.). They concluded that no striking differences between the written and oral language production were detected. As regards processing, almost all participants performed at the same level in the written and spoken parts. The only difference noticed was related to language complexity, in which the written results demonstrated more complexity in language production. So following these conclusions, it is expected that the participants will perform at the same level in the written and spoken tests.

The division of the students into three groups is not relevant to Processability Theory. If a student belongs to the advanced group, this does not necessarily mean that he or she will perform remarkably better than the students of the beginner group. It is perfectly possible that this student will hold on to the canonical word order. The three groups of students which were selected do not necessarily have to correspond to the three different levels of processing.
4 Results and discussion

This chapter is structured as follows: first, an analysis of the written part is presented in section 4.1. In the next part (4.2.), the spoken results are discussed. Both sections are structured according to Pienemann’s division of processing levels. At the second level of processing, the sentences are produced according to the canonical word order. The marked structures (i.e. deviations from the SVO order) are processed at the fourth level. The results will be examined level per level. In section 4.3., the written and the spoken results are being compared to each other. As a conclusion to this chapter, the research questions are answered in section 4.4.

4.1 Written language production

4.1.1 Second level

According to Processability Theory, language learners which have reached the second level of processing are only able to produce canonical word structures. This hypothesis was elaborated in the Unmarked Alignment Hypothesis by Pienemann, Di Biase and Kawaguchi (2005), which was already discussed in chapter two. Pienemann et al. 2005 state that:

“in second language acquisition learners will initially organise syntax by mapping the most prominent semantic role available onto the subject (i.e. the most prominent grammatical role). The structural expression of the subject, in turn, will occupy the most prominent linear position in c-structure, namely the initial position.” (Pienemann, Di Biase & Kawaguchi 2005,229)

Pienemann et al. (2005) thus hypothesise that at the beginning of language acquisition, the learners will use a SVO order, especially in second language acquisition. In other words, they will apply direct canonical mapping between the a-, c- and f-structure. Pinker (1984) argues that the canonical word order is situated at the second level of processing given that less knowledge and less processing are required. All the participants of the study were able to process sentences with canonical word order and thus proved that they all have reached the second level of processing. Especially during the general questions, the SVO order was used.
Many students also produced SVO structures which were preceded by an adverb, as in (3). Pienemann et al. (2005) phrase in the *TOPIC hypothesis* (section 2.2.3.2.) that the insertion of an adverb in first position induces the differentiation between SUBJ and TOPIC. In addition, adjunct insertion constitutes the first deviation from the direct canonical mapping. Table 6 depicts the use of SVO and AdvSVO sentences during the test. The amount of sentences depends on the length of the answers given during the general questions, but is fairly limited as SVO structure were not the focus of this research. Table 6 indicates that the students use the two structures fairly in the same amount.

<table>
<thead>
<tr>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVO</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>AdvSVO</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

### 4.1.2 Fourth level

Language users do not apply canonical word order in all their utterances. Otherwise, their language use would be predictable and uninteresting. It is typical of a language to deviate from the canonical word order and to show evidence of creative language use. A language learner is able to deviate from the canonical word order when he has reached the fourth level of processing (Pienemann, Di Biase & Kawaguchi 2005). At this stage, direct canonical
mapping is replaced by non-default mapping. If a language learner attempts to produce a marked structure but has not reached the fourth level yet, his options are limited. Pienemann (2005) distinguishes three alternatives. He can leave out the constituent which requires exchange of information at the fourth level. Next, he can apply canonical word order. As a consequence, the original intention of the message disappears. Thirdly, the language learner might avoid the context.

As already mentioned in the second chapter, two mechanisms induce the deviations of the direct canonical mapping. First, the addition of discourse functions and adjuncts causes non-canonical mapping of c- onto f-structure. Secondly, non-default mapping occurs when the a-structure is mapped onto the f-structure in a non-canonical way. The four structures, which have been explained in detail in the previous chapter, deviate clearly from the direct canonical mapping and therefore belong to the fourth level. During the tests, the knowledge of these particular structures was tested. Seven out of nine participants proved that they have reached the fourth level. Two students only produced structures with the SVO order (or AdvSVO order). With respect to the syntactic structures, Pienemann does not mention the third level of processing. Consequently, this level is not relevant to this discussion.

4.1.2.1 The passive

Six of the nine participants were able to process the passive construction. The three students which did not use the passive, showed clear tendencies of avoiding the structure. Because they did not form any passive construction, they kept relying on the canonical word order. Following example clearly illustrates this tendency.

(4) Il libro è già molto vecchio, però Bella può ancora leggerlo molto bene.

The book is already very old but Bella still manages to read it very well.‘The book is already very old but Bella still manages to read it very well.’

In the exercise, a photo had to be described in one single sentence, but the sentence had to start with the object indicated by an arrow. In (4), the student had to describe a photo in which three women are reading a book and the book was indicated by the arrow. Therefore, the sentence had to start with the theme and a passive construction is the ideal solution to
form such a sentence. But here, it is clear that the student does not know how to form a passive construction and therefore avoids the structure by using the canonical word order. Other students did produce a correct passive construction in the same exercise, for example:

(5) I libri vengono letti dalle ragazze.
   The books are read by-the girls
   ‘The books are read by the girls’

The students who did not use a passive, did describe what was exactly on the photo. Following two answers are derived from the same exercise which required the use of a passive:

(6) La mela è pesca ed ha molto gusto.
   The apple is peach-like and has a lot of flavour
   ‘The apple is peach-like and has a lot of flavour.’

