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**Functional Categories in the L2 Acquisition of English
Morpho-Syntax:
A Longitudinal Study of Two
Farsi-Speaking Children**

Mohsen Mobaraki

A Thesis Submitted for the Degree of Doctor of Philosophy

School of Linguistics and Language

Durham University

United Kingdom



2007

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- 4 MAY 2007

To my dear family:

For their patience and love

Abstract

Functional Categories in the L2 Acquisition of English Morpho-Syntax: A Longitudinal Study of Two Farsi-Speaking Children

Mohsen Mobaraki, Durham University, 2007

This is a longitudinal case study of two Farsi-speaking children learning English: 'Bernard' and 'Melissa', who were 7;4 and 8;4 at the start of data collection. The research deals with the initial state and further development in the child second language (L2) acquisition of syntax regarding the presence or absence of functional categories, as well as the role and degree of L1 influence in this regard. Some studies in the field of child L1 acquisition are discussed to determine similarities or differences between child L1 and child L2 acquisition. Examining data collected from the children's spontaneous speech, the researcher's diaries and translation and other tasks over a period of 20 months, the competing claims of the two most prominent hypotheses about early L2 grammars are tested: Vainikka & Young-Scholten's (1996) Minimal Trees/Structure Building hypothesis and Schwartz & Sprouse's (1996) Full Transfer/Full Access hypothesis. Word order, use of rote-learned formulae, suppliance of copula/auxiliary *be*, modals, questions, case assignment, finiteness, presence of null subjects, subject-verb agreement, negation and tense marking are investigated, and the conclusion is reached that functional categories are absent at the initial state and that they emerge without the learners' reliance on their L1, consistent with Minimal Trees/Structure Building. A difference is observed between the two subjects regarding development of some aspects of verbal morphology, and standardized tests of intelligence, aptitude, verbal memory and phonological awareness show that processing speed and what can be described as 'verbalness' are important factors affecting the rate of development of these elements.

Declaration

This is to declare that this thesis which is done as a partial fulfillment to obtain the degree of Doctor of Philosophy at the University of Durham, is my own work and is not the same as any other study already submitted for any degree in this field.

Mohsen Mobaraki

Durham University

School of Linguistics and Language

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The first two or three sad days of my stay in Durham can never escape me. Far from home, having no place to live, no one to go to for a short conversation or sympathy, it was just ‘hope’ who was with me, as usual, for he never leaves me alone. Together with luck, this hope told me that everything would change very shortly. I trusted them as I always do. I was told that soon I would find a kind and lovely person who would take me to her second language syntax garden and together we would fly to the top of the ‘Minimal Trees’, planted and watered by her, to have an overall view around this garden. When I told her that I had two little birds at home whom I would invite to this beautiful garden, she warmly accepted my request and sparked my interest in working on child L2 syntax. It was then that we all worked hard to the end of our energies to make her ‘Minimal Trees’ as fruitful as possible. Have I ever seen such a nice, ever-smiling face in my life? My deepest thanks and gratitude go to her for her help, and especially her enthusiasm and encouragement. She not only supervised my work, but also taught me the alphabet of research. She helped me prepare for conferences and workshops by keeping me posted about different talks in the domain of L2 research, and this made it possible for me to present parts of this thesis.

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All who have been involved in longitudinal studies and in working with children are fully aware how demanding a job it is. As a parent who is also not a native speaker of English, I was not the right person to do the data collection job. Martha suggested me to find a native speaking linguist to give me a hand. I am really indebted to Caroline and Sandra for the big favour they did for me, and without their help I would not have been able to collect such good data.

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Context: Melika explains what her dad does during the day:

M: ...and we # like # write something on the paper, he say to our mum to copy it in his pink book. When we were new, we didn't even know how to speak very well. My daddy just write all the things. When we answered him, he just wried answer on his pink book. That time we say, 'My eat ice-cream.' We didn't know very well, but now we can speak very well, that I'm now speaking to you. (S 41)

I express my special thanks and gratitude to my dear family, my dear dad who really suffered a lot during these years for our being away, and my dear brother and sisters, and my lovely nephews and nieces who have always been nice and considerate to me and my family.

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Chapter One: Introduction

1.1 Introduction

There has been considerable debate during the last several decades regarding child and adult second language acquisition of morpho-syntax in a naturalistic environment to find the source of knowledge responsible for the developmental stages observed in the data provided from the learners in those studies¹. While all these hypotheses of initial second language (L2) acquisition claim that the initial state is a specific grammar involving the first language (L1) grammar, the existence of functional categories in the learners' initial state productions, the extent of L1 involvement in the process of L2 acquisition, the reason behind the omission of verbal inflection and use of nonfinite forms in finite contexts, and the morphology/syntax relationship are among those issues left unresolved.

The present research is based on L2 English data collected longitudinally from two L1 Farsi children to investigate the mechanisms involved in the learners' development. The data will be discussed in the light of some of the studies discussed in child and adult second language acquisition syntax. This study has a twofold target. It primarily hopes to be able to show which of the adult second language hypotheses

¹The source of knowledge for the stages of development may be the learner's first language (L1), input, Universal Grammar, or general cognitive structures (see White 1989 and subsequent chapters in this thesis).



is on the right track with regard to the issues mentioned through comparing the results of the present study with those of all these studies. Moreover, the results of this study determine the similarities and differences between child L1 and child L2 acquisition.

1.2 Theoretical framework

Linguistic theory within the framework of Government and Binding (Chomsky, 1981) has had considerable impact on the areas of L1 and L2 acquisition. Different proposals have been offered in this area regarding the properties of Universal Grammar (UG), which is believed to constrain all languages and their acquisition. Within a generative framework, Chomsky defines UG as the system of principles, conditions and rules that are elements or properties of all human languages.

Acquiring language means learning how these principles apply to a particular language and which value is appropriate for each parameter (Chomsky, 1972). Linguists motivate UG by pointing to the end result of first language acquisition, arguing that there is no way that adult grammar is acquired in its complexity without some kind of prior knowledge (Hornstein & Lightfoot, 1981). A number of researchers have looked at L1 acquisition of children to see whether the errors they make violate the principles of UG or their grammar is constrained by principles of UG throughout development (Otsu 1981; papers in Roeper & Williams 1987). The results confirm the idea that there must be innate principles involved in L1 acquisition.

There have been numerous debates in the area of L2 acquisition regarding whether it is constrained by UG or not, particularly for adults (Bley-Vroman 1989, 1990; Clahsen & Muysken 1986, 1989; Flynn 1987; Schachter 1989, 1990; Schwartz 1991, 1992; White 1985, 1989, 1990/91). Regardless of the opposing views, all

researchers have come to the agreement that some of the processes characterising L1 acquisition may not apply to L2 acquisition in the same manner since L2 learners have knowledge of a previous language which surely affects their L2 acquisition outcome. The other common point of view regarding ultimate attainment of an L2 is that it can rarely be native-like for adult learners. However, unlike adult L2 acquisition, it is generally believed that the ultimate L2 attainment for children is much more often successful, i.e. native-like (Felix 1985, 1991; Johnson & Newport 1989). This justifies the view that child L2 grammar should be constrained by UG just like child L1. However, child L2 learners have knowledge of a previous language as well and this has led the researchers to scrutinise the domain of child L2 acquisition to distinguish it from child L1.

1.3 An overview of the issues considered in this thesis

One of the first approaches to L1 influence in the domain of second language acquisition based on structural linguistics and behaviourist psychology was the Contrastive Analysis Hypothesis (CAH) of Lado (1957). It claimed that individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native or first language and culture to the foreign language (FL) culture. Those properties of the L2 which are similar to the L1 were held to be easily learned, whereas the different features were hypothesised to be difficult to learn. The plausibility of CAH was rejected by many researchers (Lococo 1975; among others). Inability of CAH to predict some phenomena in L2 acquisition led researchers in late 1960s and early 1970s to change their focus from L1 transfer and devote most of their attention to stage-like development and cross-learner systematicity.

The term 'initial state' which was largely neglected from the mid 1970s to the early 1990s refers to the unconscious linguistic knowledge L2 learners start with. Differences between child L1 and child L2 acquisition, the issue of L2 initial state and the extent of L1 influence have been addressed in a number of studies since then (Eubank 1996, Hawkins 2001, Schwartz & Sprouse 1996, Vainikka & Young-Scholten 1994, 1996a, 1996b; 2005.). These studies are mainly concerned with L1 influence in adult L2 acquisition but there are also studies dealing with L2 children in this regard (Haznedar 1997, Lakshmanan 1993/1994, Lakshmanan 1994, Lakshmanan & Selinker 1994, Unsworth 2005). Whereas all the above mentioned studies agree that L2 acquisition is constrained by UG, there is no agreement among L2 researchers regarding the characteristics of the initial state in terms of the role of the L1.

According to the Full Transfer/Full Access hypothesis of Schwartz & Sprouse (1996) which is based on the 'strong continuity hypothesis' in L1 acquisition, the entire L1 grammar (in the sense of all abstract properties but excluding specific lexical items) constitutes the initial state. This means that all the principles and parameter values as instantiated in the L1 grammar immediately carry over as the initial state of a new grammatical system on first exposure to input from the target language. The initial state of the L2 system will change in light of TL input that can not be generated by this L1 grammar. As restructuring continues, each intermediate system is a distinct interlanguage (grammar). The idea under FT/FA is that the course that L2 development takes is determined in part by the initial state, in part by input, in part by the apparatus of UG and in part by learnability considerations.

Under the Valueless Features hypothesis of Eubank (1993/1994, 1994, 1996) the initial state is a grammar where L1 lexical and functional categories are present in the earliest interlanguage grammar, but their feature values are claimed not to be.

Features are not thought of as being either strong or weak, but are valueless or inert in the initial state, i. e., feature strength does not transfer.

The Minimal Trees/Structure Building hypothesis is based on the 'weak continuity hypothesis' for L1 acquisition (Clahsen, Eisenbeiss & Penke 1996; Clahsen, Eisenbeiss & Vainikka 1994; Pinker 1984; Vainikka 1993/1994). Vainikka & Young-Scholten (1994; 1996a, b) claim that the initial state is a grammar with early representations based on the L1, but the L1 grammar is only partially involved in constituting the initial state. The initial grammars lack the full complement of functional categories, whereas these categories exist in the UG inventory. This means that the initial grammar includes only lexical categories and lacks functional categories of both the L1 and any other source. Vainikka & Young-Scholten also claim that grammars in the earliest stage of development are different from later grammars, lacking certain subsequent properties. Under this approach functional categories emerge gradually. According to Vainikka & Young-Scholten's proposal, the initial state in L2 acquisition consists of a grammar partly based on the L1 where lexical categories, together with associated properties, particularly headedness, are found in the initial interlanguage grammar. Organic Grammar is Vainikka & Young-Scholten's most recent hypothesis. They introduce it in a 2005 paper criticizing the Basic Variety (Klein & Perdue, 1992, 1997) which claims that in the earliest interlanguage, the sentences are basically in SVO word order. They also criticize Processability theory (PT) (Pienemann, 1998, 2003) which claims that Processing is the same for both L1 and L2, but adult L2 learners access UG via their L1. PT also claims that at the earliest stages the lexical items are syntax-independent. Vainikka and Young-Scholten point out that language learners whether L1 or L2, build up phrase structure in a similar way starting with lexical projection but L2 learners'

initial state includes the L1 lexical projection; or, is based on L1-based minimal trees as well. In another article, Vainikka & Young-Scholten (2006) argue against Prévost & White (2000a, b, c) who claim that their child L2 data provide evidence for the Truncation Hypothesis, while the adult L2 data support the Missing Surface Inflection Hypothesis. Vainikka & Young-Scholten reanalyze the data and observe that Prévost & White's data support Organic Grammar.

The last hypothesis to discuss is Modulated Structure Building (Hawkins, 2001) where L2 learners start building syntactic representations for clauses with projections of thematic verbs but without an IP projection. He argues that learners start with minimal trees (as described above) which is the structure building part of the theory, but first language functional features transfer to the second language (the modulated part). He claims that parameters involving functional features can not be reset in the second language and learners re-analyse the input on the basis of first language settings.

The studies mentioned above in the domain of the initial state of L2 acquisition have generally focussed on the role of L1 influence in adult L2 acquisition and little work has been done on child L2 acquisition in this regard. The present study looks at the acquisition of L2 English morphosyntax by two L1 Farsi children to find out how UG, the L1 and the input interact when age is not a factor. There are few if any longitudinal studies of the acquisition of English morph-syntax by more than one child at nearly the same age, but different sex and in the same environment. The spontaneous longitudinal data from two children, Melissa 7; 4 and Bernard 8; 4 who had not been exposed to English prior to their arrival in the UK in March 2003 will be investigated to address in more depth issues regarding L1 influence, functional categories, as well as individual differences.

1.4 The outline of the thesis

This thesis is composed of nine chapters and intends to find plausible answers for some issues raised in child L2 acquisition on the one hand, and to argue against some of the claims in previous child L2 acquisition studies on the other. The main research trends in the present study include the nature of the early VPs produced, the status of lexical and functional categories at the initial state of child L2 acquisition, the nature and extent of L1 transfer, the morphology/syntax interface, probable individual differences involved in (child) L2 acquisition, and a comparison of child L2 acquisition with both child L1 and adult L2 acquisition. The present study aims at finding answers to the following questions:

1. What is the headedness of the early VPs produced by the two learners? Do their initial VPs accord with L1 or L2 headedness?
2. Are the functional categories (IP and CP) present at the earliest stages of L2 acquisition?
3. When functional categories emerge in the learners' L2, are there any traces of L1 transfer?
4. Is child L2 acquisition similar to child L1, adult L2, or neither with regard to the course of development as well as ultimate attainment of morphology and syntax?
5. Do individuals differ at all in their acquisition of morphology or syntax?

To this end, Chapter Two first reviews the related literature. The first section of this chapter deals with early approaches to second language acquisition. After rejecting the plausibility of CAH in predicting L2 acquisition phenomena, there was a great attention to stage-like development and cross-learner systematicity (e. g. Dulay & Burt, 1973, 1974a; Bailey, Madden & Krashen, 1974). While there seems to now

exist a general consensus on L1 English morpheme acquisition order, the same occurrence is controversial in L2 English in this regard (Cox, 2005). The next section of Chapter Two deals with longitudinal (developmental) studies done in 1970s. Sections 2.5 and 2.6 consider the role that UG plays in L1, L2, and the initial states of L2 acquisition along with a discussion of lexical versus functional categories. After the most prominent proposals on the initial state are discussed, section 2.7 looks at the relation between morphology and syntax to investigate whether the use of overt morphology in production is a reliable indicator of underlying syntactic competence. Since the present study focuses on child L2 acquisition, 2.8 explains what this term means. As we will see in Chapter Six, the two learners of the present study behave differently with regard to the production of some morphemes that has nothing to do with their underlying syntax. Section 2.9 explains some of the non-syntactic factors that might influence learners' production. Section 2.10 summarizes what the previous studies have and have not shown to determine what outstanding issues the present research looks at.

To look at possible transfer of learners' L1 to their L2 English a brief description of Farsi syntactic structure will be presented in Chapter Three. Sections 3.1-3.5 present a syntactic structure of the learners' native language, Farsi, including VP, pronominal subjects, negation construction, yes/no and wh-questions, as well as embedded and relative clauses. Research questions are presented in 3.6.

Chapter Four concerns the methodology adopted in this study. Section 4.1 starts with a history of the studies in which children were the focus and the diary method was chosen as the method of data collection by researchers who were typically the parents. The advantages and disadvantages of this method are discussed. Section 4.2 introduces the two subjects of this study. Various methods of data

collection will be presented in 4.3. 4.4 deals with how the data have been transcribed and counted. The last section of Chapter Four explains the tests administered in Chapter Eight to find the source of individual differences observed between the two learners.

In Chapter Five the early stages of L2 acquisition development will be discussed. This includes the acquisition of VP. The research looks at the word order in the VP, with the aim of determining whether VP headedness is transferred from the learners' first language.

In Chapter Six the acquisition of phenomena associated with higher functional projections of the sentence, most notably IP or AGRP, will be discussed to determine whether an IP/AGRP is present in the learners' grammars at various points of development. To this end, the production of case assignment, negation development, copula, auxiliary, modal verbs, third person singular *-s*, and past tense marking will be discussed in sections 6.2-6.8 respectively. When the past morpheme *-ed* is internalized by subjects they start inflecting many different verbs and the rate of non-inflected regular verbs quickly goes down. This is when overregularisation comes on the scene. This phenomenon is discussed in section 6.9. Section 6.10 shows that CP was absent when IP projected in the two learners' grammars. The results of the study will be summarized and discussed in 6.11 and 6.12, respectively, and based on the results, in 6.13 the researcher comes to the conclusion that the IP-related morphology is not present in the early states of child L2 acquisition unless in the form of memorized chunks. Chunks are those forms which are correctly produced by the learners as a result of being seen or heard a lot in the input (see Myles on rote-learned chunks in 2.9).

In Chapter Seven the acquisition of CP will be studied through looking at learners' yes/no question and wh-question formation production, and the production of embedded clauses. This shows that not only the IP projection, as already mentioned in Chapter Five, is initially absent in the learners' interlanguages, but also their CP is initially absent and their early syntax contains only VP projection. When they project CP, there is no evidence of L1 transfer of this functional category in the learners' L2 productions except when the data were collected in other ways than strictly spontaneous production. By comparing and contrasting the subjects' productions in the early stages and later development and by considering word order and verb placement in relation to interrogative sentences, and embedded clauses, the researcher focuses on where morphology and syntax might be emerging together to determine the relationship between the morphology and the underlying syntactic structure. The results of this comparison are considered in light of the proposals already discussed in 2.6.2 to see which of them is on the right track regarding the status of initial grammars. The results of this study are claimed to support the Minimal Trees Hypothesis of Vainikka & Young-Scholten (see 2.6.2.3), and not Full Transfer/Full Access or Haznedar (1997).

Chapter Eight concerns individual differences that are revealed in Chapter Six. Despite their similar ages, the same environment and the same L1, the two subjects differed in rate of emergence of some language forms and structures, especially third person singular *-s* and the regular and irregular past tense forms. This led the researcher to consider factors relating to individual differences. The factors discussed in this chapter are based on a model of second language aptitude proposed by Carroll (1965). Applied linguistics researchers use this model since it considers both instructional factors and individual difference variables. Regarding the instructional

factors there seems to be no difference between the two subjects. Although the role of motivation as an individual difference is not denied in this study, the researcher supports the idea that motivation is a consequence rather than a cause. A range of standardized tests (IQ, WORD, memory, and PhAB) were administered to the two learners and showed a profile that seems to explain these rate differences. These capabilities and talents are individual and do not have anything to do with the nature of the two languages involved.

Chapter Nine pulls together the results discussed in the previous chapters and finds plausible answers for the questions raised in the study regarding the nature of child second language acquisition in the light of all the hypotheses stated in this domain. The results show that although there are not many sentences containing thematic verbs in the earlier samples and those produced are in translation tasks, early VPs produced by both learners were head-final which agrees with their L1 SOV word order. When learners are given these translation tasks, they just juxtapose semantic units to make the sentence and make it compatible with the L1 sentence. This shows, on one hand, how formulaic (see Myles, 2004) the early utterances are and indicates that the learners associate semantic content with formulaic sequences in the early stages of development and their functional features are underspecified, and on the other hand, it indicates that different methods of data collection can influence the result of the study.

Regardless of the chunks produced in early stages, there are no case-marked pronouns, copulas, auxiliary or modal verbs, embedded clauses, and yes/no or wh-questions in the early stages of development. This confirms the idea that functional categories are absent in the early stages of L2 acquisition and learners gradually build up their syntactic structure. This is in line with Minimal Trees/Structure Building

(Vainikka and Young-Scholten, 1994; 1996a, b) and in contrast with Full Transfer/Full Access Hypothesis (Schwartz & Sprouse, 1994).

Following V & Y-S (1994), it is also found out that the learners do not transfer the headedness of higher functional projections such as IP or CP and the headedness of functional projections is based on L2 input and syntactic principles such as X-bar theory. The only place the two learners show a trace of Farsi IP transfer is in negative utterances produced as a result of translation task, whereas the learners never show any L1 transfer in their spontaneous production with regard to the same structure. This is the influence of data collection procedures, as mentioned above and has nothing to do with the nature of the syntactic structure of negation. The other evidence is that although Farsi allows empty subjects, the two learners produce nearly no utterances without subjects when the verb is a thematic one and produce quite a few empty subject utterances with copular constructions although the subjects are not always in nominative case. This shows, on the one hand, that there is no L1 transfer in functional categories since the null subject parameter is associated with properties of INFL and, on the other hand, that the early subjects are probably located in Spec VP as argued by V & Y-S (1994) & Hawkins (2001) since the head of the IP (eg. copula or auxiliary) is empty in early utterances even with the presence of subjects.

Regarding the morphology/syntax relationship, the results of the present research show that when copula and auxiliary emerge in the learners' data, the learners do not have a target-like word order regarding the production of negation and question formation. This indicates that their grammars are not solely driven by emergence of morphology emergence and that the syntactic structures dealing with these constructions is changed to their target-like forms long after the emergence of morphology related to those constructions.

Similarity of the results of this study with the results from studies applying the Minimal Trees/Structure Building Hypothesis (Vainikka & Young-Scholten, 1994) indicates that child L2 and adult L2 learners go the same developmental routes irrespective of the learners' L1 at least as far as the word order of early verb phrases and the projection of functional categories are concerned. Both children and adults are able to posit new maximal projections based on the input data; and there is no maturation involved. The ultimate attainment of the two learners shows, on the one hand, that child L2 acquisition is different from child L1 acquisition at least with regard to acquiring some morphemes (third person singular *-s* and past morphemes in this study), and on the other, that individual differences are a factor affecting the morpheme production rate of the two learners.

Chapter Two: The Second Language Acquisition of Morpho-syntax

2.1 Introduction

Whereas numerous studies have been carried out on L1 and adult L2 acquisition, research on child L2 acquisition seems to be scarce. The present longitudinal study, therefore, investigates the production of verbal morphology in the child L2 acquisition of English. This chapter includes twelve sections. Section 2.2 reviews the early approaches to L1 influence in second language acquisition by focusing on the Contrastive Analysis Hypothesis and the early approaches to L1/L2 similarities in morpheme acquisition done both in L1 and L2 acquisition. Section 2.3 presents a discussion of early research on child L2 acquisition by focusing on morpheme acquisition order studies and the related critiques and discusses the source of discrepancy involved in this kind of study. In 2.4 the first developmental longitudinal studies done in 1970s as a result of discrepancies found in morpheme acquisition order will be discussed. The role of Universal Grammar in L1, L2, and initial state of L2 acquisition is discussed in 2.5. The concept of functional categories is introduced in 2.6 and some studies concentrating on the presence or absence of functional categories IP and CP in L1 English are introduced. After discussing the state of functional categories in early grammars of child L1 English, some prominent and

recent hypotheses in the area of adult second language acquisition are presented. All these hypotheses of initial L2 acquisition claim that the initial state is a specific grammar being wholly or partially affected by the L1 grammar. To explore the frequent omission of verbal inflection and use of non-finite forms in finite context, 2.7 will present the relationship between morphology and syntax in L1 and L2, respectively. Since the present study is based on child L2 acquisition, 2.8 explains this term and makes it clear how it is different from child L1 and adult L2. Since the two learners of the present study behave differently regarding the production of some morphemes with no relation to their underlying syntax, section 2.9 explains some of the non-syntactic factors proposed to influence learners' production. Section 2.10 sums up what the previous studies have and have not shown to highlight what outstanding issues the present research followed.

2.2 Early approaches to second language acquisition

2.2.1 Contrastive Analysis Hypothesis

Some of the issues and research questions that have been constant through the decades refer to the nature and extent of L1 transfer in learning an L2 and the positive or negative affects involved in this transfer. One of the first approaches regarding the second language (L2) acquisition based on structural linguistics and behaviourist psychology was Contrastive Analysis Hypothesis (CAH). In 1957, Robert Lado claimed that individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their L1 to the L2 both productively when attempting to speak the language and to act in the culture, and when attempting to grasp and understand the L2. These ideas have proved to be influential in the field of second

language acquisition (SLA) although the applicability of contrastive analysis hypothesis is nowadays under question.

The linguistics part of this hypothesis dealt with providing a comprehensive description of particular languages based on the utterances made by the native speakers of that language. The psychological aspect of the theory was based on the logic that the acquisition of the L1 involves the formation of a set of habits acquired through linking language forms and meanings via reinforcement. This hypothesis aimed at comparing language structures to help foreign language teachers as well as material developers focus their attention on those *different* structures to change the old habits in the light of reinforcement. The hypothesis assumed that the same processes (habit formation) must be at work in second language acquisition with the exception that those L2 habits which have already been acquired through the L1 clash with the rest acquired through the L2 input. This idea prompted second language learners (L2ers) to concentrate on acquiring different habits and changing those L1 habits for the benefit of L2 habits. The term used to refer to the way in which learners related the first set of language habits to the second set of language habits was coined as transfer, positive and negative, to refer to the same or different habits, respectively. The CAH claimed to be able to predict the areas of difficulty by providing information regarding the relationship between pairs of languages.

Many researchers have doubted the plausibility of the basic ideas of the CAH for not being able to accurately predict transfer phenomena in L2 acquisition. For example, more recently Sorace (1993) noticed that L1 French learners of L2 Italian show less difficulty in acquiring the Italian auxiliary verbs *avere* / *essere* (have / be) than L1 Italian learners of L2 French acquiring the equivalents *avoir* / *être* in French. This one-way learning difficulty fails to support the prediction made by CAH that

both groups of learners should experience the same degree of difficulty in such a case. Earlier Lococo (1975) reported that only 25% of the errors produced by her subjects resulted from L1/L2 differences and concluded that just a small proportion of errors could be attributed to dissimilarities between the two languages. Dulay & Burt (1974b) noticed that most of the seemingly L1-related errors are also found in L1 acquisition. Moreover, the interlingual errors are produced by L2 learners having different L1 background. This led some researchers (e. g. Dulay & Burt 1972, 1973, 1974a) to consider these errors as developmental errors found in both L1 and L2 acquisition. The decline of CAH led to the emergence of the studies known as the morpheme acquisition order studies which will be reviewed in the next section.

2.2.2 The morpheme acquisition order studies

The inability of CAH to accurately predict transfer phenomena in L2 acquisition led researchers in late 1960s and early 1970s to change their attitudes regarding transfer and pay most of their attention to staged development and cross-learner systematicity. Staged development refers to the idea that L2 learners do not acquire second language properties overnight and that they have to go through transitional stages until they get to the target language. Cross-learner systematicity also suggests that L2 knowledge grows in a systematic way and that the stages of development are common to different L2 learners. Adjémian (1976), Corder (1967) and Selinker (1972) stressed the autonomy of the L2 learner's mental grammar through introducing the interlanguage (IL) hypothesis. This refers to a grammatical system with its own internal organizing principles which may or may not be related to the L1 and the L2. The assumption is that learners' approach to the L2 is systematic and rule-governed and that this is best accounted for by a series of transitional systems, or interlanguage grammars.

The L2 morpheme acquisition order studies on L2 children by Dulay & Burt (1973, 1974), and on L2 adults by Bailey, Madden & Krashen (1974) inspired by the same work on L1 acquisition by Brown (1973), were among the first studies related to staged development and systematicity. Brown noticed that the order in which the English morphemes appeared in the speech of three children (named as Adam, Eve and Sarah) acquiring L1 English in three different households was exactly the same. He proposed that a child was considered to have acquired a given morpheme when it was produced 90% of the time in three consecutive samples in an obligatory context. Moreover, there was no correlation between the order of grammatical morphology emergence and the frequency of these morphemes in the corpus addressed to these children.

Dulay & Burt (1973) were the pioneers in investigating the acquisition of grammatical morphemes in L2 English. They elicited spontaneous speech from three groups of L1 Spanish speakers ranging 5-8 year old in three locations in the United States using a technique named Bilingual Syntax Measure where some cartoon drawings are shown and some questions are asked accordingly. Based on the subjects' degree of being native-like in producing certain morphemes in obligatory contexts, Dulay & Burt established an order of accuracy in the acquisition of morphemes across the three groups of the subjects and noticed a similar order in the acquisition of morphemes. They conducted the same sort of study with a group of 115 L1 Cantonese ranging 6-8 years old and a similar order of accuracy was found for these subjects as well, whereas this order was different from the acquisition order found by Brown for L1 learners of English. Bailey, Madden & Krashen (1974) conducted the same study with a group of 73 adult learners of L2 English aging 17-55 from different L1 backgrounds and found a similar order of accuracy. These results showed that the

accuracy order of acquiring grammatical morphology is the same for both child and adult learners of the same L2 from different L1 backgrounds and with different language exposure. This led Krashen (1985) to put forward Natural Order Hypothesis, according to which language rules are acquired in a predictable order regardless of the order they are taught. The plausibility of this hypothesis was put under question when it was found that natural orders just worked when spontaneous, unplanned production was examined and when the task was a grammar exercise or a translation drill that order did not always apply. Ellis (1987) conducted a study on 17 adult learners of L2 English from different L1 backgrounds and asked them to write a composition based on a picture; to retell the same story orally; and to tell another story orally without any planning. He found that the subjects were most target-like in the planned composition, less on the oral task, and least on the unplanned composition writing. Dulay, Burt & Krashen (1982) also found that with post hoc reviewing procedure L2 subjects could increase their accuracy between 6%-47%. There is another argument as well which refers to the method of data collection. Rosansky (1976) observed a lack of correlation between results found longitudinally and cross-sectionally even among the same subject.

To make up for the observed shortcomings of Natural Order Hypothesis, Krashen introduced another hypothesis stating that L2 learners are capable of developing two different types of language knowledge, namely learned and acquired L2 knowledge (see also Schwartz, 1993 on modularity and linguistic competence versus learned knowledge). The former is acquired consciously through textbooks or teachers, and the latter is developed subconsciously as a result of exposure to the L2. Adding to his Acquisition-Learning Hypothesis Krashen noticed that L2 learners use conscious knowledge to monitor the output and to check for differences, and he

introduced Monitor Hypothesis. It was also noticed that there are some individual differences involved as well in the process of L2 acquisition. In the next section, a recent study elaborating the sources of discrepancy in morpheme acquisition order will be presented.

2.3 Sources of discrepancy in morpheme acquisition order

As mentioned in 2.1.2, there seems to be a general consensus in L1 English morpheme acquisition order for native learners, whereas the same kind of concurrence can not be found in L2 English morpheme acquisition. In addition to differing data collection procedures leading to discrepancy, Cox (2005) also proposes that the source of the discrepancy lies in the fact that L1 English researchers employ a consistent methodology while measuring acquisition whereas the case is different with L2 English researchers. She states that by 'emergence' criterion no clear order can be set for the morpheme acquisition of the learners. Cox categorizes study methodologies into three groups as: Mastery, Graded and Emergence, and proposes that methodological inconsistencies lead to the lack of consensus among L2 English morpheme order studies. She continues by arguing that Brown (1973) and de Villiers & de Villiers (1973) employ the mastery criterion to measure morpheme acquisition in which a 90% production in three consecutive samples is needed to denote learning, and that is why the orders found by the two researchers are consistent. In L2 English morpheme studies, on the other hand, Dulay & Burt (1973) employed graded calculation in which a point system was employed to sort morphemes depending on how they were used. According to this system the accuracy of how a morpheme is used accords with its order of acquisition. This means that the morphemes with higher

accuracy scores are considered to be acquired first. Bailey et al. (1974), who also used the same methodology, grading, found that the order of acquisition for the adult L2 learners under study was not similar to L1 English studies but accorded with the order for child L2 English learners studied by Dulay & Burt (1974) which again emphasizes the role that methodology plays in this domain. Bailey et al. then come to the conclusion that there are two orders for the acquisition of morphemes in English. One of them is for children learning English as their first language and the other one is for both children and adult learning English as a second language.

According to the third criterion, emergence, the presence of a morpheme in the production of the L2 learners is all that is required to decide on its acquisition. Cameron & Lee (1999) used this methodology in their study on three Chinese speaking children learning English L2. They provide no further information about this criterion. Cox (2005) examined this further by selecting four Chinese schoolboys who were acquiring English as their L2 in the United States. She used two criteria on measurement, emergence and mastery, and juxtaposed the results. By comparing the result of every method she noticed that though many morphemes are considered to be acquired if emergence is the criterion, this will be much fewer if mastery is taken as the acquisition criterion. Her study supports using mastery as the acquisition criterion over emergence and grading. She then comes to the conclusion that inconsistencies in calculation methodology seem to play an important role in discrepancies noticed in the results of different morpheme acquisition order studies and that by the emergence criterion no clear order will be set for the morpheme acquisition of the learners. Moreover, she concluded that the use of formulaic speech, which is used a lot by memorization-dependent learners, indicates that individual differences should be considered as well. Learners differ in aspects of cognitive processing and it is very

important to find out if a child learns by analysis or memorization. The discrepancies found in the morpheme acquisition order studies led the researchers to administer longitudinal studies which will be discussed in 2.4.

2.4 Developmental studies

The other sort of studies done in 1970s were longitudinal studies which were mostly based on the formal syntax of child L2 English negation or question formation. Ravem (1968) discusses the child L2 acquisition of English negation based on data from Rune, a six and half year-old Norwegian-speaking child. The data were both spontaneous production and translation task data collected just over three months. Unlike the English negative patterns, the Norwegian negative clause element is placed after the verb in main clause. Ravem concludes that the initial negative sentences do not show any evidence of L1 transfer:

(1) I not looking for edge

(Ravem, 1968, reprinted in 1974)

Another such study was by Cancino, Rosanski, & Schumann (1974, 1978), who collected data from two children aged 5, two adolescents aged 11 and 13, and two adults who were all native Spanish speakers. The longitudinal data included spontaneous speech and elicited imitations. The children and adolescents were exposed to English at school. One of the adults was a factory worker and the other one was a baby-sitter in an English-speaking family. Based on the results of the study, Cancino et al. (1978) concluded that the L2 learners do not pass through the same stages as the L1 learners and they devised a four developmental stage all six learners passed through:

Stage 1: Subject + no + V

- (2) a. I no understand
- b. You no walk on this.

Stage 2: don't + V

- (3) a. I don't can explain.
- b. He don't like it.

Stage 3: Aux + neg

- (4) a. No, he is not skinny.
- b. It's not danger.

Stage 4: Analysed form of don't

- (5) a. Because you didn't bring.
- b. It doesn't spin

(Cancino et al., 1978)

Another issue under investigation by early developmental studies was question formation. Based on data from the three Harvard children, Adam, Eve, and Sarah (Brown, 1973,) Klima & Bellugi (1966) reported that the early *yes/no* questions were marked with rising intonation without any auxiliary verbs or analyzed wh-questions:

- (6) a. What book name?
- b. Where my kitten?

(Klima & Bellugi, 1966, reprinted in 1971)

When the children's MLU increased, there were emergences of auxiliary verbs, but without subject-auxiliary inversion:

- (7) a. How he can be a doctor?
- b. Why he don't know how to pretend?

(Klima & Bellugi, 1966)

Cancino et al. (1978) also investigated the question formation in their L2 acquisition study as well. They reported that all learners used both *yes/no* questions and *wh*-questions in uninverted form. They also reported that copula *be* was always inverted in their data while they never referred to the idea that most of these productions like *where's* and *what's* could have been unanalyzed forms. Most of the research done in the area of child L2 studies in 1970s were concerned with descriptions and comparisons of the learners' data without reference to any linguistic theory. In 1980s, the researchers tackled language acquisition more theoretically. Within the generative framework, Universal Grammar deals with abstract linguistic principles underlying all languages. The next section is devoted to the role UG plays in filling the gaps noticed in those descriptive researches.

2.5 UG and language acquisition

Refinements in linguistic theory within the framework of Government and Binding (GB) (Chomsky 1981, 1986a, 1986b) have had considerable impact on the areas of L1 and L2 acquisition. Different proposals have been offered in this area regarding the properties of Universal Grammar (UG) which are believed to constrain all languages. Within a generative framework, Chomsky defines UG as the systems of principles, conditions and rules that are elements or properties of all human languages (Chomsky, 1972). The terms principles and parameters theory, however, have become more popular in recent years as this conveys the unique central claim of the theory that language knowledge consists of principles universal to all languages and parameters that vary from one language to another. Acquiring language means learning how these principles apply to a particular language and which value is appropriate for each parameter (Cook & Newson, 1996).

The logical problem of language acquisition has been deeply investigated within the framework of GB theory. The notion of UG as a parameterized system is intended to explain how the child arrives at the grammar of a language on the basis of insufficiently rich or precise input (Hornstein & Lightfoot, 1981). UG is conceived as a modular system which includes many interacting subsystems. There are many levels in sentences namely Deep structure (D-structure), Surface structure (S- structure), Logical Form (LF), and Phonetic Form (PF). A sentence is grammatical only if it is well-formed at each of these levels.

According to an invariant UG principle, X-bar theory, all phrases must be headed (Stowell 1981). Languages vary regarding the position of the head in the phrase. The English Verb Phrase (VP) is head first or head initial since verbs and prepositions precede their complements. VP in Farsi or Japanese, for example, is head final since verbs and prepositions follow their complements. Another example of a parameterized UG principle is Move α , according to which we can move some of the categories. A language may not permit any movement or only one or some of the categories may move.

According to the theory of principles and parameters, the child has immediate access to all of the relevant linguistic data. The child sets UG parameters at a value that is correct for that language through receiving positive input. Certain features of the input function as triggers that facilitate the setting of a particular parameter of UG. Triggering of innate knowledge is thought to be an automatic consequence of exposure to the appropriate positive evidence. To clarify the role of UG and the degree of accessibility to it in both L1 and L2, the next two sections will discuss the issues.

2.5.1 UG and first language acquisition

Linguists motivate UG by pointing to the end result of language acquisition, arguing that there is no way that adult grammar is acquired in its complexity without some kind of prior knowledge (Hornstein & Lightfoot, 1981). White (1989) points out that this prior knowledge can not be the input that children are exposed to in the course of acquisition for the reasons that input underdetermines the final grammar, it is often degenerate and it doesn't contain negative evidence. For such reasons, language acquisition is often described in terms of a projection problem, a logical problem, or a learnability problem. This means that there is a mismatch between the primary linguistic input or data and ultimate attainment. The proposed solution to this problem is that the final grammar must be mediated by Universal Grammar.

The question here is whether the child is always guided by such principles. A number of researchers have looked at L1 acquisition of children to see whether they make errors which violate the principles of UG or their grammar is constrained by principles of UG (Otsu 1981; papers in Roeper & Williams 1987). The result confirms the idea that there must be innate principles involved in L1 acquisition. The solution offered by generative grammar to the acquisition problem is that the child doesn't come to the acquisition task by relying solely on the input but specific linguistic principles in the form of UG are built in. UG provides a kind of blueprint as to what the grammar is like, but the details can only be filled by the input (White 1989)².

Whereas the principles and parameters of UG help to account for the child's acquisition of complex linguistic phenomena beyond the primary input, it can not

² According to White (1989) formal linguists are not the only researchers who have argued that language acquisition must be guided by innate principles of some kind. Studies indicating the similar linguistic behavior and acquisition sequences of children brought up in different communities strengthen the existence of some internal factors. However, Bates & MacWhinney (1987), Slobin (1986) argue that there must be a universal explanation in the form of a general cognitive structure responsible for this behavior without accepting that it takes the form of UG.

constrain all aspects of L1 acquisition. Some properties of the language such as lexicon have to be learned. Nor is it the case that every phenomenon in language acquisition that seems to be universal must be explained in terms of UG. UG provides constraints on acquisition stages without necessarily explaining why stages occur in the order that they do (White 1989). Under the most recent version of generative syntax, the Minimalist Program (Chomsky 1995, 2000, 2001), the role of syntax is reduced to Merge and Move operations and in a perfect language the features are mostly semantic or phonetic. Although Minimalism may in itself be desirable, the development of the Minimalist Program has resulted in a situation where there is in effect no established theory of syntax. On the one hand, because many of the fundamental assumptions of the previous version of the theory, Government-Binding Theory, are being questioned by Minimalism, the working syntactician cannot freely continue to maintain the old assumptions, but on the other hand, the new theory is not sufficiently developed to be usable, nor does its future usability appear promising in the area of language acquisition (Vainikka & Young-Scholten, 2006). This study, as a result, does not adopt minimalism as a theory of syntax and works in the domain of Government and Binding.

2.5.2 UG and second language acquisition

In spite of similarities between L1 and L2 acquisition in terms of the acquisition task, considerable differences have been proposed indicating that L1 and L2 acquisition is different as far as UG is concerned. These differences, according to White (1989), are degree of success attained by L1 versus L2 learners, the role of mother tongue for L2 learners, input, and age. In L2 acquisition, learners are faced with a similar task to that of L1 acquirers, namely the need to arrive at a system accounting for L2 input. L2 learners are also faced with complex and subtle properties of grammar that are

underdetermined by the L2 input (Schwartz & Sprouse 2000; White 1985, 1989). If it turns out that the L2 learner acquires abstract properties that could not have been induced from the input, this is strongly indicative that principles of UG constrain interlanguage grammar, parallel to the situation in L1 acquisition. However, L2 learners already have a means of representing language, namely the grammar of the mother tongue. Thus, it might be that there is, in fact, no underdetermination problem: if L2 learners demonstrate the relevant kind of unconscious knowledge, it might be the case that they are drawing on the L1 grammar, rather than on UG itself. Thus the strongest case for the operation of principles of UG in interlanguage grammars can be made if learners demonstrate knowledge of subtle and abstract linguistic properties which could neither have been learned from L2 input alone nor derived from the grammar of the mother tongue.

To demonstrate that interlanguage grammars are constrained by principles of UG, the following conditions should hold (White 2003):

I. The phenomenon being investigated must be underdetermined by the L2 input. That is, it must not be something that could be acquired by observation of the L2 input.

II. The phenomenon should work differently in the L1 and the L2. That is, it must be underdetermined by the L1 grammar as well.

The first decade of research on UG in L2 acquisition concentrated on this access issue. The discussion was whether L2 learners have no access, direct access or indirect access to UG (White 2003). According to the *no access* theory (Cook & Newson 1996; Epstein, Flynn & Martohardjono 1996), child L1 and adult L2 widely differ. Adult L2 acquisition is not constrained by UG and the L1 is used as access to

universal properties. White (2003) refers to this definition as a misnomer since at least the L1 grammar is involved in the process, that is why it is sometimes referred to as partial access. It has also been argued that L2 learners indeed have direct access (Cook & Newson 1996) to UG and interlanguage grammars show evidence of parameter settings other than those of the L1. According to an alternative account, access would initially be via L1 and as a result of L2 input exposure, grammar restructuring and parameter resetting occur. This is called indirect access (Cook & Newson 1996).

Terms like direct access and indirect access have been replaced with full and partial access, but there is still disagreement as to whether or not full access to UG implies absence of L1 effects (White 2003). By full access, Epstein, Flynn & Martohardjono (1996) imply that UG operates independently of L1 representations, whereas Schwartz & Sprouse (1996), through the FT/FA hypothesis, argue that both UG and L1 are implicated in the interlanguage grammar. Indirect access to Vainikka & Young-Scholten (1994, 1996a, b) represents direct access to UG accompanied by partial transfer. Inability of CAH to predict some phenomena in L2 acquisition in late 1960s and early 1970s led researchers in early 1990s to change their focus and put emphasis on the term 'initial state'.

2.5.3 UG and the initial state of L2 acquisition

The initial state of L2 acquisition has been both an area of controversial ideas and demanding challenges (White 2003). This term is variously used to mean the kind of linguistic knowledge that the L2 learner starts out with, in advance of the L2 input, to refer to the characteristics of the earliest grammar. More recently, a number of explicit hypotheses have been advanced as to the nature of the initial state in L2 acquisition, and these hypotheses make claims about the kind of development that can

be expected subsequently. Some of the initial state proposals presuppose that UG is constant; distinct from the learner's L1 grammar it constrains the L2 learner's interlanguage grammar. In spite of this common ground, there is considerable disagreement over the nature of the interlanguage initial state. Two logical possibilities are derived: the grammar of the mother tongue (L1) is the initial state or UG is the initial state (White, 2003). This research is concerned with those proposals that claim the initial state is indeed a specific grammar and L2ers start with L1 grammatical representations in whole or in part. The most prominent proposals in this regard are as follows: The Full Transfer/Full Access Hypothesis (Schwartz & Sprouse, 1996), the Valueless Features Hypothesis (Eubank, 1993/1994, 1994, 1996), the Minimal Trees Hypothesis (Vainikka & Young-Scholten, 1994, 1996a, b), the Organic Grammar (Vainikka & Young-Scholten, 2005), and Modulated Structure Building (Hawkins, 2001). We will look at these one by one in 2.6.2. These proposals contrast with those who believe the initial state not to be a specific grammar but UG itself. The Initial Hypothesis of Syntax (Platzack, 1996) and the Full Access Hypothesis (Epstein, Flynn & Martohardjono, 1996, 1998) fall into this category.