(7) La mela viene mangiata.
   The apple is eaten
   ‘The apple is (being) eaten’

The first answer does not provide a description of the photo. Instead, the student gives a fictive description of the apple. The correct description is very simple and is exemplified by the passive in the second example. Of the three students which have not acquired the passive, one student produced the structure once. The utterance was not entirely correct. However, non-default mapping of a-structure on f-structure was realised.

(8) La porta è stata aperta per l’uomo.
   The door is being opened by the man
   ‘The door has been opened by the man.’

The student used the wrong preposition (per instead of da). Because this student only produced one single example, it is too hasty to assume that she is able to process the
passive. Among the other students which showed enough evidence to have processed the passive, variation was noticed. But this variation was chiefly related to accuracy. Some students tended to use the wrong preposition, as in the previous example, or did not apply agreement between the subject and the past participle. In the following example, the past participle does not agree in gender with the subject.

(9) L’ acqua è bevuto dalla persona.

The water-F.SG is drunk-M.SG by-the person

Correct: L’acqua è bevuta dalla persona.

However, they used the correct construction a sufficient amount of times to prove that they are able to process passive constructions. In the Table hereunder, a detailed overview is provided of the use of the passive.

Table 7: Use of the passive in the written part

<table>
<thead>
<tr>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct use</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Wrong preposition</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No agreement</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wrong use</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

4.1.2.2 OVS/OSV structure

In regard to the OVS/OSV structure, only three students produced this structure correctly. In comparison with the passive, this structure is less known by the students. Following sentences represent correct instances of the OSV/OVS structure.

(10) Le stelle, le vedo.

The stars-F.PL them-F.PL see-1.SG

‘The stars, I see them.’

(11) Il vino, lo beve Maria.

The wine-M.SG, it-M.SG drinks Maria.

‘The wine, Maria drinks it.’
In both examples, the students have produced the obligatory clitic, which agrees in number and gender with the dislocated object. The six people who did not process the OVS/OSV structure showed two main tendencies. First, they were unable to form sentences starting with an object and did not know how to handle the exercises. Therefore, they often left the exercises blank or produced a sentence with SVO order. But in most of the cases, the participants used the structure without mentioning the obligatory clitic.

(12) Il regalo ha comprato in Milano.
    The gift has-3SG bought in Milan
    ‘The gift, he has bought in Milan.’
    Correct: Il regalo, lo ha comprato in Milano.

(13) Le stelle posso vedere.
    The stars can-1SG see
    ‘The stars, I can see’.
    Correct: Le stelle le posso vedere.

In both examples, the clitic, respectively lo and le, is absent. A certain structure in Italian does not require to recapture the clitic (focalizzazione contrastiva) because the dislocated element contrasts with a previous element. However, for this structure, a certain context is needed which is not the case in these exercises. Because the other participants actually did use the clitic, the above-mentioned examples are thus considered ungrammatical. Following scheme represents the use of the OVS/OSV structure in the written part.

Table 8: OVS/SVO structure results in written test

<table>
<thead>
<tr>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct use</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>No clitic</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Avoidance (SVO)</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Blank</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>
4.1.2.3 *Si passivante*

When analysing the results of this structure, it pointed out that only three students have processed the *si* passivante. The number of students corresponds to that of the OVS/OSV structure. Yet, this does not mean that it involves the same students. Only one student processed both the OVS/OSV structure and the *si* passivante. The six students, who did not acquired the *si* passivante, all did make the same errors. As hypothesised in section 3.3.4., the participants applied direct canonical mapping to the *si* passivante, thus mapping the subject function onto the *si* in preverbal position and the object function onto the NP in postverbal position. Therefore, agreement between the verb and the grammatical subject was not realised. The following examples illustrate the wrong canonical mapping by the students.

(14) Si dice delle cose antipatiche.
    Si tell-3SG things unpleasant-3P
    ‘Unpleasant things are told’.
    Correct: Si dicono (3P) delle cose antipatiche (3P).

In the example, the subject is mapped onto *si* while it should be mapped onto *delle cose antipatiche*. Although it is situated in post verbal position, *delle cose antipatiche* is the grammatical subject of the sentence. Therefore, agreement between the verb and *delle cose antipatiche* is necessary. The same mistakes were noticed in the following examples:

(15) Non si conosce altre particolarità.
    Not si know-3SG other details-3P
    ‘Other details are not known.’
    Correct: Non si conoscono (3P) altre particolarità (3P)

(16) Qui si vende dei libri antichi.
    Here si sell-3SG books antique-3P
    ‘Here they sell antique books’.
    Correct: qui si vendono (3P) dei libri antichi (3P)
The three other students applied correct mapping onto the constituents of the sentence and were aware that no grammatical function should be mapped onto *si*, which merely renders a passive meaning to the sentence:

(17) Non si conoscono altri dettagli.
   Not si know-3P other details-3P
   ‘Other details are not known.’