Since all the above mentioned hypotheses try to investigate the role that functional categories play in L2 initial state and the present study also investigate the presence or absence of some of the functional categories in the initial state of spontaneous production data obtained from two children, the concept of functional categories will first be explained in the next section, before discussing the initial state hypotheses.

2.6 Functional categories

Within the generative framework, syntactic categories are divided into lexical and functional categories (Abney, 1987). Lexical categories include nouns, verbs, adjectives, prepositions and their projections (NP, VP, PP & AP), and contribute to the meaning of the sentence whereas functional categories refer to determiners, inflections as well as complementizers (DP, IP, CP) and deal with the grammar of the language. To get a clearer notion of functional categories, the internal structure of the functional category IP will be presented here through looking at the following English sentences:

- (8) a. He is washing the car.
b. You can call him now.

Sentence (8a) contains a subject, *he*, an auxiliary, *is*, and a VP, *washing the car*. In (8b), there is a subject, modal verb, and a verb phrase respectively. The position occupied by the modal *can* is the same as the one occupied by the auxiliary *is* and is called INFL (e.g. Chomsky, 1986b). In infinitival clauses, this position is filled by infinitival *to*:

- (9) He wants *to* help me.

INFL also includes tense and agreement features associated with the verb. According to X-bar theory, which specifies the relation between heads and movements, all projections in English are head-initial. Regarding verb movement in English, only auxiliary *be*, *have*, and modal verbs raise before spell out. English main verbs do not move until LF for the relevant features are weak. The evidence for moving auxiliaries and modals comes from the distribution of adverbs, negatives, and quantifiers:

- (10) a. I am always here.
 b. He has not come yet.
 c. We can all play together.

The adverb *always*, the negative marker *not*, and the quantifier *all* are all positioned after the auxiliary *am*, *has* and the modal *can*.

According to the standard assumption (e. g. Chomsky, 1973), the head of CP is filled by complementisers such as *if*, *that*, *for*, and *whether*. *If* and *that* select a finite clause, *for* selects an infinitival complement, and *whether* selects both types of clauses:

- (11) a. I don't know [CP [C if] [he likes to ski.]]
 b. I know [CP [C that] [it is true.]]
 c. She will do her best [CP [C for] [us to succeed.]]
 d. I am not sure [CP [C whether] [he is kind.]]
 e. He is not sure [CP [C whether] [to go home.]]

CP is also concerned with question formation in English. To make an interrogative sentence in English, there must be subject-auxiliary inversion. Whereas English non-auxiliary verbs do not move before spell-out, auxiliaries and modals raise and appear before the subject:

- (12) a. He will let them know
 b. [CP [C' will_i] [IP he [I' ei] [VP let them know?]]]]

In the above example, the modal *will* that is base-generated in the IP head, is moved into the head of CP. This head-to-head movement (I-to-C) is also used with auxiliaries *have* and *be*. As main verbs in English do not raise out of VP until LF, a dummy auxiliary *do* is inserted to make the sentence negative or interrogative. This dummy auxiliary bears inflectional features in the sentence. While making a question, *wh*-phrases which are base-generated in the object or subject position of the verb move to Spec CP and the auxiliary verb moves from I to C:

- (13) a. [CP [C' [IP They [I' will [VP clean the room.]]]]]
 b. [CP What_i [C' will_j [IP they [I' e_j [VP clean t_i?]]]]]

One of the other properties of CP in English focuses on infinitival clauses.

Infinitival clauses, as Chomsky (1980) states, are clauses which include a non-overt subject called PRO. This PRO has got different interpretations depending on the context. It can function as an anaphor referring to the subject or object already mentioned in the main clause. It can also function as a pronominal referring to an arbitrary pronoun. In order for PRO to be ungoverned, there must be a CP, as CP is a barrier to outside governors. Look at the following examples:

- (14) a. I want [CP [IP PRO to see you]].
 b. I asked him [CP [IP PRO to go home]].
 c. [CP [IP PRO To learn a language]] is very difficult.

Now that the concept and function of the main functional verbal categories in English (IP and CP) has been described, some of the studies conducted on the development of these functional categories in English will be discussed in the next several sections.

2.6.1 Functional categories in child L1 English

There are many proposals regarding the acquisition of functional categories in child language³. According to the maturational hypothesis, child grammars initially project only lexical categories and functional categories develop maturationally (Guilfoyle & Noonan 1992, Lebeaux 1989, Ouhalla 1991, Platzack 1990, Radford 1990, Tsimpli 1992). Syntactic properties related to functional categories are absent in the speech of children and early grammars are different from adult grammars. Radford's (1990, 1992, 1995) 'small clause' hypothesis is based on this hypothesis. He notices that

³The main two are the Strong Continuity hypothesis and the Weak Continuity hypothesis. The Weak Continuity hypothesis is divided into the Maturation hypothesis and the Structure Building hypothesis.

early child grammars lack modals and auxiliaries and as these are base-generated in INFL; so there should be no inflection in the initial stages of child English:

- (15) a. Baby Laura eat that.
b. Wayne not eating it.
c. Tina not have it.

(Radford, 1990)

Lack of verbs inflected with 3sg *-s* or past tense morpheme *-ed* is another piece of evidence:

- (16) Adult: What does the pig say?
Child: Pig say oink.

(Radford, 1990)

Infinitival complements, moreover, do not contain the infinitival marker *to*:

- (17) Want [VP dolly [V talk.]]

(Radford, 1990)

Lack of operative case is proposed to be connected to the absence of inflection. According to case theory (Chomsky 1981, 1986), the subject NP in the Spec, IP position is assigned abstract nominative case by INFL or a corresponding functional head. Radford (1990) discusses that the early *me* subjects are instances of NPs lacking case, and concludes that modules of case theory are not matured at early stages⁴. Vainikka (1993/1994) who takes a non-maturation position (see below) argues against this by saying that case theory as well as X-bar theory is present from the outset of syntactic acquisition. This is based on the observation that the

⁴There are some other studies indicating that English-speaking children use accusative or generative pronouns as subjects. Huxley (1970) reports on the acquisition of subject pronouns by two children who both produced accusative and generative (only *my*) subjects. Brown (1973) reported some production of *her* by Sarah and *me* by Adam.

distribution of oblique subjects does not invoke maturation of case theory as Radford claims, since Vainikka states that oblique subjects appear also at stages at which children clearly have functional projections as shown by their use of modals and auxiliaries and case theory is in general operative.

- (18) a. Him can't see. (Nina, 2;1 File 12)
b. Her don't. (Nina, 2;2 File 13)
Vainikka (1993/1994)

The Strong Continuity hypothesis, argues that child grammars have the same structure as the adult one (Boser, Lust, Santelmann & Whitman 1992; Hyams, 1992; Pierce, 1992; Pinker, 1984; Poeppel & Wexler, 1993). Early grammars project a full CP and functional projections are, therefore, present from the beginning. This hypothesis is supported on the basis of the data obtained from children acquiring languages such as French and German in which young children produce inflectional elements at an early age. The question here is how this theory can explain the developmental stages the subjects go through as well as the systematic errors they make.

According to the third hypothesis (see footnote 3), the weak continuity/gradual development hypothesis (Clahsen, Eisenbeiss & Penke 1996; Clahsen, Eisenbeiss & Vainikka 1994; Vainikka 1993/1994), functional categories are not initially available and emerge gradually via interaction between input and X-bar theory. As far as the nonavailability of functional categories is concerned, this hypothesis is similar to the maturation hypothesis, however, in weak continuity the functional categories develop gradually (see truncation hypothesis in 2.8.2). The child starts with a grammar containing only lexical categories and functional categories emerge developmentally in a way that VP is acquired first followed by IP which is then followed by CP (Clahsen et al.1994).

These three hypotheses face certain problems. The weak point of the strong continuity, according to Vainikka (1993/1994) is that unlike weak continuity hypothesis, it can not describe stages of development since a full tree is always present. She also criticises the weak continuity hypothesis by saying that there is no mechanism to get from one stage to the next without maturation. The problem with the maturational hypothesis is that functional projections appear at once (Ibid.).

Early studies in the domain of CP in child L1 English, by e. g. Brown (1968) & Klima & Bellugi (1966) stated that auxiliary emergence and inversion appears in *yes/no* questions before *wh*-questions. Moreover, inversion was found to be more productive in affirmative *wh*-questions compared to negative ones. According to Brown (1968), the reason behind the inability to invert subject and verb is due children being limited in their transformations used in utterances. They are able to do *wh*-fronting, but not subject-auxiliary inversion.

Two decades later, Radford (1990) argues that children's early questions lack a CP system. He found no evidence regarding auxiliary movement to C or *Wh*-phrase movement to the Spec CP:

- (19) a. Kitty go?
b. Mummy doing? (What is Mummy doing?)
c. Doing there? (What is he doing there?)

Radford argues that children at the lexical stage have even problem to comprehend *Wh*-questions:

- (20) a. What did mummy say? Mummy.
b. What have you got? Eh?

He also argues against production of true complement clauses by children during multi-word speech:

- (21) a. Want [car out.]
b. Want [lady open it.]

Déprez & Pierce (1993) propose a different idea by saying that IP and NegP are present in early child grammars but the V-to-C movement emerges later. They also observe that inversion errors are overgeneralised in declarative sentences as well:

- (22) Adult: Hey, Naomi, what's this?
Child: Is it flowers.

Déprez & Pierce claimed that such errors occur because the subject fails to raise from Spec VP where it is base-generated.

After discussing the state of functional categories in early grammars of child L1 English, the next section will consider some hypotheses in the area of adult second language acquisition. While all these hypotheses of initial L2 acquisition claim that the initial state is a specific grammar involving the L1 grammar; the presence or absence of functional categories in the initial states, the extent of L1 involvement in the process of L2 acquisition, the reason behind the omission of verbal inflection and use of nonfinite forms in finite contexts in the initial states, and the relation between morphology and syntax are among those issues which are still unresolved and there are important differences between the following hypotheses with regard to all these issues.

2.6.2 Functional categories in adult L2 acquisition

2.6.2.1 The Full Transfer/Full Access Hypothesis

Schwartz & Sprouse (1994, 1996) hypothesize that the initial state of L2 acquisition is the final state of L1 acquisition (Full Transfer). According to this hypothesis, the initial state in L2 acquisition is a particular grammar, i. e. the steady state grammar of the mother tongue. In contrast to Minimal Trees Hypothesis arguing for less than total

involvement of the L1 (no IP/CP), FT/FA proposes full transfer: the entire L1 grammar (in the sense of all abstract properties but excluding specific lexical items) constitutes the initial state. By Full Transfer, the FT/FA means that the starting point of L2 acquisition is quite distinct from that of L1 acquisition. It contends that all the principles and parameters values as instantiated in L1 grammar immediately carry over as the initial state of a new grammatical system on first exposure to input from the target language. The initial state of L2 system will change in light of TL input that can not be generated by this grammar; that is, failure to assign a representation to input data will force some sort of restructuring of the system, drawing from options of UG (Full Access). As restructuring continues, each intermediate system is a distinct grammar. Under the FT/FA model, the starting point of L1 and L2 acquisition differs, but the cognitive processes underlying development (as realized by the restructured interlanguages) are precisely those mechanisms that constrain L1 acquisition.

To support their hypothesis, Schwartz & Sprouse (1994) examined the acquisition of German by an adult native speaker of Turkish called Cevdet. The spontaneous production data were collected over a period of 26 months and were used to study the development of word order and nominal case⁵. The primary interest was in the position of the verb, since this is distinct in the two languages: both German and Turkish exhibit OV word-order patterns in embedded clauses, whereas in German these patterns are partially obscured by the verb-second (V2) phenomenon (movement of the finite verb to the second position in matrix clauses). The three aspects of the data Schwartz & Sprouse focus on concern the position of the finite verb, the fronting of the nonsubject constituent X and the type of subject (pronominal or nonpronominal). The earliest clausal data on Cevdet that they refer to shows finite-

⁵The data in this study come from the ESF project by Klein & Perdue (1992).

verb fronting; i.e., the finite verb is not in clause-final position, as it would be in Turkish⁶. They assume this as a gap in Cevdet's data but that he also passed through such a stage that they label as stage 0. At stage 1, Cevdet moves to a system where the finite verb appears in a fronted position immediately preceded by the subject, which in a few examples is itself preceded by one additional constituent. Here Schwartz & Sprouse raise two questions: 1. Why is the finite verb fronted? 2. Why does the subject always precede the finite verb?

As soon as Cevdet develops enough vocabulary recognition to understand the meaning of short sentences, the inability of his system to assign a representation to embedded clauses will, according to Schwartz & Sprouse, necessarily lead to restructuring of that system and he will form embedded clauses based on Turkish. The point is that the complementizer *ki* 'that' occurs in C. Schwartz & Sprouse took this as direct evidence that there is a C position on the left periphery of at least some clauses in Turkish; thus, Cevdet could exploit this position as a landing site for finite-verb movement in his Turkish-German Interlanguage. The answer for the second question mentioned above is that the only way nominative case can be assigned to the subject is under the Specifier-Head agreement relation. As a result, the subject must move to [Spec, CP] in order to get case from the verb raised to C.

At stage two, Cevdet used XV [+F] S [+pron]...for some utterances containing pronominal subjects. By contrast, utterances in which the verb precedes a nonpronominal subject are virtually absent. To find the reason behind using pronominal subjects, Schwartz & Sprouse refer to data stemming from the work by Rizzi & Roberts (1989) on subject-verb inversion in French. French shows an asymmetry in regard to pronominal and nonpronominal subjects. Only pronominal

⁶ Note: Data collection from Cevdet began about 9 months after he had arrived in Germany. For further biographical information on Cevdet, see Schwartz & Sprouse, 1994: 332-33.

subjects can occur after the verb in questions. Rizzi & Roberts (1989) account for data of this kind in terms of satisfying the case filter. They claim that French assigns nominative case through Spec-Head agreement, but pronominal subjects, following Baker (1988), can satisfy the case filter by incorporating into a finite verb which has moved to C. Nonpronominal subjects following verbs can not incorporate and are ungrammatical in French. Here Schwartz & Sprouse come to the important conclusion that phenomena in interlanguage should be analysed in view of the rest of the interlanguage system, regardless of the analysis attributed to what appear to be similar phenomena in the TL. At the third stage, the XV [+F] S...pattern is extended to permit nonpronominal subjects in postverbal position. This suggests another mechanism for assigning case to subjects; government option. The verb in C governs IP, and hence the specifier of IP. At last they adopt an approach to L1 influence which is absolute.

2.6.2.2 The Valueless Features Hypothesis

The second hypothesis concerning the interlanguage initial state is the Valueless Features Hypothesis of Eubank (1993/1994, 1994, 1996). This hypothesis also claims that initial state is a UG-constrained grammar. Like FT/FA, the Valueless Features Hypothesis claims that L1 lexical and functional categories are present in the earliest interlanguage grammar, but their feature values are claimed not to be. Features are not thought of as being either strong or weak, but are valueless or inert in the initial state, or to say it another way, feature strength does not transfer. Feature strength is connected to word order. In English, for example, *I* has weak V-features; finite verbs remain within the VP. In languages like French, with strong I, the verb raises to I to check its features. Finite lexical verbs, therefore, either must raise (as in French) or not (as in English).

To support the hypothesis, Eubank examines data from a variety of sources. In a study on adverb placement, White (1990/1991, 1991) showed that French-speaking learners of English produce and accept both preverbal and postverbal adverb placement and this was taken as a result of transfer of the strong feature value from French. Eubank argues that White's data in fact support the Valueless Features Hypothesis, given the fact that the word order without verb raising was also found. Moreover, in a strong transfer account such as FT/FA, the order without verb raising is impossible, since the transferred strong feature would force verb raising. In this way, Eubank rejects the strong parametric transfer view, believing that it does not run awry in its predictive capacity. To summarize, the claims of the Valueless Features Hypothesis are as follows:

I The interlanguage initial state is a grammar including lexical and functional categories, as well as features, drawn from the L1 grammar. Feature strength is inert.

II During the course of development, the strength of L2 features is acquired.

2.6.2.3 The Minimal Trees Hypothesis

Under the Continuity Hypothesis, principles of UG are available throughout the stages of language acquisition from the initial state through the intermediate states to adult steady grammar state. In L2 acquisition, Vainikka & Young-Scholten (1994; 1996a, b) claim that the initial state is a grammar with early lexical representations based on the L1, but that L1 grammar is only partially involved in constituting the initial state. This is based on the Weak Continuity Hypothesis for L1 acquisition (Clahsen, Eisenbeiss & Penke 1996; Clahsen, Eisenbeiss & Vainikka 1994; Clahsen, Penke & Parodi 1993/1994; Vainikka 1993/1994) claiming that initial grammars lack the full complement of functional categories, whereas these categories exist in the UG inventory. This means that the initial grammar includes only lexical categories and

lacks functional categories of both the L1 or any from other source. These researchers claim that grammars in the earliest stage of development are different from later grammars, lacking certain subsequent properties, and that functional categories emerge gradually. According to Vainikka & Young-Scholten's proposal, the initial state in L2 acquisition consists of a grammar only partly based on the L1. This means that the L1 lexical categories, together with associated L1 properties, particularly headedness, are found in the initial interlanguage grammar. They maintain that functional categories emerge in discrete stages. Thus, although this emergence is triggered by input, there must be some kind of innate sequence in this regard. According to this hypothesis, the initial state of learners of different L1s differs, based only on the headedness characteristics of lexical categories in those languages. They argue that headedness of lexical categories will be reset to the value appropriate for the L2 before any functional categories appear.

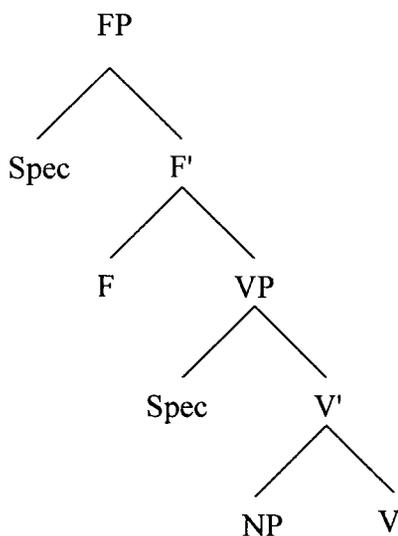
To support their hypothesis, Vainikka & Young-Scholten (1994, 1996a, b, 1998a) examine spontaneous and elicited production data from untutored adult learners of L2 German. Subjects with different L1s are represented in their studies, including Turkish and Korean, which, like German, have head-final VPs, as well as English, Spanish and Italian, which are head initial. The data were gathered longitudinally as well as cross-sectionally.

The cross-sectional data were collected from six Korean speakers and six Spanish speakers as well as eleven Turkish speakers. The longitudinal data come from one Spanish and four Italian speakers. All sessions are tape-recorded. They used only those sentences that contain a verb and additional VP-related material and are not imitations or idiomatic phrases. The data show that the learners who are at the earliest stages produce VPs the headedness of which reflects that of their L1s. Thus, the

temporal adverbs and negation at the VP-stage (regardless of the headedness of the VP), suggesting that the structure typical of this stage does not involve verb raising even for the Romance and English L2 learners of German. At the morphological level, Vainikka & Young–Scholten look for presence or absence of auxiliary and modal verbs, since these are assumed to be base-generated in INFL. They observe that modals and auxiliaries are almost non-existent at the earliest stages.

At the stage following the VP-stage, learners project an underspecified IP-level functional projection, FP (finite phrase). Their reason for postulating an FP as opposed to an IP is that learners show evidence of properties representing IP emerging, i. e. modals, auxiliaries and verb raising, but there is a lack of an agreement paradigm (and also complementizers).

(24)



Verb raising as well as the emergence of modals and auxiliaries implicate a functional projection higher than VP, whereas lack of overt agreement morphology suggests that this projection is somehow different from IP. The following sentence produced by a Turkish L1 speaker from among 8 intermediate speakers in V & Y-S's study shows this situation. This underspecified, head-initial functional projection has already been

proposed by Clahsen (1991) for a comparable stage in L1 acquisition of German which shows the similarity of L1 and L2 acquisition.

- (25) Ich sehen Schleier.
I see-Inf veil
'I see the veil.'

(Vainikka & Young-Scholten, 1994)

Vainikka & Young-Scholten propose that verb moves to F. F lacks agreement features and FP is head initial. In the end, they argue that there are no productive wh-questions or subordinate clauses introduced by complementizers, suggesting lack of C. In summary, Vainikka & Young-Scholten come to the conclusion that:

I. The initial state of L2 acquisition is a grammar containing lexical categories from the L1, but there are no functional categories from neither the L1 nor any other source.

II. Developmental stages involve the addition of functional categories triggered by the L2 input with support of X' theory. These categories emerge gradually and in a specific order (IP before CP).

III. L2 learners should converge on the L2 grammar.

2.6.2.4 Organic Grammar

There has been considerable debate regarding the stages of development in children and adults learning a second language without instruction and researchers are still in doubt whether UG, the learners' first language, the target language, or the general cognitive structure accounts as the source of knowledge for the earliest stage of development. The Basic Variety (BV) (Klein & Perdue, 1992, 1997) claims that the earliest interlanguage is based not just on syntactic, but also on semantic and pragmatic principles. The data comes from adults in the ESF study learning different

L2s (French, Swedish, English, Dutch and German) naturalistically. According to the morpho-syntactic properties of BV, all early interlanguages involve SVO canonical word order; lack agreement, tense and case; lack subordination and overt complementisers; lack L1 influence; and there is no movement involved. The authors claim that BV is a grammar with weak features under Minimalism (due to the lack of movement). They argue against studies claiming L1 plays a role in the acquisition of L2. Pienemann (1998, 2003) hypothesizes that Processability Theory (PT) is responsible for the early stages of development and according to this theory, early developmental stages are lexically-driven. Vainikka & Young-Scholten (2005) introduce Organic Grammar (OG) to argue against BV and PT accounts of the earliest stage. The reason behind introducing OG, according to V & Y-S (2006), is that terms such as minimal trees, structure building, and weak continuity have been variously or incorrectly applied to their approach and OG includes all these hypotheses and helps arrest terminological confusion.

As far as lack of inflectional morphology, lack of complementisers and subordination, and lack of movement is concerned, V & Y-S claim that BV can stand for the initial states of interlanguage, whereas BV can not explain SVO word order. According to V & Y-S, BV is based on a set of data which covers the three stages of development (verbless utterances, utterances with L1 word order, and SVO word order) in producing VPs as stated by V & Y-S whereas only the last stage seems to be covered by BV. This, according to OG, casts doubt on the idea that acquisition process is gradual and developmental and presents a developmental discontinuity regarding the earliest words and mixes syntactic principles with non-syntactic ones. According to the ten assumptions proposed by Organic Grammar, all language learners, whether L1 or L2, build up phrase structure in a similar way starting with

lexical projection but L2 learners' initial state include L1 lexical projection; or, is based on L1-based minimal trees as well. The tree begins to grow employing principles of innate mechanisms controlling language acquisition.

To show learners' interlanguage developmental stages, Processability Theory uses the same data used by BV and OG and explains how primary L2 linguistic data is processed by the learners. PT shares with OG the idea that phrase-structure rules are expanded gradually. Moreover, complete influence of learners' L1 is not involved in the initial states of L2 acquisition and L2 development is similar regardless of the learners' L1. This theory, however, emphasizes both perceptual saliency of the elements and their distance in the input as factors facilitating acquisition process. According to distance, unification of features at shorter distances makes them easier to be understood and features are acquired more readily. Processing is the same for both L1 and L2, but adult L2 learners access UG only via their L1. It also claims that at the earliest stages the lexical items are syntax-independent. These claims put PT against OG and all those hypotheses mentioned in 2.6.2 assuming a direct access to UG while involving the role syntax plays in the initial states of L2 acquisition. Like BV, which is unable to explain the earliest developmental stages, PT proposes a pre-syntactic stage and does not show how learners move from this pre-syntactic stage to a syntactic one.

V & Y-S (2006) apply OG to argue against Prévost & White (2000a, b, c). P & W discuss data from different combinations of first and second language (two L1 English children, two L1 Arabic adults learning L2 French; two L1 Italian children, two L1 Romance adults learning L2 German) learners to find the status of non-finite/RI forms in L2 acquisition. They come to the conclusion that child L2 data provide evidence for the truncation hypothesis while the adult data support the

missing surface inflection hypothesis. V & Y-S reconsider the adults' data in both L2 French and L2 German and observe that the production rate of RI before and after IP projection is different; null subject usage correlates with the form of the verb (non-finite versus finite); and null subject rate drops after IP projection. All these findings are in line with OG and show that P & W's data support OG if the data are looked at from a different perspective.

2.6.2.5 Modulated Structure Building

The final hypothesis on the L2 acquisition of morpho-syntax combines MT and FT/FA. Under Hawkins' (2001) Modulated Structure Building, learners' initial L2 grammars consist of lexical projections and these have the structural properties of their L1 grammars, exactly the same as the first part of Vainikka & Young-Scholten's Minimal Trees hypothesis. According to this hypothesis, functional projections are established later than lexical projections and the rapidity of their establishment depends on the evidence available to the learner. The two characteristics mentioned up to here are the 'structure building' part of Hawkins' hypothesis which is on the same track as the MT of V & Y-S. When functional categories are established in the L2 grammar, the influence of L1 functional categories becomes evident at relevant points in the grammar. This is the 'modulated' part of the hypothesis. Hawkins takes the idea of structure building further based on the findings of some studies of L2 English as follows.

Zobl & Liceras (1994) observe that copula *be* and auxiliary *be* are acquired before tense and agreement marking on thematic verbs since they are free morphemes moving from V to I while tense and agreement are bound morphemes moving the other way round. Copula *be* is acquired before auxiliary *be* because copula *be* selects AP, NP or PP as its complements and no inflection is required, whereas in auxiliary

be the V has *-ing* inflection. Copula *be* selects complements freely due to the fact that it lacks specific conceptual content, since it carries tense and agreement markings without having any meaning of its own. Zobl & Liceras's proposal paved the way for further research. However, it did not distinguish between copula *be* and auxiliary *be* as two free forms moving from VP to *I*. It also failed to distinguish between regular past tense and subject-verb agreement as bound forms moving from *I* to V (Hawkins 2001).

Based on the results of studies done by different researchers some of whom have already been discussed (Anderson 1978; Bailey et al. 1974; Dulay & Burt 1973, 1974; Makino 1980; Stauble 1984; Zobl & Liceras 1994), Hawkins (2001) discusses evidence from L2 English that learners start building syntactic representations for the English clause with projections of thematic verbs but without an IP projection. The acquisition of copula *be* by L2 learners might be seen as trigger for establishing INFL and its projection IP. Hawkins (2001) assumes that in native English copula *be* and auxiliary *be* are verbs which project in VP, but which raise to *I* to pick up Tense and Agreement inflection as well. This is based on the location of these verbs regarding negation, question and adverbs. He assumes two possibilities for the underlying syntactic representation of copula *be*. It is either treated like other verbs and projects in VP without raising to *I* for not being available, or projects to VP and is raised to *I*, as in native English. This indicates that the acquisition of copula *be* triggers the establishment of the category *I*. He adopts a more speculative mode of enquiry and proposes that the appearance of IP is triggered by copula *be* which is a morpheme with the barest specification. It makes a local relation between its complement and its specifier. Development proceeds from head-complement relation to non-local binding relation to local formal specifier-head agreement. These are the structure building part

of Hawkins' theory. According to his modulated part of the theory, syntactic properties of L1 transfer into the L2 grammar only when syntactic representations have been fully determined for that structure in question. This is different from what the full transfer/full access claim about the role that L1 transfer plays.

As mentioned in all the previous studies in both L1 and L2 acquisition above, there seems to be a great optionality in producing verbal morphology by learners. To lay the foundation for exploring the frequent omission of verbal inflection and using non-finite forms in a finite context, the next section will discuss this in terms of the possible relationship between morphology and syntax.

2.7 Morphology and Syntax

2.7.1 The Morphology and syntax relationship in L1 acquisition studies

Both L1 and L2 learners show optionality or variability in using verbal and nominal inflection and associated lexical items. V & Y-S (1996a), for example, claim that the earlier stage grammar competes with the later stage grammar and these competing grammars lead to optionality. Morphology relating to tense, agreement and case, for example, is used optionally in learners' spontaneous production data. Moreover, when morphology is present, it is not necessarily appropriate (White 2003). This led the L1 acquisition researchers to adopt two different approaches regarding the relationship between morphology and syntax: syntax-before-morphology versus morphology-before-syntax. The former is associated with the Separation Hypothesis (Beard 1987, 1995; Lardiere 2000) and the latter with the Weak Continuity Hypothesis or Rich Agreement Hypothesis. According to the Weak Continuity Hypothesis (Clahsen, Eisenbeiss & Vainikka 1994; among others; see above), acquisition of overt morphological paradigms drives the acquisition of functional categories. The Rich

Agreement Hypothesis (Rohrbacher 1994, 1999; Vikner 1995, 1997), on the other hand, assumes that the acquisition of overt morphological paradigms determines acquisition of feature strength.

In their extension of the Weak Continuity Hypothesis of Clahsen to L2 acquisition, Vainikka & Young-Scholten (1998) claim that overt morphology triggers the acquisition of functional categories which are absent in the initial grammar. The Missing (Surface) Inflection Hypothesis (Haznedar & Schwartz 1997; Lardiere 1998a, b, 2000; Lardiere & Schwartz 1997; Prévost & White 2000a, b; Robertson 2000), on the other hand, holds that abstract morphosyntactic features are present even in the early interlanguage grammar and the underlying syntactic representation is unimpaired (see 2.7.2). Assuming that early subjects are in the specifier of VP, is the missing surface inflection hypothesis of Haznedar & Schwartz not contradictory by itself by taking the mere suppliance of IP-related morphemes as an indication of the presence of functional categories?

Some hypotheses in L2 acquisition regarding the morphology/syntax relationship will be elaborated in the next section.

2.7.2 The Morphology and syntax relationship in L2 acquisition studies

Proponents of Full Access theories of L2 syntactic competence including both those who assume transfer of L1 properties like Schwartz & Sprouse (1996) & Grondin & White (1996), and those who do not believe in any L1 transfer like Epstein, Flynn, & Martohardjono (1996, 1998), assume that all categories and features required for fully grammatical derivations are present in the lexicon from the outset, and just not mapped onto the right morphological/phonological material yet. The use of overt morphology in production, they believe, is not necessarily a reliable indicator of underlying competence. They have also highlighted a potential problem for the

Minimal Trees, Modulated Structure Building, and Valueless Features Hypotheses concerning their views on the role of overt morphology in triggering development. The above mentioned studies claim that L2 learners are required to detect overt morphology in the input in order to trigger the introduction of functional categories and that such features are not established until speakers show significant productive use of that morphology in their utterances (Hawkins 2001: 348). Vainikka & Young-Scholten (1994) claim that subject-verb agreement morphology must be used productively to denote that IP has been projected and before a productivity criterion is reached, learners have an unspecified F(inite) P(hrase), and the tense and morphology appearing on verb are imitated/memorized chunks which are often used incorrectly in learners' production (see example 18e in section 5.2).

While Vainikka & Young-Scholten (1998) on the acquisition of L2 German by speakers of Romance languages treat the predominant lack of auxiliaries and modals, subject-verb agreement (only 11% to 36%) and verb raising as noise in the data, Schwartz & Sprouse (1996) & Epstein et al. (1998) assume that even such a slight performance of functional categories indicates that learners have full knowledge of lexical and functional categories⁷. They believe that if the syntax constructs phrase markers independently of the lexicon, it is not necessary for L2 speakers to have acquired lexical items belonging to the categories that the syntax projects. According to Hawkins' (2001) this analysis is consistent with a structural template (Hawkins, 2001) view of the syntax-lexicon relationship, whereas Vainikka & Young-Scholten's analysis is consistent with a lexical array (Hawkins, 2001) view of the relationship between the syntax and the lexicon. According to Hawkins' (2001) approach to structure building since the syntax takes an array of lexical items from the lexicon to

⁷This can be related to different measurement criteria adopted by different learners as claimed by Cox, 2005 (see 2.3).

merge into phrase markers, morphemes belonging to functional categories must be acquired to indicate that functional projections have been constructed. One advantage of the lexical array view of the relationship between syntax and lexicon is that it may facilitate the learnability of the L2. Hawkins notes how an L2 learner is initially faced with strings of undifferentiated sounds and tries to turn this continuum into discrete lexical entries. Learners initially focus on detecting morphemes that have the most perceptual prominence. Morphemes belonging to substantive categories like V, N, A are good candidates for perceptual prominence since they are phonologically strong and associated with stable conceptual meanings. Once these lexical entries are established, they can be used by the syntax in parsing new incoming L2 data. Under Hawkins' view, the presence of functional projections is dependent on learners detecting evidence for them in input that is perceptually difficult at the beginning.

The Missing Surface Inflection Hypothesis (Haznedar & Schwartz, 1997; Lardiere 1998a, 1998b, 2000, Prévost & White, 2000a; Haznedar, 2001), on the other hand, proposes that L2 learners have unconscious knowledge regarding the functional projections and features underlying tense and agreement, but the problem lies in the mapping of the abstract features to the morphological representation of these features on surface morphology. Haznedar & Schwartz (1997) & Haznedar (2001) (see 2.8.3.1) observed that while the child produced many non-finite forms in his speech, he stopped omitting subjects long before the use of verbal inflection in obligatory context. This led to the conclusion that there is no relation between the use of inflectional morphology and overt nominative subject, auxiliary movement and subject raising. Lardiere (1998a, b) argues for the separation hypothesis which claims that the features associated with an affix are distinct from the phonological realisation of that affix (e. g. Beard, 1987; 1988; 1993; Halle & Marantz, 1993), by examining

the L2 acquisition of Patty, a Chinese-speaking adult learner of English who had resided in the USA for 18 years. While her tense morphology is produced at 35% and the third person singular agreement is less than 17% in spontaneous production, Patty shows a variety of syntactic phenomena such as correct nominative case (100%) and she has got the syntactic knowledge that features are weak in English; which suggests that mapping problems are involved.

Prévost & White (2000), following Lardiere (1998a; 1998b; 2000), examined longitudinal spontaneous production data from four adults learning L2 French and L2 German in naturalistic environment. The two learners of French were interviewed one year after they had arrived to France roughly once a month and the two learners of German were interviewed three months after their arrival in Germany once a month. Prévost & White found that while adult L2 learners of French and German use non-finite verbs frequently in finite position, finite verbs are rarely placed in non-finite position. They conclude that L2 learners have abstract features for finiteness and agreement in L2 acquisition and there is no syntactic impairment. To answer the question of what mechanisms underlie the appearance of defaults, Prévost & White refer to the possible solution provided by Distributed Morphology (DM) (Halle & Marantz, 1993), which distributes grammatical features (tense, person, etc.) on a given inflected form and the node that hosts it in the syntax. According to DM, the features of a vocabulary item must be consistent with those of the terminal syntactic node to make lexical insertion take place. Despite the features of a syntactic node which are fully specified, features of a lexical item may be partially specified. Prévost & White assume that L2 learners have acquired the relevant features of the terminal nodes in the syntax while having problems with the feature specification of the associated lexical items. What is going on, according to Prévost & White, is that even

when more fully specified forms are acquired, they do not always win in the competition for lexical insertion and access to lexical items is sometimes blocked. This might be due to processing reasons or to communication pressure.

2.8 Child L2 acquisition

Before discussing studies of child L2 acquisition a definition should be offered to indicate what this term really stands for and how it is different from child L1 acquisition, on one hand, and adult L2 acquisition on the other. The term child L2 acquisition distinguishes successive child bilingualism from both simultaneous child bilingualism and successive adult bilingualism (Unsworth, 2005). This term is used to refer to those L2 learners whose first exposure to the second language occurs after their first language is already in place and all the parameters of their L1 are fixed (Ibid). Setting a clear cut-off point to show where the L1 acquisition ends and L2 acquisition starts is a difficult task and different proposals have been offered in this regard. According to McLaughlin (1978) this cut-off age is at three. Lakshmanan (1995) adopts the same age while stating that this may be too early and there are probably some complex properties still to be acquired at this age. Unsworth (2005) assumes a cut-off point of four years in her study by assuming that most grammatical principles of the first language are in place by this age.

The next question here is why there are many recent studies being done on child L2 acquisition. What is important about child L2 acquisition is that it can shed light on adult L2 acquisition as well by providing new data to test adult L2 theories. It may also be useful with respect to the nature of the adult L2 acquisition process to show whether or not L2 acquisition proceeds in the same way for both groups. This makes it possible to decide between a UG-based approach to adult L2 acquisition and

a problem-solving one (Schwartz, 1992). The explanation presented by Schwartz is that the two ways developmental data are used in adult L2 acquisition can not indicate whether UG is involved in L2 acquisition or not. The first way is to compare the developmental stages of adult L2 learners of language X with the L1 acquirers of the same language. If the two groups have the same developmental stages, this means that the underlying structure is the same and is UG-constrained. This is problematic since any different pattern noticed in L2 may be the result of L1 influence. The second way is comparing developmental stages of adult L2 learners having different L1s. Similar developmental patterns indicate UG involvement and different ones indicate the opposite. This is also problematic since similar developmental stages do not necessarily indicate UG involvement and adult L2 learners may make use of their other general learning mechanisms (Clahsen & Muysken, 1986). It is in such a situation that child L2 data can help to a great extent. By assuming that child L2 acquisition is UG-driven (due to the better ultimate attainment of children), and by comparing the developmental stages of child L2 and adult L2, the role of UG in adult L2 can be isolated.

The aim of the present study is not to investigate the availability of UG in L2 acquisition since all the studies mentioned in 2.6.2 support the idea that (adult) L2 acquisition is driven by UG. While the role of UG in both L1 and L2 is assumed in this study, the question is why there is some discrepancy in different studies regarding the presence or absence of functional categories and the degree of L1 transfer in the initial.

2.8.1 Child L2 acquisition versus adult L2 acquisition

In order to present a complete definition of adult L2 acquisition, it is also necessary to see when child L2 stops and adult L2 emerges. According to the Critical Period

Hypothesis (CPH), there is a period where a language, whether L1 or L2, can be acquired native-like (Birdsong, 1991). The question here is that whether non-convergence on the target language means no UG access. This is what Schwartz is arguing against. Schwartz (1990) criticizes this by claiming that the non-native-like nature of adult L2ers does not guarantee epistemological difference between their grammars and those of native speakers. Although adult L2ers may lack native-like grammar, their grammars are possibly constrained in the same way as the native speakers' grammars. UG operation may therefore not distinguish child from adult L2. Discussing maturational constraints in L2 acquisition, Hyltenstam & Abrahamsson (2003) elucidate the CPH by posing three broader possibilities through suggesting that native-like L2 proficiency is observed only in early child L2 learners; in both early learners as well as adult learners; and in neither group. They support the last position through observing that: (i) there are child L2 learners who never reach the ultimate attainment level, (ii) those who reach the native-like level are not the same in all aspects of the target language, and (iii) ultimate attainment declines steadily as a result of increasing age and there is not a so-called cut-off point. Johnson & Newport (1989) studied 46 native Chinese and Korean speakers on different aspects of English grammar to find out the effect of age of first exposure on L2 acquisition ultimate attainment. Unlike the studies discussed by Hyltenstam & Abrahamsson, they found that those who were first exposed to the L2 acquisition before puberty performed better on the tasks and there was a high negative correlation between age of first exposure and task score. Back to the question raised above regarding when child L2 stops and adult L2 begins, many ideas have been presented in this regard and it is far from resolved. This age has been adopted as five years (Krashen 1973), seven years (Dekeyser 2000; Johnson & Newport 1989), eight years (Bialystok & Miller

1999, Schwartz 2004, Unsworth 2005), nine years (Penfield & Roberts 1959), puberty (Lenneberg 1967) and 15 years (Long 1990). Since there has been far less child L2 acquisition research, it is not clear that child and adult L2 acquisition are different in any fundamental ways. I will give an overview of the literature to give a sense of its features.

During the 1970s there were many studies in the field of child L2 acquisition (e.g. Cancino, Rosansky, Schumann 1978; Ravem 1978; Wode 1978 among many others). During the 1980s and 1990s, on the other hand, adult L2 acquisition has been dominant (see 2.8.2). In recent years, however, dominance of adult L2 acquisition has decreased. What makes the recent studies on child L2 different from the previous ones is that the earlier studies were mostly descriptive (Lakshmanan 1995) while the recent ones apply ideas from theories in both linguistics and language acquisition domains. Comparing L2 children and L2 adults can show the researcher whether L2 acquisition proceeds in the same way for the two groups or whether underlying factors⁸ make adult L2 acquisition different from child L2 acquisition (Bley-Vroman 1989). First let us look at some recent studies comparing child L2 with adult L2 to see whether child L2 and adult L2 have been found to go through the same developmental stages.

Dimroth (2005) studied the acquisition of finiteness and negation in the L2 acquisition of German by collecting longitudinal data from two Russian-speaking sisters (Natsja, 8;7 and Dascha, 14;2 at the time of data collection). Non-finite verbs appear to the right of negation in adult German, whereas finite verbs appear to the left. Unlike English, which uses auxiliaries and *do*-support to show finiteness in negated utterances, in German main declarative clause final lexical verbs always raise

⁸ It is not so clear what these might be. DeKeyser (2000) argues that although it is true that there is a critical period, this does not mean that adults cannot learn a second language perfectly, at least on the syntactic level.

past negation⁹. In Russian, on the other hand, the negator always precedes the finite verb and some studies on the acquisition of finiteness and negation in German by L2 adult learners whose L1 has the same properties as Russian (e.g. Becker 2005; Meisel 1997; Parodi 2000) shows that finite non-thematic verbs are used in pre-negation position from the very beginning and auxiliaries emerge prior to the acquisition of finite lexical verbs. The same observation made for the adults in the studies mentioned above was also made for both younger subjects of the study; that is, modals, auxiliaries and copulas appeared in finite form in pre-negation position from early on. According to Dimroth, Dascha only raises lexical verbs across negation after auxiliaries have been acquired, the same as the adults in the other studies mentioned above, while Natsja, the younger sister, does not follow the same pattern and produces finite lexical verbs in pre-negation position in the first sample. Non-thematic verbs are also produced from the very beginning whereas auxiliaries emerge in week 11 and do not precede the acquisition of finite lexical verbs as was noticed by her older sister. These findings led Dimroth to conclude that child L2 and adult L2 do not follow the same developmental stages regarding finiteness and negation. This has been criticised by Unsworth (2005). She asserts that the reason behind not raising lexical verbs across negation by week 17 is that Dascha has not produced any lexical verbs in combination with negation by that time and argues that the absence of evidence is not the evidence of absence. She takes this as one of the disadvantages of using spontaneous production data. Moreover, in addition to the age difference the two sisters differ regarding their previous linguistic knowledge. For Dascha, the older sister, German is the second L2 because she had already acquired English as her first L2 and this has surely affected her second L2.

⁹ Vainikka & Young-Scholten show the same thing (see 2.6.2.3).

According to the Domain by Age Model of Schwartz (2004), with regard to the course of development, child L2 acquisition is like adult L2 acquisition in the domain of syntax, but in the domain of inflectional morphology it is like L1 acquisition. The evidence comes from a comparison of the acquisition of scrambling in Dutch (Unsworth, 2005) by L1 children, by L2 children and adults whose L1 is English. Regarding ultimate attainment, Schwartz claims that although child L1 is different from adult L2, the ultimate attainment of child L2 is not yet clear.

2.8.2 Child L2 acquisition versus child L1 acquisition

The study of child L2 acquisition can also shed light on the study of L1 acquisition in two ways. According to Unsworth (2005) child L2 studies can provide some additional evidence regarding the existence or non-existence of a critical period. Moreover, child L2 acquisition studies can serve as a means to evaluate the plausibility of different theories in L1 acquisition. One area of research in child L1 dealing with early stages of development is Optional Infinitive (Wexler, 1994)/Root Infinitive (Rizzi, 1993/1994) (OI/RI). Whether this phenomenon occurs in child L2 and in adult L2 acquisition the same has been the focus of much recent research and will be considered in the present study.