(18) Nell’Alto Adige, si parlano sia l’italiano sia il tedesco.
    In Alto Adige, si speak-3P both the Italian as well as the German-3P
    ‘In Alto Adige, both Italian as well as German are spoken.’

The difficulty of the second example consisted of recognizing the plural subject. Because two individual languages were mentioned, some participants considered the subject singular.

4.1.2.4 Exceptional verbs

The last structure represents a rather special category in comparison with the previous three structures. The exceptional verbs in Italian are in fact idiosyncratic, this means that they are lexically driven. Beletti and Rizzi (1988) made a distinction between inherent case and structural case within verbs. The PSYCH-verbs such as *preoccupare* and *piacere* have inherent case (for example genitive and dative). An important characteristic of the inherent case is that it is “lexically idiosyncratic and thematically related” (Beletti/Rizzi 1988, 332). On the other hand, structural case (such as nominative and accusative) is non idiosyncratic. Because the (Italian) exceptional verbs are language specific, the language learners have to learn the use of these verbs item by item. Since this structure is also influenced by the lexicon, it does not fit in the hierarchy of Pienemann because it is not an exclusive syntactic phenomenon.

The results of the research confirm the idiosyncratic character of the exceptional verbs. A great deal of variation is noticed among the different verbs and among the participants. Especially the verb *piacere* was used correctly. As this verb is very frequent in Italian, early
language learners know the formulaic expressions of this verb in the first and second person singular. The use of these idioms was also retrieved in the written results.

(19) Mi piace godere delle fragole.
To me like-3SG enjoy strawberries
‘I like to enjoy some strawberries’.

Yet, the participants were able to create sentences with this verb in the third person. Since *piacere* is frequently used, language learners quickly understand that the experiencer is not mapped onto the subject.

(20) Le piacciono le reviste.
To her like-3P the magazines-3P
‘She likes the magazines.’

Example (20) demonstrates that this learner is able to create creative utterances with *piacere* and thus fully masters this verb. The experiencer is mapped onto the indirect object *le*. In addition, the verb agrees with the subject *le reviste* in number and person (i.e. third person plural). Other verbs were not often used correctly. This tendency was also confirmed in the study of Bettoni, Di Biase & Nuzzo (2009). The incorrect uses of the other exceptional verbs were caused by the canonical mapping of the grammatical subject onto the experiencer instead of onto the indirect object.

(21) * La storia di Belgio non interessa Carlo.
The history of Belgium not interest-3SG Carlo
‘Carlo is not interested in the history of Belgium.’
Correct: A Carlo non interessa la storia di Belgio.

(22) * Convengo prendere l’autostrada.
Is more convenient take the motorway
‘It would be more convenient to take the motorway.’
Correct: Mi conviene prendere l’autostrada.
In (21), the experiencer should be mapped onto an indirect object. Clearly, Carlo is the experiencer in the sentence and therefore, the constituent should be preceded by the preposition a. The second example is also ungrammatical as the first person singular is not expressed and hence is identified with io (i.e. I) instead of the correct form mi (indirect pronoun first person singular). However, in some cases the students were aware that the experiencer should not be mapped onto the grammatical subject, but should be expressed by an oblique function. However, they often chose the wrong preposition (per instead of a), as in following examples with the verb bastare.

\[(23)\) Per me basta una vacanza di una settima.

To me suffice-3SG a vacation of a week

‘A vacation of a week is sufficient for me.’

Correct: Mi/ A me basta una vacanza di una settimana.

\[(24)\) Per gli allievi basta una vacanza di una settimana.

To the pupils suffice-3SG a vacation of a week

‘For the pupils a one week holiday is sufficient.’

Correct: Agli allievi basta una vacanza di una settimana.

Applying non-default mapping to these verbs is already an indication of the acquisition of the exceptional verbs. Two other exceptional verbs were part of the test, viz. sembrare (to seem) and importare (to matter).

\[(25)\) Mi sembra un’ uomo molto intelligente.

To me seems a man very intelligent

‘He seems to me to be a very intelligent man.’

The verb sembrare was identified as an exceptional verb by four students. The verb importare however was not once produced with non-default mapping. A reason for this could be that importare can also be used as an impersonal construction, as in (26). (26) is derived from the newspaper Il Corriere Della Sera.
(26) Non importa che ciò sia vero, importa solo che gli elettori lo credano.

Not matters that this is true, matters only that the voters believe it.

‘It does not matter whether it is true, it only matters whether voters believe it.’

(Panebianco 2010)

The context in which the verb was used nevertheless required non-canonical mapping.

(27) Non mi importa della classifica.

Not to-me matters rankings.

‘The rankings do not matter to me.’

In conclusion, four students used three out of six exceptional verbs correctly but no one was able to map all exceptional verbs correctly. Therefore, full mastery of the exceptional verbs could not be observed with any student. According to Bettoni et al. (2009), these verbs are rather difficult to process because they involve two different types of non-default mapping and because of this, the alignment is very high.