L1 children go through a stage where their declarative main clauses contain a non-finite form when a finite one is required. These OIs/RIs have certain properties in child L1 acquisition. First of all, they co-occur with null subjects, and in case of overt subject presence, the case-marking does not seem to be operative (see Krämer 1993; Haegeman 1995; Phillips 1995). Second, although non-finite forms replace finite ones, when tense/agreement morphology is present it is always in correct form (Poeppel & Wexler 1993). According to the *Truncation hypothesis* (Rizzi 1993/1994) and *very early parameter setting* (Wexler 1998), OI/RI in child L1 acquisition is

driven maturationally, and by the age of three children will no longer produce such constructions. This would mean that child L2 learners do not go through such a stage since they are by definition older than 3 (see 2.8.1). This predicts that they have already passed this stage. To see whether child L2 develops the same as far as OIs/RIs are concerned, the two characteristics mentioned above should be empirically examined in child L2. Many studies in child L2 acquisition state that L2 children use non-finite forms as well (Haznedar & Schwartz 1997, Prévost 1997a, Ionin & Wexler 2002, Schwartz & Sprouse 2002, Tran 2005a, 2005b)¹⁰. Regarding the co-occurrence of non-finite forms with null subjects, Prévost (1997a, 2003) observed their existences in his data. In the data from his English-speaking subject learning L2 German, Prévost (2003) noticed that 61.7% of non-finite verb forms had null subjects as well, whereas the rate was just 8.6% for the finite forms. For Haznedar & Schwartz (1997) null subject is only restricted to non-finite forms and is different from child L1 English where null subjects occur both with non-finite as well as finite forms. Moreover, they observed no correlation between the child's using null subjects and not using verbal inflection. The child, Erdem, started using pronominal subjects long before he used verbal morphology in his data. There are instances of subject use with target-like case (Haznedar & Schwartz 1997, Prévost 1997a, Gavrusseva 2000, Schwartz & Sprouse 2002). Regarding the second issue that if in child L1 acquisition tense/agreement morphology is used it is used in a correct form; L2 studies adopt more or less the same argumentation. In an L2 French study, Grondin & White (1996) notice that their two subjects use very few person-agreement errors. Ionin & Wexler (2002) observe that the error production rates are 5%, 7%, and 5% regarding the production of 3sg -s, auxiliary *be* and copula *be*, respectively, in the English production of Russian-

¹⁰ V & Y-S (2006) argue against P & W's conclusion that adults are different. I will not pursue this here as this study focuses solely on child L2 acquisition.

speaking children. Haznedar & Schwartz (1997) also report a low error rate for 3sg *-s* in Erdem's production. Although 3sg *-s* has been omitted in many utterances, it has almost always been used correctly. From Sample 15 through 46, only 12 out of 437 (2.8%) subject-agreement errors. According to what has been mentioned, it seems that OIs/RIs behave differently in child L2 and child L1. Unsworth (2005) states two possibilities involved behind this incongruity. First, different methods of data collection (elicited production vs. spontaneous and cross-sectional vs. longitudinal) adopted in these studies may play a significant role in the discrepancy observed¹¹. Second, the age range should be narrowed down to 4 to 7 which, according to her, is considered as the best range adopted for child L2 acquisition.

2.8.3 Functional categories in child L2 acquisition

While there are many studies concerning the role of functional categories and L1 influence in the area of adult L2 acquisition (see 2.6), only a few studies have dealt with children in this regard. The most important of these will be presented in this section. Lakshmanan & Selinker (1994) studied the development of CP in child L2 English and stated that CP is present at the earliest stages. They analysed the CP production of Marta, a 4 and half year old Spanish child originally studied by Cancino et al. (1978), and Muriel, a 4-year-old L1 French child based on Gerbault's (1978) study. L & S observed that both children used embedded clauses very early:

- | | | |
|------|----------------------------|---------------|
| (26) | a. I forgot I need a book. | (Marta, S 12) |
| | b. I think I'm finished. | (Muriel, S 8) |
| | | (L & S 1994) |

Regarding Marta's data it seems that she had had exposure to English before going to the USA and before data were collected as well, and her grammar does not

¹¹ See Cox (2005) in 2.3.

refer to the initial states. Neither of the children used complementiser *that* in their data, therefore, there was no trace of L1 transfer as both French and Spanish require overt complementisers in the embedded clauses.

The presence of infinitival clauses (see 2.6.1) and 'to' was other evidence to indicate emergence of CP:

(27) You want to help me?
(Muriel, S 3, L & S, 1994)

L & S report also that copula and auxiliary *be* are preposed even in Sample 1 in Marta's data on *yes/no* questions. Muriel also inverts modal *can* in Sample 2. This makes them conclude that CP is available in the grammar of both children from the very beginning. This is not what the present study shows. Excluding two tonic questions produced by M in Samples 3 and 4, there are no *yes/no* questions up to Sample 9.

Gavruseva (1998) studied the acquisition of question formation with *wh*-possessive phrases. The nouns in matrix and long-distance questions in English are always followed and attached to the *wh*-word and can never be extracted. Despite this fact, this kind of *wh*-extraction with long-distance *wh*-questions, especially with *whose*, is observed in the production of L1 children:

(28) Who do you think's cat came up on the building?
'Whose cat do you think came up on the building?'
(Gavruseva, 1998)

To see whether the L2 children go through the same developmental stages in their long-distance *wh*-question formation, Gavruseva collected data through using an elicited production task from two Russian-speaking children (Alex, 5; 11, Nadia, 6; 5 at the time of data collection) acquiring English. The adjectival *wh*-possessors

(whose) in Russian can be split in matrix clauses (29) not in tense embedded clauses whereas the other types of wh-phrase (*how many* N, *which* N) can be always split:

- (29) a. Chju shapku on poteryal
 whose-fem.sg.acc hat-fem.sg.acc he lost
 ‘Whose hat did he lose?’
 b. Chju on poteryal shapku
 whose-fem.sg.acc he lost hat-fem.sg.acc
 ‘Whose hat did he lose?’
 (Gavruseva 1998)

Alex produced only four long-distance questions, which were all split, and he produced no matrix questions. Nadia produced 24 long-distance questions, which were all split, as well as 7 matrix ones (6 split and 1 matrix). Her wh-words were extracted out of main and embedded clauses, as indicated in (30) and (31):

- (30) Who did you not like someone’s drink? (Nadia 6; 5)
 (31) a. Who do you think the cheetah tried drink? (Alex 5; 11)
 ‘Whose drink do you think the cheetah drink?’
 b. Who do you think Pocahontas likes the chair? (Nadia 6; 5)
 ‘Whose chair do you think Pocahontas like?’
 (Gavruseva 1998)

This is in line with transfer from Russian, where both clauses can be split, however, Nadia didn’t split the other kinds of wh-phrases (*how many* N, *which* N) which is the same as L1 English. In case of degree questions (32), Nadia split wh-phrases. This can not be due to L1 transfer because this kind of question does not exist in Russian:

- (32) Investigator: I was wondering how long his neck really is.
 Can you find that out for me?
 Nadia: How your neck is long? (Nadia, 6; 5)
 (Gavruseva 1998)

As far as splitting *whose* N phrases in matrix questions is concerned, Gavruseva claims that there is some trace of L1 transfer, but the way the learners

behave *how many* N and *which* N phrases is exactly the same as L1 children and does not indicate any L1 transfer.

Grondin & White (1996) conducted a study to find out about the role of L1 transfer as well as to look at the availability of functional categories in the initial state of L2 acquisition. They collected longitudinal production data from two English-speaking children (Kenny, 5;10 and Greg, 5;6 at the time of data collection) who were learning French in a French-speaking kindergarten. Regarding functional categories, Grondin & White claim that DP and IP are available in learner's data from the very beginning. They argue that their use of case-marking preposition *de* (of) as well as nominals including determiners indicates the presence of DP (33).

- (33) a. Le lion mange les girafes. (Greg, 5 months' exposure)
 the lion eats the giraffes
 'The lion eats the giraffes.'
- b. fête de Halloween (Kenny, 2 months' exposure)
 party of Halloween
 'Halloween party'
- (Grondin & White, 1996)

For Greg, DP production ranges between 86% at the beginning up to 98% at the final session. This rate is 67% and 96% for Kenny. They claim that IP is also evidenced in learners' data from the earliest recordings, both syntactically and morphologically. Both learners use different conjugations of both thematic and auxiliary verbs. Use of subject clitics from the first recording by the two learners with a target-like person agreement also demonstrates knowledge of IP. Correct placement of the verb with respect to negation is the other evidence for the presence of IP. Any verb occurring to the left of the negator *pas* 'not' which is assumed to be located between VP and IP can indicate the presence of IP. There is also a correlation between finiteness and verb placement. Greg and Kenny put the finite verbs (34)

correctly to the left of negation (98% and 97% respectively) whereas the non-finite verbs (35) are placed to the right of negation (94% and 95% respectively):

- (34) a. Non, j'ai pas joué avec (Greg, 9 months' exposure)
 no I've not play with
 'No, I didn't play with.'
 b. Le giraffe peut pas (Kenny, 5 months' exposure)
 the giraffe can not
 'The giraffe can't.'
- (Grondin & White, 1996)

- (35) a. Moi je pas jouer avec leauto (Greg, 11 months' exposure)
 me I not play with the car
 'I don't play with the car.'
 b. Non pas jouer (Kenny, 5 months' exposure)
 no not Play
 'No, I don't want to play.'
- (Grondin & White, 1996)

Based on the data presented above, Grondin & White come to the conclusion that functional categories (DP and IP in their case) are present in the initial states of child L2 acquisition. It seems that the learners were not in their initial stage when data collection started. Data collection began 13 months after the two kids' first exposure to French in a bilingual nursery when Kenny and Greg were 4;9 and 4;5 respectively.

Gavruseva & Lardiere's (1996) study on the data from the 8-year-old Russian child, Dasha, focuses on development of CP in child L2 English. Dasha had no exposure to English before coming to the USA and the data were collected nearly a month after her arrival for ten months. Gavruseva & Lardiere claim that Dasha's early production provides evidence for the emergence of CP:

- (36) a. Mama know that we go outside.
 b. She wrote that I am her best friend.
- (G & L, 1996)

G & L noticed that Dasha developed CP prior to IP-related elements (Agreement, tense, auxiliary and modal).

2.8.3.1 Haznedar (1997, 2001, 2003)

I am ending the review on child L2 studies with Haznedar (1997, 2001, 2003) as her study is in more depth than the others (more sessions and a bit longer). Here is a study of a speaker from a head-final L1 (like Farsi), and she collected data early enough to be considered initial state data. I want to see whether Haznedar is on the right track to take the mere suppliance or non-suppliance of copula *be*, auxiliary *be*, modals, and pronominal subjects as evidence supporting the presence of IP (functional projections) in the initial states of second language acquisition.

Haznedar examines the status of the functional categories in the child second language acquisition of English. The subject of the study is a native speaker of Turkish called Erdem who had arrived in the UK in November 1993. He was 4;3 at the time of the start of data collection. He had no exposure to English prior to his arrival in the UK as well as during the first two months of his stay, for he was at home with his Turkish-speaking parents. The data analysed in this study consist of 46 recordings, covering a period of 18 months. Haznedar considers the presence or absence of functional categories (IP and CP) as well as the degree of L1 transfer. This study and all the studies mentioned above regarding child L2 assume FT/FA or at least Strong Continuity. Discussing this study provides a chance to consider whether Strong Continuity and FT/FA is indeed warranted in child L2 acquisition.

Turkish and English differ as to word order, specially the headedness of VP. Unlike English and the other L1s studied above, Turkish is a head-final language with an SOV word order in both main and embedded clauses. Utterances containing a verb were classified as VX or XV, where X stands for other VP-related material such as a

direct object or adverbial. Haznedar reports that during the first two or three months Erdem almost always used head-final word order that represents Turkish headedness. This is in line with what was stated by all the hypotheses concerning the effect of L1 in L2 acquisition mentioned in 2.6.2. From Sample 9, or let us say in the fourth month, Erdem switched headedness of both VP and NegP to go with English.

Haznedar takes the presence of modals, copula and auxiliary *be* and pronominal subject as evidence supporting the presence of IP (functional projections) in the initial state. With respect to the counting procedure, she examined each sample for the suppliance or non-suppliance of copula *be*. The first obligatory contexts for copula *be* occur in Sample 5, but each time Erdem fails to produce it:

- (37) Investigator: Where is your dad?
 Erdem: My dad School. (S 5)
 (Haznedar, 1997, 2001)

She reports that up to Sample 7, the sentences mostly began with *It is/This is* and are not included in her counts and are considered as unanalyzed. When Erdem used copula *be* with subjects other than *it* or *this*, they are considered as analyzed:

- (38) a. Mummy is very funny. (S 9)
 b. Me is finish. (S 8)
 (Haznedar, 1997, 2001)

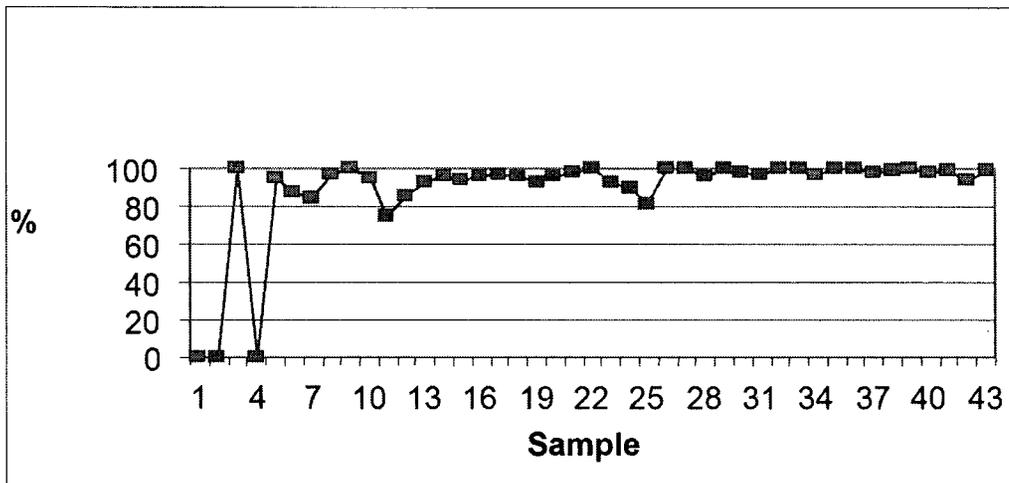
From Sample 8 onwards there are high occurrences of copula *be* in obligatory contexts:

- (39) a. Erdem: Where is 'Karpuz'? (S 8)
 b. Erdem: My daddy is school. (S 10)
 (Haznedar, 1997, 2001)

Figure 2.1 shows the percentage of the copula *be* produced by Erdem. Haznedar (1997:134) reports that in Sample 11, 95% of the utterances include copula *be* but these early forms are predominantly *is* although *am* and *are* emerge around the

same time but *are* as in Sample 8, is produced sporadically though this could be an unanalyzed routine. To see whether these are chunks or not, one should pay attention to some other utterances produced at the same time (see Myles on rote-learned chunks in 2.9).

Figure 2-1: Percentage of copula *be* based on Haznedar (1997)



- (40) a. I'm sure. (S 10)
 b. Are you ready? (S 8)
 (Haznedar, 1997, 2001)

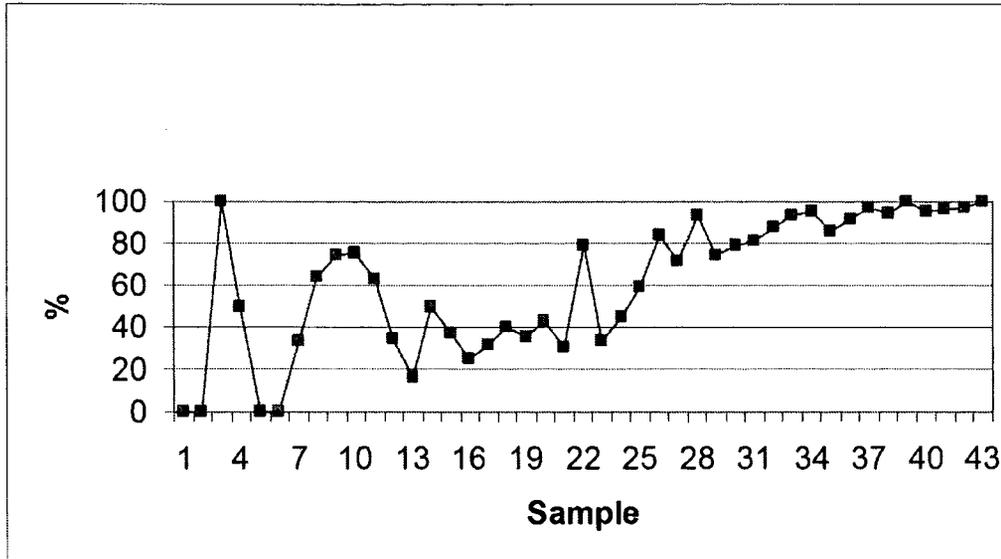
The first obligatory context for auxiliary *be* occurs in Sample 3 but it first appears in Sample 4:

- (41) a. Investigator: Look at those boys Erdem. Are they playing?
 Erdem: Yes # ball playing. (S 3)
 b. I am painting. (S 4)
 (Haznedar, 1997, 2001)

There are occasional instances of auxiliary *be* until Sample 9, but it suddenly increases afterwards:

- (42) Erdem: This is eating you # this lion eating you. (S 10)
 (Haznedar, 1997, 2001)

Figure 2-2: Percentage of auxiliary *be* based on Haznedar (1997)



If Haznedar says that ‘this is’ instances are not counted up to Sample 7, they should not be counted in Sample 10 either as in the second part in (42) the auxiliary is missed. Missing auxiliary when the subject is a lexical one rather than a pronominal shows the rote-learned nature of the early forms of subjects and copulas (or auxiliaries) combinations. This increase is not a stable one and there seems a variation in auxiliary production between Samples 13-22 as shown in Figure 2.2 (Haznedar, 1997:139), and the auxiliary is absent an average of 65% between these 10 samples:

- (43) a. He just saying I am saying. (S 13)
 b. He is crying and we crying. (S 16)
 (Haznedar, 1997, 2001)

Haznedar states that Erdem has produced both contracted and uncontracted auxiliary forms from the very beginning and this means that auxiliary is really functioning as an auxiliary in Erdem’s interlanguage whereas (42) does not support this and the predominance of *is* over other auxiliaries is quite evident in this example (see 6.4 and 6.5).

Additional evidence for the presence of functional categories for Haznedar are pronominal subjects. Assuming that subjects raise to check case via Spec-IP (Chomsky 1993), the status of subject can provide information regarding the projection of inflection. Although there are null subjects in Erdem's early samples, overt pronominal subjects are also used in early samples. Out of 11 obligatory contexts for overt subjects in Samples 4 and 5, 10 have overt subjects. Unlike L1 English studies reporting lots of case errors (Hamburger & Crain, 1982; Huxley, 1970; Radford, 1995; Rispoli, 1994; Vainikka, 1993/1994), Erdem makes very few case errors; there are only three errors in the whole study:

- (44) a. Me is finish (S 8)
 b. This' is not # me big # me very very. (S 9)
 c. No # me not break this is bicycle. (S 14)
 (Haznedar, 1997, 2001)

What I found in Haznedar's study regarding the production of overt subjects is that by overt subject she means both lexical and pronominal subjects. Only three out of ten overt subjects produced in Samples 4 and 5 are pronominal and the remaining 7 are lexical. Moreover, after Sample 8 that copula production increases, the production of pronominal subjects increase rapidly as well which show a relation between these two, on one hand, and shows the rote-learned nature of early pronominal subjects, on the other. Moreover, lack of null subjects in the initial stages provides counter-evidence for FT with regard to L1 influence as Turkish is a pro-drop language.

Next evidence for the projection of IP in Haznedar's study is the use of modal verbs. Modal verbs which are mainly restricted to *can*, appear in Sample 15¹² for the first time and are used both in declaratives and interrogatives:

¹² This does not refer to the early stages of L2 acquisition.

- (45) a. You can get it because it is good. (S 15)
 b. Can I eat another biscuits? (S 17)
 (Haznedar, 1997, 2001)

There are some inappropriate use of modals in which they have been omitted (46a), replaced by other elements (46b), or have been used with infinitive marker *to* (46c):

- (46) a. Investigator: Do you think this little girl should wait or cross the street?
 Erdem: He cross the street. (S 18)
 b. Investigator: Why do you not want to go to Turkey?
 Erdem: But we didn't go now. (S 16)
 c. But you must to stick it here. (S 17)
 (Haznedar, 1997, 2001)

In line with Stromswold (1990b) arguing that children are conservative in using auxiliaries by not overgeneralising them, Haznedar reports that Erdem distinguishes modal verbs and never treats them the same as the main verbs by inflecting them.

Emergence of pronominal subjects which are supposedly in the Spec-IP where the head of the IP is not specified for (at least) agreement as a result of supplying *is* more than the other auxiliaries and the sporadic use of *am* and *are*, and absence of auxiliary *be* an average of 65% between Samples 13-22, to me, can not be taken as the early emergence of functional categories.

Unlike the overt marking with agreement that appeared early with the copula and auxiliary, Haznedar reports that main verbs lack both tense and agreement up to Samples 13 and 15 respectively. The first obligatory context for 3sg *-s* occurs in Sample 9 but Erdem fails to inflect any verb with this morpheme up until Sample 15:

- (47) a. I don't know he eats. (S 15)
 b. This you press # he runs. (S 20)
 (Haznedar, 1997, 2001)

After Sample 28 Erdem produces 3sg *-s* somewhat frequently but the suppliance grows quite gradually. The production rate between Samples 29-35 is 32.3% and only after Sample 40 do the inflected 3sg *-s* forms overtake the uninflected ones. She notes

that when produced, 3sg *-s* was almost always correct and there were only 12 agreement errors with this form in the whole corpus:

- (48) a. The cats comes goes with him. (S 35)
b. They doesn't stick in here. (S 37)
c. And then they marries. (S 43)
(Haznedar, 1997, 2001)

There are also only four instances of use of this morpheme for past reference:

- (49) a. They throw it and it's brokes. (S 40)
b. She saws a house. (S 43)
(Haznedar, 1997, 2001)

The reason behind the late emergence of tense and agreement with the main verbs will be discussed in Chapters Five and Seven and the results of the present research show that lack of these morphemes has reasons beyond the syntax of the two learners.

Haznedar presents the number and percentage of irregular past tense verbs in obligatory contexts to determine when TP is projected. The first obligatory context for irregular past tense form occurs in Sample 10 and in 5 out of 5 cases Erdem produced a bare form and the earliest appearance of irregular past forms (4 out of 16) is found in Sample 13:

- (50) Investigator: What else did you do there?
Erdem: And go playground. (S 12)
(Haznedar, 1997)

Up until Sample 20, very few (8/64%) utterances with the irregular past are produced and in the remaining utterances only the base form of the verb is produced.