4.1.3 Conclusion

Table 9: Results of the written test

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>II IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>OVS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Si Passivante</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>/</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Exc.V.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

As can be seen in Table 9 (and as was already mentioned), all students have reached the second level of processing and seven students have also reached the fourth level. The processing of one single marked structure is sufficient to have reached the fourth level. For example, participant 3 has only displayed the processing of the OVS/SVO structure. Nevertheless, this student is theoretically able to process all structures at the fourth level.
Consider following quote from Pienemann (1998):

"However, it would be incorrect to derive such a prediction from the theory, since it does not predict that whatever can be processed will indeed be acquired. Instead, the theory predicts that what cannot be processed will not be acquired. In other words, processability acts as a constraint on development and therefore does not entail the prediction that the above structures are acquired simultaneously." (14)

In this extract, Pienemann states that what can hypothetically be processed does not necessarily has to be acquired. For example, participant 4 has acquired the passive and si passivante structure. Thus, the student has reached the fourth level and is in theory able to process the other two structures. Although processing is possible, the language learner will not necessarily demonstrate his capacity of processing. Instead, Processability Theory prefers to employ a negative definition which says that no processing stands for no acquisition. For instance, the students 1 and 2 have not yet reached the fourth level and as a result they cannot acquire the structures at this level. Furthermore, Pienemann claims that the structures are not acquired at the same time. The results of the study confirm this claim. As regards the acquisition of the marked structures, a lot of variation is noticed among the participants. No hierarchy between the four marked structures is observed since no order of acquisition has been noticed. Some students show evidence of acquisition of the passive and the si passivante (4) while others have only acquired the passive (6) or the OVS structure (3). The exceptional verbs are a difficult category to analyse as all these types of verbs have to be acquired individually. A student may use the verb piacere accurately, but might map all the other verbs incorrectly. Therefore, it is complicated to assign full emergence of this structure to the students. If a participant mapped at least three of these verbs correctly (three out of six), this was indicated in the Table by the sign /. Other doubtful cases with respect to the emergence of other structures were also indicated by this sign.

4.2 Spoken language production

4.2.1 Second level

All the students have reached the second level of processing in the spoken part, signifying that they were able to produce utterances with the canonical word order SVO. As in the written test, these sentences were especially produced during the general question part.
(28) E il gatto ha rotto tutte le cose nella casa.
And the cat has-3SG broken all the objects in-the house
‘And the cat has broken all the objects in the house.’

(29) Voi avete mangiato la pasta.
You have-3P eaten the pasta
‘You have eaten the pasta.’

(30) Poi ha messo la mosca nella bocca del suo capo.
Next has put the fly in-the mouth of-the his master
‘Next, he has put the fly in the mouth of his master.’

In the examples, the students do not only use the three main constituents (subject, verb and object) to produce canonical word structure. They also form sentences which contain adverbs (for example nella casa and poi). In comparison with the general questions in the written part, the answers of the spoken part are less coordinated and sometimes unstructured. The participants tend to alter their sentence structure during their production. In (31), the sentence even remains unfinished.

(31) Perché vedo un’uomo con ... e il paparazzi ... si
Because see-1.SG a man with ... and the paparazzi ... yes
‘Because I see a man with ... and the paparazzi .. yes.’

4.2.2 Fourth level

4.2.2.1 Passive

In accordance with the written results, six students proved to have processed the passive. They produced the correct structure in different exercises and therefore in different contexts.
Three students were not able to process the passive. In the spoken test, the avoidance of the structure appeared to be even more obvious:

(34) La bambina è molto felice e il bambino le *donna una bacia.

The girl is very happy and the boy to-her gives a kiss

‘The girl is very happy and the boy gives her a kiss.’

In this example, the student avoids the passive structure to describe the picture. Instead, she uses two SVO structures which are joined together by the co-ordinating conjunction e (i.e. and).

(35) Là è una nonna con un ragazzo nella strada.

Over there is a grandmother with a boy in-the street

‘Over there is a grandmother in the street with a boy.’

In (35), the speaker avoids the passive by using a fairly simple structure with the verb essere (instead of using the requested passive: the grandmother is helped by the boy). Interesting are the utterances of one participant. In all instances in which a passive construction could be used, she produced an OVS/OSV structure (which was also perfectly suitable for these exercises). For instance, the same exercise provided these different answers.

(36) La chitarra la gioca.

The guitar it-3SG plays

‘The guitar, he plays it.’
(37) La chitarra viene suonata da un artista.

The guitar is played by an artist

‘The guitar is played by an artist.’

Given that the student avoided the passive construction by using an OVS/OSV structure, this could be an indication that she did not master the passive structure. Furthermore, it proves that no order of acquisition is fixed between the four marked structures. The passive does not have to be necessarily acquired first, although almost all students who have reached the fourth level could process the passive. The use of the passive is illustrated in the following scheme.

Table 10: Use of the passive in the spoken test

<table>
<thead>
<tr>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct use</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Wrong preposition</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No agreement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wrong use</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

A different number of passive uses is detected among the participants since possible answers were possible for each exercise (OVS/OSV structure or passive).

4.2.2.2 OVS/SVO structure

During the spoken test, four students proved to have acquired the correct OVS/SVO structure. The other five students often made the same errors as in the written part. In their utterances, the clitic was frequently missing or they produced ungrammatical structures.