After Sample 20, although the irregular past forms are still not productively used, a gradual increase seems to be observed, and in Samples 20 through 27, Erdem produces the irregular past form 30 out of 83 instances (26.55%). The production rate reaches 41.03% between Samples 36-40. She reports a gradual increase in the

production of irregular past tense similar to 3sg *-s*. Following Hakuta (1975) and Lakshmanan (1994), Haznedar assumes that the optionality in producing irregular verbs lies in the lexical variation of irregular verbs.

Regarding the regular past tense, Haznedar reports that the first obligatory context for *-ed* occurs in Sample 8 whereas no verbs inflected with the regular past *-ed* are produced until Sample 15. Up to Sample 37, out of 121 obligatory contexts for regular past form, only 12 (9.92%) verbs are inflected. This means that Erdem produces correct irregular past tense forms before using regular ones and up until the last sample, there are only 69 (25.65%) instances of correct past regular forms produced out of 269 obligatory contexts versus 369 out of 909 (40.59%) instances of correct past irregular forms. However, for a long period of time, uninflected verbs dominate the inflected ones and the average rate of inflected production during the last 5 or 6 samples is only 56%.

Based on what is mentioned, Haznedar finally comes to the conclusion that auxiliary *be* and copula *be* appear early and are used in correct syntactic form and Erdem's pronominal subjects are almost always in nominative form. Modals, 3sg *-s*, and past tense morphology emerge later and are acquired more gradually. Regarding the use of verbal morphology and its relation with the underlying structure, Haznedar notes that there is no relation between the use of verbal inflection and the disappearance of null subjects. Although there is no relation between null subject disappearance and use of verbal inflection, the relation between null subject disappearance and copula production is quite evident in Haznedar's study.

Can the delayed emergence of main verbs inflected with 3sg *-s* and *-ed* be represented as an argument against minimal trees or refers to the nature of these constructions? This will be discussed in Chapters Six and Eight.

Haznedar observes the production of negation in Erdem's data as well. Before considering her data, early studies in the field of child L1 and L2 negation will be presented in this section. Negation is among the first or earliest functions to emerge in the syntax of children acquiring a first or second language. The acquisition of negation, therefore, is one of the best-studied phenomena in early inter-language research to show how much first and second language development have in common, on the one hand, and to clarify whether functional projections play any role in the very early stages of syntactic development, on the other. There has been much research on the formal syntax of child English negation (Bellugi 1967, Bloom 1970, Déprez & Pierce 1993, Klima & Bellugi 1966, Radford 1990)

Klima & Bellugi (1966) and Brown & Bellugi (1964), as the pioneers in child negation studies, analyzed children's earliest 'no construction' as the combination of the negative morpheme *no* with a sentential "nucleus" consisting only of a noun or a verb. The following examples are extracted from Bellugi's (1967) data from three children:

- (51) a. Not singing song
b. Not write this book
c. No the sun shining

(Bellugi, 1967)

According to Klima & Bellugi (1966), there are no utterances in which the negative element occurs sentence-medially. Whereas subject NPs are often omitted in early language, overt subjects, if present, are positioned to the right of the negative element as (51c) shows. By providing the context for the occurred utterance, Brown & Bellugi illustrated that the child's negative is understood as a sentential negation rather than anaphoric or constituent negation. In anaphoric negation the negator does not negate the sentence that it is a part of, but some aspect of a previous utterance. For

example, after hearing the utterance *you need to take a rest*, a person responds *No, I want to go through the whole book*, which would be considered as an example of anaphoric negation. Syntactic negation includes two subcategories. The first one is sentential or clausal negation which is defined as negation in which a negator negates the entire proposition conveyed by a sentence. The second one is phrasal (constituent) negation in which the adjacent constituent is negated. Look at the following two examples to see the difference.

- (52) a. I don't go to school. (Sentential negation)
 b. I like tea with no milk. (Phrasal negation)

Whereas in the first sentence the whole utterance is negated, the negator *no* in the second sentence negates the word *milk* and not the proposition *I like tea*. Brown & Bellugi argued that these errors in negative placement indicate the young child's inability to move negative element from a sentence-peripheral position to a sentence-internal one. In the following stage of their development, children's negative elements were categorized as an optional category, Neg, generated in auxiliary position. It was inferred that they could employ the negation-lowering transformation due to their development to handle transformational rules.

Regarding the development of negation in child L2 English Haznedar (1997) reports that Erdem's early verbal negation displays a V + Neg pattern. In the first three samples Erdem produces four negated verbs; all preceded the negative element *no*.

- (53) a. R. Oh it's finished. Let's play.
 Erdem: Finish no. (S 1)
 b. R. Shall we play hide and seek?
 Erdem: Play no. (S 2)

Haznedar takes this as transfer from Erdem's L1 Turkish negative construction.

- (54) a. Ben kitap al-ma-yacag-im
I book buy-neg-future-1sg
'I will not buy books.'

Haznedar finds no more verbal negation in the initial stages and starting in Sample 9, Erdem uses the target-like order of verbal negation which is Neg + V and *no* changes to *not* after Sample 9. She then discusses that *do*-support also appears at Sample 9, and from that time on, S- (*do*-support)-Neg-V order is consistently produced. She then refers to the placement of negation with respect to the copula or auxiliary *be* and modal *can* and notes that there are no utterances where negation precedes auxiliaries or modals apart from one instance. She concludes that Erdem knows that auxiliary verbs and modals in English behave differently from lexical verbs. To explain the post-verbal position of early negations she assumes that the headedness parameter must be involved. Since NegP in Turkish is head-final, Erdem initially transfers this headedness to his L2 English and post-verbal negation is produced as a result. On the assumption that NegP is a functional projection, this analysis provides counter evidence for Minimal Trees Hypothesis (MTH). The data in the present study show that there are no copulas, auxiliaries, or modals in the early productions and the position of negation markers in relation to copula, auxiliary, or modals can not be determined. This provides counter evidence for Haznedar's claim that Erdem can distinguish the difference between lexical verbs and the auxiliaries with regard to negation.

Regarding the development of CP-related elements in Erdem's L2 English data Haznedar reports that yes/no questions are first found in Sample 6, where 2 out of 3 questions are formed by intonation and there is only one inversion:

- (55) Is this a Henny Penny? (S 6)
(Haznedar, 1997)

5 out of the 11 yes/no questions produced until Sample 15 are also intonation questions; however, few intonation questions are then found in the rest of the data all of which are appropriate (56). Haznedar reports that there are also some inverted yes/no questions up until Sample 15 which are mainly with copula *be* (57):

- (56) a. Investigator: What? What can you see here? (S 18)
Erdem: I don't know # you know this?
b. Investigator: Where is the brother? (S 33)
Erdem: This is the brother? (Haznedar, 1997)

- (57) a. Are you ready? (S 8)
b. Is it very very big? (S 15)
(Haznedar, 1997, 2003)

Whereas the number of yes/no questions with auxiliary *be* are very limited in the whole corpus (27), there are large numbers of yes/no questions containing *do* (216) and modal verbs (189). The first use of auxiliary *do* occurs in Sample 16:

- (58) a. Do you know what this say? (S 16)
b. Do you know what I got? (S 16)
(Haznedar, 1997, 2003)

From Sample 17 on, do-support is used with different verbs and the first do-support in past tense context emerges in Sample 22:

- (59) a. Do you want to look at # look at that? (S 17)
b. Did you colour your picture? (S 22)
(Haznedar, 1997, 2003)

Modal *can*, which first appears in Sample 15, is used in questions in Sample 16 and it is the only modal used by Erdem up to the latest samples (as noted above). The other modals occur in the last samples and infrequently:

- (60) a. Would you get this? (S 24)
 b. Will you take this? (S 28)
 c. Could you get this? (S 35)
 d. Shall we play a game? (S 41)
 (Haznedar, 1997, 2003)

Haznedar then concludes that Erdem's data on yes/no questions indicate that only copulas, auxiliaries, and modals undergo subject-auxiliary inversion and Erdem never inverts main verbs. The question here is that why Haznedar expects Erdem to raise the main verb whereas there is neither input in English for him nor does this exist in Turkish and the absence of main verb raising does not indicate anything.

Regarding the Wh-questions, most of the earliest ones include *what* and *where* and are probably formulaic as Haznedar states:

- (61) a. What's this? (S 7)
 b. What's this name? (S 7)
 (Haznedar, 1997, 2003)

According to Haznedar, from Sample 8 on, *what* replaces *what's* and indicates that sentences are not formulaic but that there are still many non-target-like sentences. These errors include auxiliary missing (62a), lack of subject-auxiliary inversion (62b), and wh-in situ questions (62c). Replacement of *what* and *what's*, to me, does not change anything as missing and non-raised auxiliaries shown in (62) indicate lack of CP to a greater extent. Moreover, while discussing copula and auxiliary, Haznedar takes the contracted forms as unanalyzed which contradict her claim here. Regarding the wh-in situ forms Haznedar states that the absence of early in situ wh-questions in Erdem's speech represents a transfer effect, as Turkish does not allow wh-phrases to occur in postverbal position. The absence of early in situ wh-questions is quite predictable where this structure exists neither in L1 nor in L2 and, to me, does not show any L1 transfer.

- (62) a. What you eating? (S 11)
 b. What you're saying? (S 19)
 c. Investigator: Let's play something.
 Erdem: Play what? (S 12)
 (Haznedar, 1997, 2003)

Haznedar reports that despite a certain number of inversion errors and missing auxiliaries, Erdem does not systematically fail to invert or to produce auxiliaries in questions and there is a co-occurrence of errors and correct forms in all samples. She also reports that at a time (Sample 19) Erdem fails to invert auxiliaries in wh-questions, he does invert consistently in yes-no questions in earlier samples (Sample 15). She finally brings some examples from yes-no questions in the earlier samples where there has been subject-auxiliary inversion. Based on these utterances and especially based on the example in (63a), she assumes that the auxiliaries and copula in (63) must be in a higher position and Erdem's L2 grammar has a CP projection:

- (63) a. Are you not listen me? (S 15)
 b. Is it very very big? (S 15)
 (Haznedar, 1997, 2003)

Overall, this section shows that the early yes/no questions (up to Sample 15) in Haznedar's study were tonic and show lack of CP projection in the initial stages. Tonic questions also show that CP projects later than IP. The subject-verb inversion in wh-questions occurs even after yes/no questions.

Haznedar presents more evidence for the presence of CP by examining the development of embedded clauses in Erdem's L2 English. Embedded clauses first appear in Sample 13 where Erdem produces the first utterance with *because*. From Sample 15 onwards, there are numerous clauses with *because* and *if* (also see 45a):

- (64) a. If you want to jump # you press this or press this. (S 20)
 b. I just eat my hands because I not cut¹³. (S 15)

¹³ This to me does not show CP because in 'I not cut' the head of IP is empty.

- c. Because it is bedtime. (S 13)
(Haznedar, 1997, 2003)

Complement clauses with *wh*-phrases also start after Sample 15 both in questions and declarative sentences:

- (65) a. Do you know what this say? (S 16)
b. I don't know who is it. (S 16)
(Haznedar, 1997, 2003)

Regarding the production of infinitival clauses, Haznedar states that constructions with *want* appear around Sample 10 and are present afterwards (66a). The only explanation I can put forward in this regard is that these early constructions with *want* are chunks as there are no more verbs in the study rather than *want* to be produced in the whole study. Complementizer *that*, on the other hand, is never frequent in Erdem's data and occurs only a few times around the last samples:

- (66) a. I want to go new playground. (S 10)
b. I don't think that I could get xxx. (S 39)
(Haznedar, 1997, 2003)

To summarize, Haznedar's data show that during the first two or three months Erdem almost always used head-final word order that represents Turkish headedness. Haznedar takes the presence of pronominal subject, modals, copula and auxiliary *be* at early stages as evidence supporting the presence of IP. With regard to producing subjects Erdem makes very few case errors and null subjects. Unlike the overt marking with agreement that appeared early with the copula and auxiliary, Haznedar reports that at early stages main verbs lack both tense and agreement. Irregular past tense forms are produced before regular ones and optionality in producing irregular verbs lies in the lexical variation of these verbs. Erdem's early verbal negation displays a V + Neg pattern and Haznedar takes this as transfer from Erdem's L1.

Although her data show lack of CP projection at least at early stages and its projection after IP, Haznedar reports that CP is present at the earliest stages.

Based on the results of the data collected in the present study, the researcher will decide on the status of child initial L2 syntax in light of Haznedar's study and some other ones mentioned earlier.

2.9 Rote-learned chunks

Based on the results of studies done by different researchers some of whom have already been discussed (Anderson 1978; Bailey et al. 1974; Dulay & Burt 1973, 1974; Makino 1980; Stauble 1984; Zobl & Liceras 1994), Hawkins (2001) discusses evidence from L2 English that learners start building syntactic representations for the English clause with projections of thematic verbs but without an IP projection. Based on data from Myles, Mitchell, & Hooper (1999), Hawkins also suggests that the reason behind predominant use of non-finite forms in main clauses at the earliest stages of productive use, in contrast to a predominance of finite forms in later acquisition is that the finite forms are readily available in the chunks memorized by learners.

Following the morpheme acquisition order studies done both for L1 (Brown 1973) and L2 acquisition (Dulay & Burt 1973; Bailey et al. 1974; Dulay & Burt, 1974), Myles et al. (1999) showed that beginning English learners of French in classroom contexts go through three early stages in their acquisition of interrogatives: 'verbless', 'infinitive', and finally 'finite' verb stage. The first stage is characterized by the production of multiword utterances, along the lines of the young child's two-word and 'telegraphic' stages, where grammatical morphemes are still largely absent.

Under Organic Grammar, this stage is also referred to as the 'minimal tree', and may involve a second sub-stage when the learner's native language basic word order within the VP (e.g. object-verb vs. verb-object) does not match that of the target language VP (V & Y-S, 2005)¹⁴. Myles et al. observed that towards the end of the study, the subjects never used inversion to mark questions in French and used intonation instead unless while using rote-learned chunks. It was then concluded that developmental routes learners follow can not be considered as a series of interlocking linguistic systems and may have no resemblance to either the L1 or the L2 in some occasions. The similarities and differences between first and second language acquisition is so considered as an important source in theorizing about second language acquisition. While learners go through similar stages to learn a second language, the nature of the L1, speed of acquisition among different learners, the ultimate attainment, and the non-native-like nature of L2 acquisition are all among the difference in SLA process.

While learners' interlanguage data evidently show that reliance on unanalyzed chunks is very common, identifying such productions is difficult (Myles, 2005). According to Myles et al. (1999) Whereas the productive use of verb forms included mostly non-finite forms in their study, the finite forms produced were not analysed as being finite ¹⁵because they were used out of context and the sentences produced had different sense from the one that the learners intended to convey:

¹⁴ Data from early English syntactic development of a Japanese child, Jun 4;3, acquiring English (Yamada-Yamamoto, 1993) show that his first minimal tree in English displays Japanese word order. Although his minimal tree switches to English word order after several months, at both stages the boy produces non-finite forms, either bare forms or participles.

¹⁵ One approach in the L2 acquisition of verbal morphology predicts that the emergence of grammatical markers of tense and aspect are influenced by semantic categories. According to the aspect hypothesis (Andersen & Shirai, 1994; Bardovi-Harlig, 1994, 1999) the interlanguage system of tense and aspect indicates associations between the verbal morphology of the target language and the lexical aspect of the verb.

- (67) Mon petit garçon où habites-tu?
My little boy where live you
'Where does your little boy live?'

(Myles et al. 1999: 51)

2.10 Summary

Following the inability of CAH in predicting L2 acquisition phenomena, stage-like development and cross-learner systematicity came into scene in both L1 and L2 acquisition. Unlike in L1 acquisition, there was a great discrepancy in L2 acquisition regarding the morpheme acquisition order. Inconsistencies in calculation (Cox, 2005) and discrepancy in the performance of every individual (Hawkins, 2001) may play an important role in the results of different morpheme acquisition order studies. This research is concerned with those proposals that claim the initial state is indeed a specific grammar and L2ers start with L1 grammatical representations in whole or in part. These studies have got different positions regarding the presence or absence of functional categories, the degree of L1 transfer, and the morphology syntax relationship. What the present research is going to be involved in and have not been mentioned in the previous studies of L2 initial states grammars are the non-syntactic factors affecting the morpho-syntactic productions.

This study seeks to address some of the unresolved issues in previous studies and the researcher tries to find plausible answers for the following questions:

1. What is the nature of initial state in child L2 grammars regarding the projection of VP, IP and CP in English? When do they emerge?
2. To what extent does the learners' L1 affect their L2 grammar through development?
3. What is the morphology/syntax interface in the L2 child grammar?

4. Are there individual differences in child L2 grammar development?
5. What is the role of chunks/rote-learned sequences and forms?

The literature review primarily covered studies that take an FT/FA strong continuity view of child morph-syntactic development. Can a case be made for a Structure Building or Organic Grammar account? To this end, I collected data from two child learners of English whose L1 (Farsi) was in some important respects (having head final VP, null subject, head initial NegP) like Turkish (see Haznedar in 2.8.3.1) over roughly same time span. Before we look at the research methodology employed in this study, in Chapter Three we will first take a look at Farsi syntactic structure and inflectional morphology to allow us to consider whether there is evidence of transfer of learners' L1 to their L2 English.

Chapter Three: Farsi (Persian) syntactic structure

3.1 The VP in Farsi

Farsi is an Indo-European language. The standard analyses of Farsi show that VP is always head final both in main clauses (1) and embedded clauses (2) and it has a SOV word order (Mahootian, 1997). When a prepositional phrase is present it typically occurs between the subject and direct object, therefore, a more complete description of constituent order is S PP O V. Verbs are marked for tense and aspect and agree with the subject in person and number and the subject is derivable from both agreement marking on the verb and from pragmatic clues in the discourse and can be empty. Although Persian is verb-final at the sentential level, it behaves like head-initial languages in noun phrases and prepositional phrases. The head noun in an NP is often followed by the modifiers and possessors and the preposition precedes the complement NP. Certain prepositional phrases such as locative and directional PPs can follow the verb.

- (1) Ali ketab mikhanæd.
Ali book pres-read-3sg
'Ali reads book.'

- (2) Ma midanim ke Ali ketab mikhanæd.
 We pres-know-1pl that Ali book pres-read-3sg
 'We know that Ali reads book.'

Whereas in a simple transitive clause the default or neutral word order is SOV other orders are possible as a result of scrambling. This makes Farsi have relatively free word order. All scrambled results are grammatical and are semantically equal, but movement of elements is not without pragmatic consequences or implications.

- (3) Ali medad ra bærdašt (SOV)
 Ali pen OM¹⁶ took
 'Ali took the pen.'

- (4) medad ra Ali bærdašt (OSV)
 Pen OM Ali took
 'Ali took the pen.'

- (5) medad ra bærdašt Ali (OVS)
 Pen OM took Ali
 'Ali took the pen.'

- (6) Ali bærdašt medad ra (SVO)
 Ali took pen OM
 'Ali took the pen.'

Although there are modals and auxiliaries in Farsi, they do not work in the same way as in English, for all verbs in Farsi are inflected. Whereas 'tævanestan' is a modal verb in Farsi, it has been conjugated like thematic verbs. Moreover, Farsi does not have the range of meanings expressed through modals in English:

- (7) Man mi-tævan-æm be-nevis-æm
 I pre-can-1sg subjunctive-write-1sg
 'I can write.'

¹⁶ Object Marker

3.2 Pronominal subjects

Farsi is a null subject or pro-drop language like Chinese, Japanese, and Korean. The difference is that in these languages verbs have no persons and number inflections, whereas Farsi, similar to Greek, Italian, Spanish, and Turkish has rich verbal inflections and differentiated person and number marking on the verb identifies who or what *pro* refers to. These are represented in the form of the suffixes attached to the verb as shown in 12 (the suffix –am) and, therefore, under standard analysis Farsi has a head-final IP/AGRP projection. In English, a non-overt subject is impossible in finite clauses but not in nonfinite clauses, whereas in Farsi both clauses can be empty.

The pronominal subjects in Farsi are as follows:

mæn	I	ma	we
to	you	shoma	you
oo (u:)	He/she/it	anha	they

Unlike English, in Farsi there is no differentiation for the third person singular concerning gender¹⁷, but two different forms (*to* and *shoma*) are used referring to second person singular (like *tu* and *vous* in French). Sociolinguistically speaking, one always uses *shoma* to refer to a person who is in a superior position to show his/her politeness, whereas *to* shows the intimacy and friendship.

¹⁷ The pronoun 'oo' stands for 3 sg.

What makes Farsi significantly different from English regarding the use of pronominal subjects is that their morphological representation is always the same whatever case is assigned to them. The following examples clarify the point:

- (8) a. oo mæn ra did
 S/he me OM saw
 'S/he saw me.'
- b. mæn oo ra did-æm
 I him/her OM saw-1sg
 'I saw him/her.'
- c. In ketab male mæn va oo æst
 This book for my/mine and his/her/hers is
 'This book is mine and hers/his.'

'Mæn' in (8a) has an accusative case since it takes the position of the object in the sentence, in (8b) it has a nominative case accordingly, and in (8c) it has a genitive case. 'Oo' has been assigned a different case in each of the sentences as well. The same forms *oo* (he/she) and *man* (I) in the above-mentioned sentences stand for both nominative and non-nominative cases

Determining phrase boundaries in Farsi is difficult since it is a verb final language but there are no markers or cases to distinguish the subject or the objects in a sentence. No obvious markers are available to determine where the subject ends and the object or predicate begins:

- (9) mi-dan-æm che mi-goo-id
 pre-know-1sg what pre-say-2pl
 'I know what you say (mean).'
- (10) ræft-æn¹⁸ be cinema ra doost-dar-æm
 Going to cinema OM like (two-word verb)-1sg
 'I like going to cinema.'

¹⁸ Infinitives in Farsi are made by putting suffix 'an' to the end of the past tense form for the 3 sg.

Personal pronouns can also appear as clitics. Although these cliticised pronouns have the same surface form, they can function as different cases depending on the part of speech or syntactic context that they appear in. If the clitic is the last element of a noun phrase, it functions as a genitive case:

- (11) Medad- æm
Pencil-clitic 1sg

‘My pencil’

A clitic has an accusative case if it attaches to transitive verbs and prepositions:

- (12) zæd æm æš
hit (past) 1sg clitic 2sg
‘I hit him/her.’

3.3 Negation construction in Farsi

Sentences in Farsi are negated by attaching the negative prefix *næ-/ne-* to the left of a main verb or a copula (13, 14) or the beginning of the verbal part of the compound verbs (15). Compound verbs in Farsi consist of an element (noun, adjective or preposition) followed by a light verb such as the verbs *do*, *give* or *hit*. In these structures, the verb loses its original meaning. It joins to the preverbal element to form a new verb. The meaning of the compound verb can not be obtained by translating each element separately (16):

- (13) ne mi ræv æm
Neg Dur¹⁹ go 1S
‘I am not going. / I don’t go.’

¹⁹ This stands for duration or progressiveness, although it is used with simple present verbs as well and the progressive concept is usually stated through using adverbs of time.

(14) Ali tænha næ-bood
 Ali alone not-was
 'Ali was not alone.'

(15) zæmin næ xordæn
 Floor not eat
 'Not to fall down.'

(16) zæmin xordæn 'floor eat' (To fall)
 guš dadæn 'ear give' (To listen)
 jaru kærdæn 'broom do' (To sweep)

Noun phrases are commonly made negative with the preceding negative elements *hič/hiči* 'none'. When *hič/hiči* is used the verb must be negative:

(17) hiči væqt næ dar æm
 None time Neg have 1S
 'I have no time.'

Multiple or double negation is made when a nominal negative element co-occurs with a negated verb to produce a negative sentence. Some of the most common ones are *hičvæqt* 'never', *hičja* 'nowhere', *hič/hiči* 'nothing', *hičkæs* 'no one' and *hærgyz* 'never':

(18) hič ja næ ræft im
 No where Neg went 1P
 'We didn't go anywhere.'

Now that a brief description of Farsi negative structure has been presented, Farsi yes-no and wh-questions will be discussed in the next section.

3.4 Yes-no and Wh-questions in Farsi

Declaratives in Farsi are changed into interrogatives mostly by rising intonation (19a). There is only one interrogative marker '*aya*' in Farsi which is used in formal written

texts (19b) regardless of tense/agreement used in the sentence, and it is never used in spoken Farsi unless the speaker wants to emphasize on his question.

- (19) a. Medad dar- i.
 Pen have- you
 'You have a pen.'
- b. Medad dar- i? (Rising intonation)
 Pen have you
 'Do you have a pen?'
- c. Aya medad dar- i?
 Do pen have- you
 'Do you have a pen?'

In spite of freedom in word reordering in Farsi, wh-expressions are relatively fixed and remain in their non-wh-counterparts. Thus Farsi is a wh-in situ language. If all languages fall into one of two categories, including wh-movement and without wh-movement, Farsi belongs to the latter category:

- (20) a. Ali biroon ræft
 Ali out went
 'Ali went out.'
- b. Ali koja ræft?
 Ali where went
 'Where did Ali go?'

However, wh-expressions do not always stay in situ in Farsi. wh-expressions corresponding to post-verbal adjuncts must appear preverbally:

- (21) a. Ali dær xane mand čon xæste bud
 Ali at home stayed because tired was
 'Ali stayed home because he was tired.'
- b. Ali čera dær xane mand?
 Ali why at home stayed
 'Why did Ali stay at home?'
- c. *Ali dær xane mand čera?
 Ali at home stayed why
 'Why did Ali stay at home?'

The behavior of *wh*-expressions in Farsi casts doubt on the idea that all languages can be categorized into with or without *wh*-movement (Mahootian, 1997) as it is sometimes in situ and sometimes not. The issue of movement and discontinuous dependencies also arises in noun phrases including noun phrases or relative clauses in Persian. While in a discourse-neutral context argument noun phrases appear preverbally their clausal complements or modifiers can appear equally after the verb. The following example from Karimi (2001) shows this fact:

(22) mæn [un ketab I ro [ke Sepide diruz xær
 id]] be Kimea dad æm
 I [that book REL OM [COMP Sepide yesterday buy-
 past.3sg]] to Kimea give past.3sg

(23) mæn [un ketab I ro] be Kimea dad æm
 [ke Sepide diruz xær id].
 I [that book REL OM] to Kimea give past.1sg[COM
 Sepide yesterday Buy past.3sg].
 'I gave that book that Sepide bought yesterday to Kimea.'

This can be related to feature-driven movement, scrambling, or even *wh*-movement in the language. Embedded and relative clauses in Farsi will be explained in the next section.

3.5 Embedded and relative clauses in Farsi

Subordinate clauses in Farsi follow the main clause. Farsi has the optional complementizer *ke* (that) which marks both subordinate constructions and relative clauses:

(24) mæn mi dan æm (ke) u koja æst
 I pres know 1sg that he where is
 'I know (that) where he/she is.'

Ke (that) is used regardless of animacy, gender or function of the head noun. In non-restrictive relative clauses, the head noun often carries an enclitic morpheme which links the noun to the following relative clause. If the relativized noun is the object of the main sentence, it may appear with the object marker *ra* (25b):

- (25) a. mærd i ke amæd ostad æst
 Man Encl that came lecturer is
 'The man who came is a lecturer.'
- b. mærd-i-ra ke did æm ostad bud
 Man-Encl-OM that saw 1sg lecturer was
 'The man who I saw was a lecturer.'

3.6 Research questions

This chapter has presented the methodology that was used in the empirical study, as well as a brief description of Farsi syntactic structure. The aim is to investigate the extent of L1 transfer through comparing the two learners' use of English presented in Chapters Five, Six and Seven with the Farsi structure presented in this chapter. These results will also be compared with the results of those studies in child and adult L2 acquisition presented in Chapter Two. Based on these comparisons, a plausible account of how the early interlanguage grammars work will be proposed. This study will suggest answers for the following questions:

1. What is the headedness of the early VPs produced by the two learners?
2. What is the status of functional categories in the initial grammars of the two Farsi-speaking children in this study and when do they emerge?
3. Is there L1 influence in the early lexical and functional categories?
4. Is child L2 acquisition similar to child L1, adult L2, or neither?

5. What are the non-syntactic factors affecting L2 learners' acquisition of morpho-syntax?

Chapter Four: Methodology

4.1 Introduction

The first studies on child language acquisition began to appear over one hundred years ago. These were part of a general interest in child development that occurred at that time led in many respects by the work of G. Stanley Hall in North America and William Preyer in Europe. For the first time in the history children became the focus of study to determine the way in which they develop in general. The method selected was parental diary. The linguist or psychologist parent would keep a diary of his/her child's learning over some period of time (see L1 studies discussed in Ingram, (1989) as well as Wode's (1978) study of his four L1 German, L2 English children).

Collecting data from children is a challenging and demanding activity which requires patience and accuracy. The investigator should make the data collection a pleasant task for the children to feel comfortable while being studied. The questions should be related to their interests and free of repetitions. If the children are given lots of input regarding a specific structure through repetition, their production will likely be unnatural and based on memorization. There should be, on the other hand, enough production by the learners of a construction under study since a small number of productions can not be a good indication of the subjects' underlying grammars related

to that structure (see Cox, 2005). This contradiction makes data collection a difficult task.

The organization of this chapter is as follows. In 4.2 the subjects of the study will be introduced. The different methods of data collection employed in the study will be presented in 4.3. Data transcription is explained in 4.4. Those tests administered to trace the individual differences noticed in the study will be mentioned in 4.5.

4.2 Subjects of the study

The English data in this study is based on oral production gathered longitudinally from two Farsi-speaking children, Melissa 7;4 and Bernard 8;4²⁰ (sister and brother; from now on in this study M & B) who at the start of data collection had not been exposed to English upon their arrival in the UK on 26 February 2003. They lived in university student family accommodation where there were many native and non-native children available to talk to. They started going to an English school for six hours a day immediately after their arrival, on 1 March 2003, attending in year two and year three classes respectively. There were no other Farsi speaking children in that school and they had to interact in English during six hours of school each day. An English woman who could also speak Farsi helped them at school during the first month of their arrival for no more than three or four one hour sessions in total. This was intended to help the children to adjust psychologically. Their father (the present researcher) was a PhD student in the UK at the time of the study and they therefore

²⁰ The subjects of the present study are taken by most researchers mentioned in 2.8.1 to be within the appropriate range to be considered as children.

expected to stay in the UK at least for three years. Their physical and mental development was age-consistent and they did not suffer from any speech or language impairments. At school there was a teacher responsible for working with international students. They had a one-hour session per week for eleven months during school time during which he gave them some pictures to describe or to write a story about, and they were given some books to read and talk about. He encouraged them to talk and to be expressive. At home, they watched British television and became interested in reading different kinds of books in English.

Data collection started on 20 April 2003 which is about 50 days after the learners' arrival and the learners can be considered as being in their initial states of L2 acquisition. This study is different from some child L2 studies (e. g. Grondin & White, Lakshmanan & Selinker, see Chapter Two) based on data being collected relatively long after initial exposure. Since the researcher was not a native speaker of English, two native speakers who were teachers as well as linguistics students at the time helped him in the data collection process. The data were collected for 20 months. Audio-recordings were made roughly once a week, but sometimes every other week or even once a month when the assistants were away. Recording would start after five or ten minutes of greetings and warm-up. Each recording varied in length from 90 to 120 minutes. 41 samples were audio-recorded, transcribed and analyzed. These data have been gathered in three different forms. Table 4.1 shows the data collection interval as well as different types of data gathered in this study.

Table 4-1: The date and type of data collection for Samples 1-41

Sample	Date of collection	Data type
1	20.04.03	Spontaneous
2	01.05.03	Spontaneous
3	09.05.03	Spontaneous
4	17.05.03	Spontaneous + Translation + Diary
5	22.05.03	Spontaneous
6	30.05.03	Spontaneous
7	07.06.03	Spontaneous + S.I ²¹
8	15.06.03	Spontaneous + S.I
9	23.06.03	Spontaneous
10	29.06.03	Spontaneous + Translation + Diary
11	06.07.03	Spontaneous
12	12.07.03	Spontaneous + S.I
13	23.07.03	Spontaneous + Translation + Diary
14	30.07.03	Spontaneous + Translation
15	08.08.03	Spontaneous
16	15.08.03	Spontaneous
17	22.08.03	Spontaneous
18	29.08.03	Spontaneous
19	05.09.03	Spontaneous + Translation + Diary
20	11.09.03	Spontaneous
21	20.09.03	Spontaneous + Diary
22	29.09.03	Spontaneous
23	18.10.03	Spontaneous
24	01.11.03	Spontaneous
25	16.11.03	Spontaneous
26	23.11.03	Spontaneous + Translation + Diary
27	29.11.03	Spontaneous
28	16.12.03	Spontaneous + Diary
29	30.01.04	Spontaneous
30	14.02.04	Spontaneous
31	06.03.04	Spontaneous
32	13.04.04	Spontaneous
33	08.05.04	Spontaneous
34	19.06.04	Spontaneous
35	16.07.04	Spontaneous
36	08.08.04	Spontaneous
37	20.09.04	Spontaneous
38	23.10.04	Spontaneous
39	11.11.04	Spontaneous
40	23.11.04	Spontaneous
41	06.12.04	Spontaneous

²¹Sentence Interpretation

The tape-recorded data were either spontaneous speech production or based on production tasks (e. g. oral translation from Farsi into English) in which the items were intended to elicit evidence for specific kinds of structure which the researcher was looking for. The researcher planned these and explained to the data collector. During the first two or three sessions the children were shy at being recorded as well as nervous about what this would involve. After a while they changed to two little research helpers who tried to follow what they were asked to do by the researcher and data collectors and who were curious about what this was all for. These two little helpers who initially were reluctant to speak changed to two chatterboxes who sometimes did not take turns to speak and the data collector had no alternative but to sit in the corner and listen to what they were saying. They were always told by the researcher that one day the researcher's supervisor would come and ask them some questions and the one who answered better would be awarded a prize by her and this made them greedier to speed up and overtake each other. This strategy was very helpful but they needed to be reminded of that every now and then when they really felt exhausted and fed up by many tiring questions.

4.3 Method of data collection

4.3.1 Spontaneous data

Vainikka & Young-Scholten (1994, 1996a, 1996b) assume that spontaneous production data provide a relatively reliable window onto the underlying grammar of the learners. Meanwhile, this is not the only method of data collection they use in their studies. V & Y-S (1994, 2001) use narrow elicitation tasks as well in order to

give the learners opportunities for production. The reluctance of children to produce some constructions in the initial states may lead to lack of evidence and affect the result of the study, and as already mentioned, the absence of evidence is not evidence of absence (Unsworth, 2005). In this research some elicited data have been collected as well.

4.3.2 Elicited data

In the early samples the two learners were given some sentences to translate to test for possible different VP and NegP headedness, as well as the presence or absence of copula or auxiliary in their productions. These sentences have been labeled as 'T'. The researcher observed that the headedness of VP with thematic verbs can not be initially determined as all the early sentences contained copula unless the learners were given some sentences in Farsi to translate into English. The researcher also observes that the head of NegP in the learners' productions depends on whether the sentences produced are spontaneous production or are produced through a translation task. As discussed in subsequent chapters, when the sentences are spontaneous, the position of the negation marker is flexible and can either proceed or follow the verb, whereas in the children's translations, the negation marker always precedes the verb when the verb is a single-word one, and follows the verb when the verb is a compound verb (see 3.3). This suggests that the learners do not know where the negation marker should exactly be. If they are really following their L1, the negation marker should have a fixed position regardless of the method in which the data have been collected. The rate of copula and auxiliary is also lower in elicited data compared to the spontaneous data which show the rote-learned nature of early copulas as a result of feedback received from the data collector.



4.3.3 Diary data

Since the researcher was in close contact with the subjects, he had the advantage of collecting diary data as well. Diaries were mainly written when the subjects were playing or talking to their friends who were always around and asking them to play some games. The main advantage of diaries according to Ingram (1989) is that the observer knows the child. However, diaries are criticized for being biased in that the parent just records important developments. Moreover, diaries are full of gaps when the child or parent is away for some reason. Although diary studies are longitudinal, they usually consist of notes rather than complete language samples for predetermined length of time (Ibid). Diaries are also subject to memory constraints and unconscious editing, and that is why in the present research the diaries have supplemented the recorded sessions. The quality of diaries can vary from a rich account to a sketchy report so that the data can not be really considered to be comprehensive and deep (Fry 1988). Problems in data analysis including definition of categories, the open-ended nature of the data and reliability of coding and interpretation are the other shortcomings of diary studies (Bailey 1991). The researcher of the present study has tried to gather diary data free of all the aforementioned disadvantages, but did not rely on these data exclusively as earlier studies did.

Diaries are an advantage, on the other hand, by allowing parent researchers to examine processes that are not directly accessible to outside researchers. This kind of data collection also helps the researcher to better understand language learning variables from the learner's point of view (Faerch & Kasper 1987). Moreover, the present researcher noticed that the nature of data collection has an effect in the two children's productions. Diaries diminish the risk of rote-learned chunks produced as a result of being repeated for several times by the investigator during the data collection

period since some of the structures produced are mere repetitions. This will be elaborated on in 5.4 when the production of copula *be* is discussed. The diary data gathered in this study are not in the form of single samples. They have been collected while the two subjects have been talking or playing together or with their friends. These utterances have been included in the nearest chronological sample. To distinguish them from the audio data collected regularly, the researcher labeled them as 'D' rather than S while presenting utterances throughout this research.

4.3.4 Sentence interpretation/comprehension

There are three samples (7, 8 and 12) where children were asked about their interpretation of sentences they had heard (henceforth sentence interpretation/comprehension task/SI). In natural production the subjects might not produce some of the forms or constructions in sufficiently high frequency in their data to give a clear idea to the researcher about the underlying grammar. Since the investigator was the person who was asking all the time while the subjects were just answering, this task was used mainly to test children's comprehension of yes/no and wh-questions. These sentences have been labeled as 'SI'.

4.4 Data transcription

The spontaneous data gathered in this study includes 41 samples collected during 20 months. All these files have been transcribed by the researcher using standard orthography and a data base containing 8,536 utterances has been made. Unclear or very odd sentences have not been included in the counts, but repetitions of the same structure while the subjects were struggling to monitor themselves and correct a

wrong structure have been included. Since this study is based on syntactic performance, following Vainikka & Young-Scholten (1994, 1996a, 1996b) and Haznedar (1997), the researcher put emphasis on complete sentences rather than short phrases and to do this, those sentences containing at least a verb and additional VP-related material which are not imitations or idiomatic phrases have been counted in this study unless there has been an obligatory context for the verb but it has been missed (3). Following Vainikka & Young-Scholten (1994), although incomplete sentences have not been counted, they have been added as obligatory contexts where a complete sentence has been required according to the context.

- (1) R²²: What is this?
 B: Apple. (S 5)
- (2) R: Which one do you like?
 M: My # #. (S 6)
- (3) B: Not funny. (S 4)

The researcher used only three transcription symbols used in CHILDES (MacWhinney & Snow 1985) to code the utterances. These include ‘#’ standing for pause (sentence 2), ‘+/' standing for incomplete utterances, and ‘xxx’ for unintelligible ones.

- (4) R: Could you sing a song when you were two years old?
 M: No, I can't song +/. (S 23)
- (5) B: What colour is dress xxx? (S 13)

To code the data appropriately, the researcher made an ACCESS file where all 8,536 sentences were put in and divided into different categories for coding and counting purposes to trace the two learners' verbal morphology production.

²² In this study R stands for either data collector or the researcher. B. & M. stand for Bernard & Melissa (pseudonyms) respectively as noted above.

4.5 Tests of individual differences

This study primarily focuses on the initial state and structure building versus full transfer in child L2 acquisition of English. Despite having the same L1, being the same age, being in the same environment, and getting the same input, a large ongoing discrepancy in accuracy was observed for the two subjects regarding their production of inflectional morphology, specifically third person singular *-s* and regular past tense *-ed*. Those factors that may be the source of these differences such as content of children's schooling, amount of time they spent reading, intelligence, working memory capacity, as well as processing procedures are considered in Chapter Eight. The researcher had access to another L1 Farsi-speaking boy, Thomas (pseudonym), who had come to England six months earlier than the two subjects of this study and spent most of his time with them at school²³ and home and was the same age, 9;10, (at file 38 which was 18 months after file 1) sex, and level in school as B, produced much fewer 3sg *-s* and *-ed* morphemes than both B and M. The researcher collected three files (38-40) over a month (23.Oct.04-23.Nov.04) regarding his morpho-syntactic production and involved him in the individual differences tests to further explore individual differences.

To this end, the researcher administered four different tests in April 2005. The first test was WASI (Wechsler Abbreviated Scale of Intelligence), an intelligence test. The second test, WORD (Wechsler Objective Reading Dimension), aimed at evaluating the subjects' aptitude. The automated working memory assessment test was the third one, evaluating the subjects' cognition level. The last test administered was the PhAB (Phonological Assessment Battery Test), which assesses phonological

²³ B and M changed their first school after two months and went to another school where there was one Farsi speaker boy.

awareness, processing speed, and fluency. The details of these tests and their administration are presented in full in Chapter Eight, before the results of these tests are discussed. All these tests were administered in English because at the time of administering the tests all the learners had a good and roughly appropriate age level of English and had no problem in comprehending or performing what they were required to do in these tests.

Chapter Five: Early stages of development: The acquisition of VP

5.1 Introduction

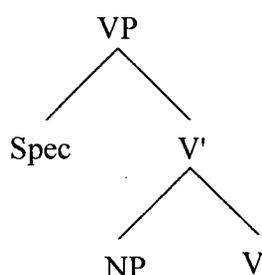
As was discussed in Chapter Two, all the hypotheses regarding the initial state of (adult) second language acquisition (Minimal Trees, Full Transfer/Full Access, Valueless Features, and Modulated Structure Building) propose that there will be at least initial transfer from the L1 of the properties of lexical categories. It means that if the verb follows its complement in the VP in the L1, this will be transferred into the L2. Being exposed to sufficient L2 input, these transferred properties will be changed in favor of the L2 pattern. The question is whether there is evidence for functional categories at this stage. I will argue in this chapter that the data in this research support the idea that learners transfer the L1 value of their parameter for the headedness of VP.

5.2 Early verb phrases

This study tries to make as strict as possible the criteria to decide whether the verb in the initial state is in the VP or it has been raised to a functional projection. In Vainikka & Young-Scholten's (1994) study of (adult) L2 acquisition of German by

speakers of different L1s²⁴, they concluded that the verb is considered to be in the VP if it is preceded by an object, an adverb, or other PP arguments or adjuncts. If the verb is followed only by one of the following elements, it is considered as being raised from the VP. As was already mentioned in Chapter Three, the canonical word order in Farsi is SOV.

(1)



Although there were not many (see below) sentences containing thematic verbs in the earliest samples, a high percentage of the early verbs (see Figure 5.1) followed their complements in these sentences. To calculate the extent of XV vs. VX utterances produced in the early productions of the two learners, those utterances which contain a thematic verb and at least another VP-internal constituent were counted. Early thematic verbs were produced in Sample 4 while asking the subjects to translate (see below) some sentences from Farsi into English. A high proportion of the thematic verbs produced up to Sample 7, 21 out of 23 (91.30%), are in an SOV word order. In (2d) and (2e), the verb *have* which is also placed in final position in the VP, semantically means *to be* (3sg) and has been produced by both subjects most probably

²⁴ It should be noted that this applied to (adult) speakers of head-final Turkish and Korean learning head-final German. In a more recent one, Haznedar (1997) also applied these criteria for a (child) speaker of Turkish learning head-initial English.

due to similar phonological appearance of *have* with the verb '*hast*' meaning '*to be*' in Farsi. Some of the early utterances are given in (2):

- (2)
- a. B: My ice cream like. (T 4)
'I like ice cream.'
 - b. M: My can football play. (T 4)
'I can play football.'
 - c. B: Mum salad food # fooding. (T 4)
'Mum is eating salad.'
 - d. B: Shell water has. (S 7)
'The shell is in the water.'
 - e. M: Spot cupboard have. (S 7)
'Spot is in the cupboard.'
 - f. M: The chicken on the tractor sitting. (S 8)
'The chicken is sitting on the tractor.'