(38) * Il vaticano che Filippo ha visitato.

The vatican that Filippo has visited

‘The Vatican that Filippo has visited.’

(39) * La lezione il professore ha dato.

The lesson the professor has given

‘The lesson, the professor has given.’
The first example is ungrammatical because no main verb is present. It consists of a subject and a relative clause. The participants had to complete the following sentence:

(40) Il vaticano __________ ha visitato.

The insertion of the clitic lo suffices to form a grammatical sentence. In this way, the object il vaticano is dislocated and is retaken by the clitic, which agrees with the object in number and gender. However, the student did not know how to manage this particular structure and therefore inserted a relative clause. In the second example, the participant forgot to produce the obligatory clitic, which is the most common mistake among the students. Examples of correct productions by the students are represented in (41) and (42). The first two words were offered (a subject and an object) and the participants had to complete the sentence.

(41) La festa mio fratello l’ ha organizzato.
   The party my brother it-F.SG has organised
   ‘The party, my brother has organised it.’

(42) La lezione il professore l’ ha insegnato.
   The course the professor it-F.SG has taught
   ‘The course, the professor has taught it.’

Table 5 summarises the uses and mistakes that were made by the participants during the spoken test. When the participants avoided the structure in the written test, they created an SVO sentence. Here, this was not possible as they had to complete a sentence. The avoidance corresponded to the creation of ungrammatical sentences as in (39).

Table 11: Use of the OVS/OSV structure in the spoken part

<table>
<thead>
<tr>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct use</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>No clitic</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blank</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
4.2.2.3  *Si passivante*

Five participants were able to process the *si passivante*. One student produced this structure only three times. Given that four correct uses are needed in order to determine the emergence of the *si passivante*, it is difficult to ascertain the acquisition of the structure. However, in two of the three sentences he produced the correct structure. Only in (43), agreement between the verb and the grammatical subject was not realised.

(43) * Si vuole delle mele.  
   Si wants-3SG appels-3P  
   ‘Appels are wanted.’  
   Correct: Si vogliono delle mele.

(44) Si mangiano delle arancie.  
    Si eat-3P oranges-3P  
    ‘Oranges are eaten.’

(45) Si lavano i piatti.  
    Si wash-3P the dishes-3P  
    ‘The dishes are washed.’

When comparing the results of the spoken test to those of the written part in which he consistently applied agreement, we might conclude that the student is able to process the structure in both parts. The four students who did not process the *si passivante* made the same error as in the written part. The subject function was mapped onto the *si* and the object function onto the NP, as in (46).

(46) * Si sceglie le uova.  
    Si chooses-3SG the eggs-3P.  
    ‘Eggs are choosen.’  
    Correct: Si scelgono-3P le uova-3P.
4.2.2.4 Exceptional verbs

As already mentioned in the analysis of the written production, the Italian exceptional verbs are idiosyncratic and have to be acquired item by item. Hence, it is difficult to determine whether the students have acquired the marked structure of the exceptional verbs since a lot of variation is noticed between the different verbs. Consequently, it is preferable to examine each verb separately. The exceptional verb which is most frequently used in Italian is *piacere*. All students used this verb several times during the spoken test and also demonstrated that they were able to use the verb in creative constructions. They did not limit their constructions to the first and second person singular.

(47) A questa donna piace molto il gelato.
    To this woman enjoys a lot the ice-cream.
    ‘This woman enjoys the ice-cream a lot.’

(48) A noi piacciono le mele.
    To we like-3P the apples-3P
    ‘We like the apples.’

(49) Ci piace il biscotto.
    Us like-3SG the biscuit-3SG
    ‘We like the biscuit.’

Concerning the other exceptional verbs, more variation was noticed among the participants. The students were less acquainted with these verbs. For example, the verb *mancare* (to lack) requires non-default mapping. In the following examples, the experiencer is mapped onto the grammatical subject and therefore, this exceptional verb is treated as a regular one.

(50) * La donna manca una calza e penso che è molto fredda.
    The woman lacks a sock and think-1SG that is-3SG very cold
    ‘The woman lacks a sock and I think that is very cold.’
    Correct: Alla donna manca una calza.
(51) * Un piede manca una calza.
    A foot lacks a sock
    ‘A sock is lacking to the foot.’
    Correct: Al piede manca una calza.

The right use of the verb is realised in (52) in which the experiencer is expressed by the
dative al piede.

(52) Manca una calza al piede.
    Lacks a sock to-the foot
    ‘The foot is lacking a sock.’

Another interesting exceptional verb is 
parere (to seem). The verb is often used in the first
person singular (with the indirect pronoun mi) and this use is considered as a formulaic
expression, because it is a standard expression in Italian.

(53) Là è una sposa, mi pare.
    There is a bride to-me seems.
    ‘It seems to me there is a bride.’

The construction mi pare is expressed to voice a personal opinion about something. The
students have no difficulties with the indirect pronoun mi. But when this verb is uttered in
other contexts, they tend to apply canonical mapping or they use a construction with a
relative clause.

(54) Pare che questa donna non si interessi al quadro.
    Seems that this woman not si interest at-the painting
    ‘It seems that this woman is not interested in the painting.’
Finally, *interessare* (to be interested) has also been analysed. This verb can be used as a reflexive verb, but it also an exceptional verb which requires non-default mapping. The participants were not acquainted with this feature.

(55) * Lei interessa la danza?*

She is interested in the dance
‘Is she interested in the dance?’
Correct: *A lei interessa la danza?*

The use of *interessare* was rather unknown and therefore the participants particularly used the reflexive form.

(56) La donna non si interessa al signore.
The woman not si is-interested in-the man
‘The woman is not interested in the man.’

Still, correct uses of the verb were noticed. In (57) and (58), the experiencer was expressed by the indirect pronoun *ti*.

(57) Ti interessa la lingua italiana?
To you interests the language Italian
‘Does the Italian language interest you?’

(58) Ti interessa la danza?
To you interests the dance
‘Does dancing interest you?’

Of course, the exceptional verbs in Italian are not limited to these four verbs. But for this research, a limitation of certain verbs had to be made. The most frequent and the most known verbs were chosen for the study because the participants had to be familiar with the lexicon of the test.
All students have reached the second level of processing which means that they can produce SVO sentences in Italian. Concerning the fourth level, the results of the students differ fundamentally. Especially for the last structure (exceptional verbs), it is difficult to determine whether the participants fully understand that these verbs require a different type of mapping. Therefore, the symbol / was often used since no full certainty was guaranteed. If the participants only used the verb *piacere* correctly, this was indicated with -, because they showed no tendency of mapping any other verb in a non-default manner. A + was attributed to the students who mapped almost every exceptional verb in the test correctly. In Table 12, the order of the participants has changed. The different results between the written and spoken test have caused this change (more information in section 4.3.). Again, no fixed order of acquisition is noticed between the four structures. One of the four structures does not have to be acquired before the others can. This principle is also represented in the table. Certain participants have only processed one structure at the fourth level but this first structure varies from participant to participant. The absence of any hierarchy between the structures at the fourth level confirms the statements of Pienemann who never made assumptions about a possible hierarchy.

### 4.3 Comparison between the written and spoken results

#### 4.3.1 Comparison of the results

The spoken and the written results are unified in Table 13 in order to give an overview of the performances of the participants. The second level of processing is not included in the Table since all participants have reached this stage.
Table 13: Comparison between spoken and written results

<table>
<thead>
<tr>
<th></th>
<th>WRITTEN</th>
<th>SPOKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Passive</td>
<td>OVS</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>4</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>8</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

What is striking is that not all participants achieved the same results in both parts. One student showed a difference in the level of processing, signifying that she only reached the second level in the written part but was able to process a structure of the fourth level during the spoken test. This student (1) scored remarkably better on the category of the exceptional verbs. However, these verbs are rather special since they are lexically determined.

As regards the fourth level, some participants scored better on certain marked structures. Six of the nine participants obtained the same results in both tests. Logically, the results of three students differed in the spoken and written test. What is surprising is that these three students all performed better during the spoken test. No single student showed the reversed tendency, that is, performed better on a marked structure in the written part. Two students (6 and 7) only produced the si passivante structure correctly in the spoken test and the same phenomenon was observed for the OVS/OSV structure by participant 8. As concerns the exceptional verbs, two participants managed to achieve a better result in the spoken part.

In the study of Håkansson and Norrby (2008), which dealt with the difference between written and spoken language production in relation to Processability Theory, they concluded that almost all participants achieved the same level of processing in the written and spoken production of L2 Swedish. If any differences were noticed, they favoured a better performance in the written production. This conclusion contrasts with the above results. Yet, the scope of their study is very distinct from the present one. Håkansson and Norrby examined the morphosyntax of Swedish and analysed the possible progress of the
participants in the five different levels of processing. In contrast, this study examines marked syntactic structures and therefore only the second and the fourth level of processing are being analysed. Furthermore, the study about Swedish was measured over different periods in time and included a larger amount of participants.

4.3.2 Reasons for the difference between the written and spoken part

Why is it that the results are in favour of the spoken part while the participants would be expected to perform better during the written part? Several reasons can be put forward. First, one student did produce only one instance of the right OVS/OSV structure in the written part but during the spoken test she consistently produced the correct structure, as in (59).

(59) Written: Il vino beve Maria.
    The wine drinks Maria

Spoken: Il cameriere l’ho già chiamato.
    The waiter him-M.SG have-1SG already called
    ‘The waiter, I have already called for him.’

As was already explained by Simone (2007, IX), the dislocazione a sinistra is a marked structure in Italian which is especially used in spoken language. Sornicola (1994) also noticed a higher frequency of dislocazioni in spoken language. This might explain why the student scored remarkably better on this structure in the spoken test. Why the other two students achieved better results for the si passivante structure in the spoken parts remains unknown. Secondly, the participants did not have a lot of time to re-read their answers during the written test since the amount of time they had to complete the test was fairly limited. Due to the limited time schedule, they could not reflect upon their answers. Therefore, results of the written part tended to be almost as spontaneous as those of the spoken part. Finally, the results between the spoken and written test could also slightly been influenced by the nature of the research. Both parts tried to elicit the same structures but due to the different communicative situation, both tests were not totally identical. The mode of enquiry varied and might have been more straight-forward to the students in the spoken part. For example,
different exceptional verbs were examined in both tests. The participants seemed to be more acquainted with the exceptional verbs of the spoken test.

4.3.3 **Language complexity**

The results have revealed that the students perform at the same level of processing in both tests. Only one student reached a higher level of processing in the spoken part due to a better performance on the exceptional verbs. Three other students, which have reached the same processing level in both tests, achieved better results on the marked structures in the spoken test. The emergence of the structures proved to be slightly in favour of the spoken test. However, Håkansson and Norrby (2008) observed that written language showed more complexity in respect to spoken language. Also Krashen (1981, as cited in Gregg 1984) explained in his *Monitor Hypothesis* that written language is more complex and accurate because the language user is able to monitor his performance. When analysing the answers to the general questions of both parts, the difference in sentence organisation is striking. As Goody (1987) states, the registers of written and spoken language production differ and consequently show different tendencies and characteristics.

The answers of the spoken test are examined first. The participants had to talk about their favourite country and had to describe a photograph. Their answers tend to be short and were often left unfinished or contained false starts, as in (60):

(60) Il gatto ha presa la mosca per poter... poter indicarlo... per poter ...
    The cat has taken the fly to be able be able indicate-it-M.SG to be able montarla al suo uomo, al suo capo
    show-it-F.SG to-the his man to-the his master
    ‘The cat has taken the fly in order to be able to indicate it ... in order to be able to show it to his man ... to his master’

(61) Credo che ... non lo so ... dieci volte.
    Think-1SG that not it-3SG know-1SG ten times
    ‘I think ... I do not know ... ten times.’
In the last example, the student commences the sentence with *credo che*, but then starts again with *non lo so*. In fact, she never finishes the sentence and thus the utterance remains incomplete. According to Goody (1987, 264), written language is characterised by a “preferential elimination of false starts [...]” In spoken language, it is almost impossible to remove all false starts. Further, the participants often produced utterances which did not contain a main verb. This would almost be unthinkable in written production.

(62) *Forse l’ Italia, ma anche la Francia.*

Maybe the Italy, but also the France

‘Maybe Italy, but also France.’

In addition, the answers of the spoken test consisted often of very simple structures (with the verb *essere*) or were linked to each other by the co-ordinating conjunction *and* (63).

(63) *È il matrimonio di Carrie e scende del limousine e ha una roba molto esclusiva e cara e bianca.*

It is the wedding of Carrie and she steps out of the limousine and has a very exclusive dress and expensive and white.

‘It is the wedding of Carrie and she steps out of the limousine and has a very exclusive dress and expensive and white.’

The use of complex constructions with subordinate clauses were not detected. If a dependent clause was used, it was a fairly simple structure which was restricted to one subordinate a sentence.

(64) *Vediamo una donna che esce da una macchina.*

See-1P a woman that steps out of a car

‘We see a woman who steps out of a car.’

The sentences in the written part on the other hand do not display these characteristics mentioned above. Goody (1984, 264) states that in written production, there is “the need to produce complete information or idea units and to make all assumptions explicit.”
utterances in the written test appear to be more complex in respect of the spoken sentences. For instance, a sentence such as (65) would be rarely observed during the spoken test.

(65) Al stesso tempo, un’uomo egitto viene arrestato negli Stati Uniti per aver colpa in un attacco terroristico, senza prova della sua participazione, mentre la sua donna Americana rimane solo a casa.

‘At the same time, an Egyptian man has been arrested in the United States for being guilty of a terrorist attack, without any proof of his participation, while his American wife stayed alone at home.’

In the following two examples, the participants use two relatives in one sentence, which was for instance not found during the spoken test. The double relative renders the sentence more complex.

(66) Vengono spediti nello spazio due shuttles con una decina di persone che devono tentare a far esplodere il meteorite prima che questo raggiunge la terra.

‘Two shuttles are sent into space with ten people on board who have to try to blow up a meteor before it destroys the earth.’

(67) Sulla foto vediamo Lady Gaga che *dona un bacio a un animale che è conosciuto nel mondo della televisione.

‘On the photograph we see Lady Gaga who gives a kiss to an animal who is known in the television world.’

Since the study focused on four marked structures, the data of the general questions was fairly limited. Nevertheless, the written production contained more signs of complexity whereas the spoken utterances tended to be fragmented and rather plain.
4.4 Conclusion

To conclude this chapter, let us now look whether the results of the study have provided an answer to the two research questions formulated in the second chapter.

4.4.1 Hierarchy between the four structures

RQ1: Are there significant differences noted between the four marked structures? Is there any kind of hierarchy between the four structures? Does one structure appear to be more easily processed than the others?

The four marked structures which were investigated during this study all belong to the fourth level of processing. Whether an internal hierarchy existed between these structures was never answered by Pienemann. When analysing the results and exploring a possible hierarchy, one particular structure did certainly not belong to the hierarchy, viz. the exceptional verbs. These verbs are not purely syntactic, but are partly idiosyncratic and have to be acquired verb by verb. As a consequence, it was difficult to determine the emergence of this structure because the correct mapping of one exceptional verb does not represent the entire class of exceptional verbs. The other three marked structures also did not form a hierarchy. No order of emergence could be detected between the structures. For example, the passive was not processed before the si passivante by all participants. This result corresponded to the theory of Pienemann. When a language learner has processed a certain level, all the structures at this level might be processed but does not necessarily have to be. That is why a language learner might only process the passive while another learner may process two other structures at this level. However, certain structures tended to be more complex than others. For instance, the exceptional verbs require two types of non-default mapping. Among the four structures at the fourth level, the passive was processed by six participants but this does not imply that the passive is therefore the first structure to be acquired. One student which has reached the fourth level, has only processed the OVS/OSV structure and not the passive. The classification of the nine participants into three groups of proficiency did coincide with the level of their performances.
The students of the first Bachelor processed the smallest amount of structures. Two of them did not even reach the fourth level. On the other hand, the Master students achieved the best results. It should be noted that the correspondence between the groups of students and the results might as well be coincidental. A Master student does not necessarily perform better than a student from first Bachelor. For instance, a student of the first year has processed the OVS structure whereas none of the Second bachelor students have.

4.4.2 Differences between written and spoken production

RQ2: Is there a difference in level of processing in the written and spoken language production? In other words, does the diamesic variation influence the level of proficiency?

Håkansson and Norrby did not notice a notable difference between written and spoken production in respect of the level of processing. This finding was more or less confirmed by this study. Only one student moved up from the second to the fourth level due to a better performance of the exceptional verbs. Differences in the oral and written test were also noticed at the fourth level. One student achieved better scores on the OVS structures and two students on the si passivante structure. What is striking is that three out of nine students performed better during the spoken test. This could be a surprising result but several factors might have had an influence on the results in both tests. Finally, the written results proved to be more complex than the spoken ones, which was already been hypothesised and proven in previous second language studies. Nevertheless, the difference in complexity does not have an influence on the processing level of the participants.
5 Conclusion

This study set out to investigate the marked structures in Italian L2 in the light of Processability Theory. Processability Theory is a second language theory which is based on the concept of processing. Because of this new perspective on second language acquisition, PT focuses on different aspects of SLA. Not the acquisition, but the emergence of structures is examined. This research especially investigated whether the marked structures are processed according to a particular order. Since all deviations from canonical word order are situated at the same level of processing, it was interesting to examine whether these structures are classified by a hierarchy. Secondly, the difference between written and spoken language acquisition was analysed in the dissertation.

The main principles and characteristics of Processability Theory were presented in the first chapter: the basic version of 1998 by Pienemann was first introduced before offering an overview of the 2005 extended version, elaborated by Pienemann, Di Biase and Kawaguchi. Next to the 2008 study by Håkansson and Norrby about the processing of spoken and written language, other studies about PT and Italian were presented in this chapter. The next chapter accounted for the methodology of the study and elaborated the four marked structures of Italian. A section was also contributed to the emergence criterion of Processability Theory elaborated by Palotti (2007). Finally, the results of the research were discussed in chapter four. Both the correct and the incorrect answers were analysed from a PT point of view.

The results of the study demonstrated that no order of acquisition is found between the marked structures in Italian. All structures are situated at the fourth level of processing, but are not acquired in a certain order. This means that some learners first process the passive while others initiate with the OVS structure. One of the marked structures proved to be rather unordinary because it did not fit in the processability hierarchy. The Italian exceptional verbs possess an idiosyncratic quality, signifying that they have to be acquired item per item. If a language learner demonstrates four correct uses of a particular exceptional verb, he/she therefore has not necessarily acquired the entire structure of the
exceptional verbs. Given that these verbs are also partly determined by the lexicon, it is
difficult to determine whether this structure has been fully acquired.

When examining the difference between the written and spoken production, almost all
participants performed at the same level of processing in both test, with the exception of
one student. These results confirmed the findings of Håkansson and Norrby (2008). When
zooming in on the performances at the fourth level, three students achieved better results
during the spoken test. This result might be considered as surprisingly. Another difference
that was observed concerned language complexity; the written answers of the participants
proved to be more complex than the spoken answers. Complexity however is not included in
the design of Processability Theory.

It is important to consider the limitations that were related to this study. First, the number
of participants was fairly limited. Only nine students participated in this research. The
collaboration of a major number of participants would probably paint a more accurate image
of the linguistic situation. Further, the amount of linguistic data was rather restricted. If
more tests should have been conducted during the year, the corpus for this research would
have been more exhaustive. However, the emergence criterion that is applied to PT only
requires four instances of a certain structure to determine acquisition. Therefore, the limited
amount of data was sufficient in order to draw conclusions.

To conclude, this study focused on another aspect of Italian and PT in comparison with
previous studies. While the majority of these studies were based on the first version of
Processability Theory, this study was founded on the extended version. Consequently,
syntactic structures of Italian instead of morphosyntactic were examined. In the future, it
would be interesting to further investigate these marked structures in Italian and even
include other ones since this research was restricted to the analysis of four structures.
6 Bibliography

6.1 Primary sources

6.1.1 Texts


### 6.1.2 Dictionaries


6.2 Secondary Sources


Wimsatt W.C. (1991): Generative entrenchment in development and evolution, MS, Department of Philosophy, University of Chicago.