The reason behind the strategy of giving the subjects the translation task is that restructuring towards the L2 may be so rapid that makes the detecting of the initial transfer next to impossible, especially when the subjects do not have enough thematic verbs in their vocabulary to use. Moreover, the researcher wanted to explore the idea that word order is implicitly acquired by the learners by giving the learners two possible forms in the L1 to find the probable different production in their L2. For example, when the learners were given a null subject sentence, since Farsi is a pro-drop language, the English equivalent would be without a subject as in (3). When they were given a Farsi sentence with a subject, the English equivalent was produced with the subject although these subjects do not often assign case as in (4a)²⁵. Although this task may lead to the children just plugging English words into Farsi syntax, it is a further indication that the learners have not yet acquired English syntax.

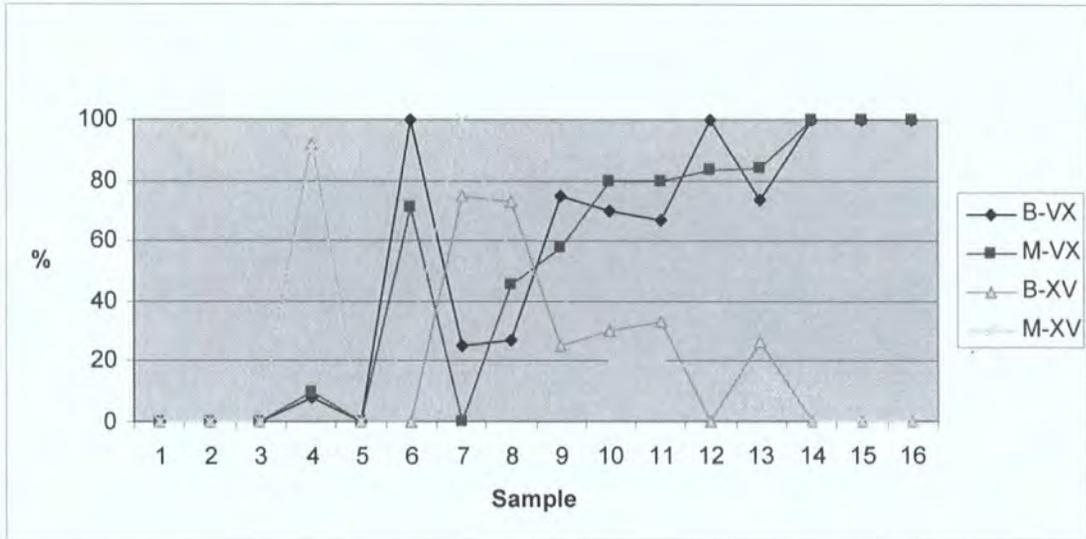
- (3)
- a. M: Can football play. (T 4)
 - b. B: Tennis play. (T 4)

²⁵Corder observed early on that L2 learners initially regress to a basic language characterizing L1 acquisition in which grammar is determined by semantic and situational contexts rather than by syntax and the lexical-thematic nature of the elements in the learners' grammars exceed the functional-nonthematic ones.

- (4) a. M: My can football play. (T 4)
 b. B: We tennis play. (T 4)

Figure 5.1 shows the percentage of XV vs. VX productions in the learners' early sessions.

Figure 5-1: Percentage of VX vs. XV utterances



Up until Sample 8, B. produced 17 out of 35 (48.5%) XV utterances and M produced 18 out of 34 (52.9%). The first VX utterances are produced in Sample 6. The XV production rate gradually decreases from Sample 9 to 11 (24% and 27.9% for B and M respectively). This is very similar to Haznedar's study as Erdem uses VX order consistently from Sample 9 on. The headedness of the VP in the present study completely changes to head initial as in the English by Sample 14. There are no XV utterances produced in the whole study after Sample 14 ²⁶except for the example given in (5). This is again similar to Haznedar as Erdem stops using XV utterances in Sample 12. From this sample on, Erdem uses XV order once in each sample from Sample 14 to 17 out of 244 utterances.

²⁶ This is when the functional categories are supposed to emerge in this study.

(5) M: I likes sleepy story read.

(S 17)

The similarity of these two studies with regard to shift of VP headedness could count as a robust finding that child L2 learners switch headedness around the same time.

As was mentioned in Chapter Two, functional categories (IP, CP) are related to syntactic properties. Lack of nominative case assignment, absence of target-like copulas, auxiliaries, and modals (except those produced as a chunk or as a result of repetition), and non-existence of T(ense) and Agr(eement) during these 14 samples argue for the absence of functional categories (IP) in children's early grammars. Although some copulas are produced before Sample 14 they are not used consistently and some of them are not target-like. If mastery is the criterion (see 2.3), the learners would only be at the FP stage (see 2.6.2.3).

SOV order is not observed in copular constructions. This may have two reasons. The first reason is that the majority of obligatory contexts for the copula lack the copula. The second reason may be that learners in the initial stages do not use non-finite copula forms. Finally early copula constructions may be readily available in the chunks memorized by the learners where the learners do not recognize these forms appearing in chunks as finite verbs. The following examples show how the learners copy the investigator by using the same word order used in questions for answering her:

(6) a. R: Is this a notebook?

B: No, is this a book.

(S 10)

b. R: Whose bicycle is this?

M: My bicycle is this.

(S 10)

This is in line with what Myles (2004) claims regarding the predominant use of non-finite forms in main clauses in the earliest stages of productive use. It is evident in the present study that B and M initially used pronominal subjects plus copula as chunks

and if the subject, for example, is lexical rather than pronominal, the copula is missing as well.

The few (two) VX utterances produced in Sample 4 are with auxiliary 'is' and can be analyzed as rote learning since the learners produced them right away after being given lots of sentences with *-ing*. The high percentage of XV utterances before and after these utterances further indicates their rote nature. This will be discussed in Chapter Six while referring to auxiliary production.

- (7) a. B: She is open the door. (S 4)
c. M: She is brushing her teeth. (S 4)

Under structure building, there is a direct relationship between non-raised verbs and lack of subjects in the utterances. Although there were few null subjects with thematic verbs in this study (only 41), 19 out of 28 (67.85%) bare VP produced up to Sample 14 include null subjects, as shown in examples in (8). This also emphasizes the correlation between the existence of non-finite²⁷ verbs and utterances with null subjects:

- (8) a. M: Can football play. (S 4)
b. B: Monday apple eat. (S 9)
c. B: One sister have. (S 9)

As has been found by many researchers (V & Y-S, 1994, 1996a, b, Haznedar, 1997, among others) the fact that an L1 (Farsi in our case) has a subject-verb agreement paradigm does not give the learners the advantage in putting agreement markers at the end of the verbs at this stage; Verbs are not inflected with agreement markers. Under structure building/organic grammar, if copulas, auxiliaries and modals are base-generated in INFL, their production is unexpected at this stage.

²⁷ The verbs are considered to be non-finite regardless of the person they refer to as the learners have not changed the headedness of the VP to the target like form yet and they produce no IP-related elements at this point in their development.

Early production of copulas also shows the nature of early stages of L2 acquisition. Copula *be* is among the first verbs appearing in the earliest production of both subjects mostly in the form of *It's a....., It is a.....* as in (9).

- (9)
- | | | |
|----|---------------------|-------|
| a. | B: It is a table. | (S 3) |
| b. | B: It's a bed. | (S 4) |
| c. | M: It is a butter. | (S 4) |
| d. | B: It's a flower. | (S 5) |
| e. | M: It is a octopus. | (S 5) |
| f. | M: It is a duck. | (S 6) |

Despite the high frequency of these two forms from Sample 3 on, a high percentage of copulas were non-target-like (inappropriate use, lacking consistent agreement with the subject), which may indicate the unanalyzed nature of early copulas. It seems that they have got some sort of communicative strategy through using *it is (a)* as they were more or less forced to produce English before they knew much:

- (10)
- | | | |
|----|--|-------|
| a. | R: What is the doll doing? | |
| | B: It is a cry. | (S 3) |
| b. | R: What are these? | |
| | B: It is a cars. | (S 3) |
| c. | R: What is the lion doing? | |
| | B: It is a food. | (S 3) |
| d. | R: What time is it? | |
| | B: It is a # clock. | (S 4) |
| e. | R: Do you remember how many legs it has? | |
| | B: It is a eight legs. | (S 5) |
| f. | R: Where is the cup? | |
| | M: It is a cup. | (S 5) |
| g. | R: What colour is that one wearing? | |
| | M: It is a blue. | (S 5) |
| h. | R: Do you like that? | |
| | M: It is a star. | (S 6) |

All examples in (10) show the unanalyzed nature of the early copulas in the form of *It's a* or *It is a* and, therefore, in the first 6 samples of the present study, utterances beginning with these forms are not included in the counts.

The researcher devised the following categorization for an accurate picture of the subjects' copula *be* acquisition. The produced copulas are divided into correct suppliance, incorrect suppliance, and missing. To clarify the categorization, an example is given for every category:

Correct suppliance:

- (11) a. R: How many are they?
B: They are two horses (S 5)
b. R: Who am I?
M: You are Caroline. (S 8)

Incorrect suppliance:

- (12) a. R: What time do you go to school?
B: It is 9 o'clock. (S 7)
b. R: What are they?
M: Whe I nine animals. (S 8)
'There are nine animals.' (whe I = noise)

Missing:

- (13) R: Where are the books?
M: The book on the table. (S 6)

The counting procedure for copula adopted in this study is to divide the number of correct suppliance copulas by the total production for it. The first obligatory context for both subjects occurred in Sample 3. Excluding the forms *It's a* and *It is a* which are not counted, there were 4 other copulas produced in this sample:

- (14) a. R: What are these?
B: You are trousers. (S 3)

- b. R: What is this in Maisy's hand?
M: Maisy is hand. (S 3)
- c. R: Where is the book?
B: Book it is on the table. (S 3)
- d. R: Where is the book?
B: It is a book on the table. (S 3)

Although copula *is* is used in obligatory contexts, there are also many *is* used out of context. Moreover, up to Sample 12 there is no copula *am* produced by either learner except (15a) and even after that it is used in an inappropriate way (b, c, d), replaced by *is* (e), or is totally missed (f, g).

- (15) a. R: Who are you? Are you B.?
M: No, I'm M. (S 7)
- b. R: Do I like dogs?
B: No, I am not like dogs. (S 12)
- c. R: What is your favourite colour?
B: I am like a blue, pink. (S 12)
- d. R: What do you see in this picture?
B: I'm see a boy and baby. (S 12)
- e. B: My is a good student. (T 13)
- f. M: My not a boy. (T 13)
- g. B: My not a girl. (T 13)

It is not clear that *is* is a copula in these sentences²⁸. Both subjects used copula *is* in place of thematic verb as well as accompanied with a thematic verb in many occasions. This is even clearer in the examples in (16):

Context: The researcher showed them some pictures to describe:

- (16) a. M: She is hat, she is no hat. (S 5)
'She has a hat; she does not have a hat.'
- b. M: She is a socks. (S 6)
'She has socks.'
- c. M: She is banana. He is not banana. (S 6)
'She has a banana; he doesn't have a banana.'
- d. B: She is hat, she is no hat. (S 6)
'She has/is wearing a hat; she doesn't have/is not wearing a hat.'
- e. B: My is like football. (S 8)
'I like football.'

²⁸ This is similar to Lakshmanan's (1993/1994) study where Marta uses the preposition *for* as a substitute for copula/auxiliary/thematic verbs: 'This is the boy for the cookies', although Lakshmanan takes this *for* as an IP-related element

Similar to the present study, Ionin & Wexler (2002) also observed oversuppliance of 'is' in their study of 20 L1 Russian children ranging in age from 3;9 to 13;10 acquiring L2 English. Some of the learners used forms of *be* in utterances containing an uninflected thematic verb. Above all, they concluded that the majority of utterances were not intended as progressive (17a) and include generic (b), stative (c), past (d) and future (e) meanings as well (see example 17). Wagner-Gough (1978), discusses data from a Farsi-speaking child (Homer) acquiring L2 English and observes that progressive *-ing* indicates 4 different time periods (see below in this section).

- | | | |
|------|---|--|
| (17) | a. The cats are pull mouse's tail. | (AN, 10; 1) |
| | b. They are help people when people in trouble. | (DA, 1, 9; 7) |
| | c. He is want go up then. | (GU, 3; 9) |
| | d. He is run away, I stayed there. | (GU, 3; 9) |
| | e. I'm buy for my mother something. | (AY, sample 2, 10; 4)
(Ionin & Wexler 2002) |

In line with the Minimal Trees (Vainikka & Young-Scholten, 1994, 1996a,b), Modulated Structure Building (Hawkins, 2001), Valueless Features hypotheses (Eubank, 1993/1994) and Myles (2004, 2005), arguing that syntactic features are not established until speakers show productive use of the related morphology in their utterances, where tense and agreement morphology appearing initially on verbs is just noise, the researcher noticed that both subjects produced lots of non-target-like forms and noise:

- | | | |
|------|---|-------|
| (18) | a. R: Is this grass?
B: No, is not a grass. | (S 6) |
| | b. R: Where are the teddy bears?
M: whe are two teddy bears.
'There are two teddy bears.' | (S 6) |
| | c. B: These a green
'These are green.' | (S 6) |
| | d. M: They I two daisy. | (S 7) |

- 'They are two daisies.'
- e. R: Does she have a bag? (S 8)
M: She is handbag. (have a bag = handbag)

Schwartz & Sprouse (1996) and Epstein et al. (1998) assume that any production of functional elements indicates that learners have full competence with respect to these functional categories. Grondin & White 1996; White 1996; Lardiere (1998a) also argue that if a morpheme is productively used in performance even in a small number of instances, it indicates that the underlying syntactic structure of the morpheme has emerged. Haznedar (1997, 2001, 2003) (see 2.8.3.1) takes suppliance rather than the target-like use of copula as the only reasoning for existing IP. She states that the majority of the copulas produced were *is* although she observed some *am* and *are* as well in her data. Hawkins (2001), on the other hand, states that the suppliance of morphemes on obligatory occasions does not necessarily mean that the learner has assigned the same interpretation to the morphemes as native speakers of the target language since the morpheme may also be used in a context where it should have not been used as the data in the present study show. Using different methods of data collection allows us to more confidently claim that early *is* does not represent that the functional categories have been projected in the learners' grammars.

Looking at the examples in (15), if the mere suppliance of the copula indicates the emergence of the underlying syntactic structure, the rate of production in Sample 3 for both subjects is 100%, but if the correct suppliance is the criterion, the production rate is 0%. To address this issue and to find the reason behind fluctuation in producing copula especially during the early samples, the researcher adopted two criteria. As mentioned in 3.3.1, there were also some data gathered through diary collection (D) and translation (interpretation) tasks (T) in this study. Up to Sample 6, there were eight sentences collected in these two ways where there is an obligatory

context for copula production. This is the first criterion to see if there is any difference in copula production as a result of different data collection methods.

Context: B. and M. were disputing and the R. was overhearing²⁹:

- (19) a. B: Not funny. (D 4)
'It is not funny.'
- b. B: M., now you bad. (D 4)
'Now you are bad.'
- c. B: You bad don't. (D 4)
'You are not bad.'
- d. B: M. girl good. (D 4)
'M. is a good girl.'
- e. M: B. boy good (D 4)
'B. is a good boy.'
- f. B: Don't funny. (D 4)
'It's not funny.'

Context: Showing the learners some pictures and asking them to say something by giving them Farsi sentences:

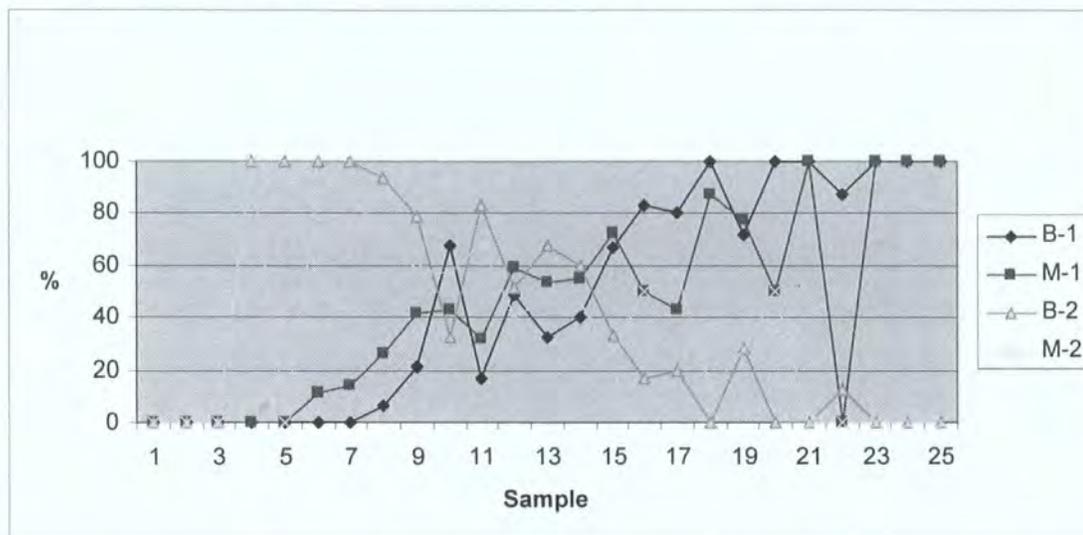
- g. R.: Say this woman is not happy:
M: Happy not. (T 5)
'She is not happy.'
- h. R.: Say no, it is not a pen:
M: No, pen not. (T 5)
'No, it is not a pen.'

In all the above sentences in (19) copula is missing, whereas in (14-18) it has been produced, but in an inappropriate way.

The researcher then compared copulas produced where the subject was a pronominal one versus those with lexical subjects to see whether this plays any role in subjects' copula production (see Figure 5.2). During Samples 6 to 9, the production of copula with pronominal subjects for B and M is 45.21% and 38.29% respectively whereas the rate of copula produced with lexical subjects during the same period for the subjects is 3.07% and 17.02%. Some examples are given in (20).

²⁹ Although they had not acquired good English, sometimes they spoke English while playing together or disputing over something. This was a good opportunity for the researcher to collect data outside the structured data collection sessions.

Figure 5-2: Lexical subjects with or without copula or auxiliary



B-1 Lex. sub. with copula/aux. B-2 Lex. sub. without copula/aux.
M-1 Lex. sub. with copula/aux. M-2 Lex. sub. without copula/aux.

- (20)
- | | | |
|----|--------------------------|-------|
| a. | B: Book on the table. | (S 6) |
| b. | M: Boat small. | (S 6) |
| c. | B: They are four cats. | (S 6) |
| d. | M: You are not girl. | (S 6) |
| e. | B: Clown on the box. | (S 7) |
| f. | M: Pen on the radio. | (S 7) |
| g. | B: They are two dogs. | (S 7) |
| h. | M: It is a blue. | (S 7) |
| i. | B: Her hair yellow. | (S 8) |
| j. | B: They are three bread. | (S 8) |
| k. | M: Her skirt black. | (S 8) |
| l. | M: They are pictures. | (S 8) |
| m. | B: His face a red. | (S 9) |
| n. | M: Honey on the table. | (S 9) |
| o. | B: It is a blue. | (S 9) |
| p. | M: No, it is a moon. | (S 9) |

Although the two subjects produce sentences with copula and auxiliary from the very early stages, the nature of these early emergences shows that they are not base-generated in INFL. This can also be easily understood through observing the occurrence of auxiliaries with verbs in head-final VPs in (21). This shows that early non-finite forms can be produced either in bare form or in V+ing form. Missing subject (c), non-pronominal subject (a), head-final verb (b, e) in the following examples show the rote-learned nature of early copula and auxiliaries:

- (21) a. M: My is rope pulling. (S 8)
 b. M: Mummy is TV look. (S 9)
 c. B: No, is not your looking. (D 10)
 d. B: She is my looking. (D 10)
 e. M: The cat is egg eating. (S 11)

It seems that from Sample 8 on the learners have projected an FP. This is due to production of IP-related forms in an unanalyzed form. This continues up to Sample 14 where I argue that IP is projected. The non-availability of functional category (IP) can also be understood through case assignment, which appears not to be operative in the early stages of L2 acquisition in this study as indicated in the above examples that show the early subjects are in the Spec, VP. Regarding the learners' pronominal forms and related elements, both nominative subjects and non-nominative or oblique subject pronouns are attested in their production. The systematicity observed in the distribution of the oblique subjects suggests that these forms have a syntactic basis, instead of reflecting random performance. The non-pronominal subject *my* was used by both learners up to Sample 12.

Now let us look at the early production of auxiliary *be*. The first obligatory context for producing auxiliary *be* is in Sample 3 where the auxiliary is missed (22a), produced correctly (b), emerged without thematic verb (c), or the *-ing* morpheme is attached to non-verb elements:

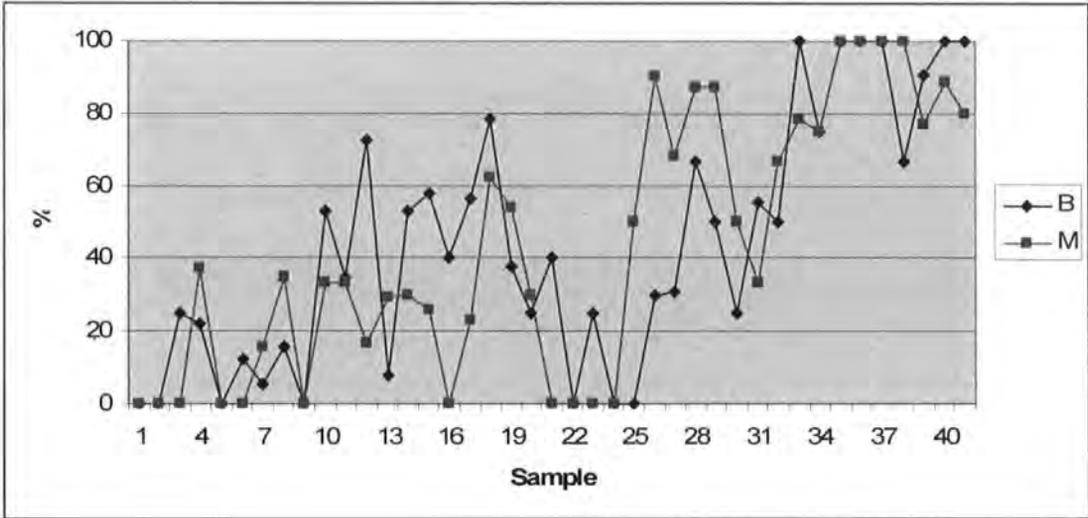
- (22) a. R: What is the camel doing?
 M: Camel doing. (S 3)
 b. R: What is the dog doing?
 B: It's a running. (S 3)
 c. R: What is Maisy doing?
 M: Maisy is cake. (S 3)
 d. R: What is this?
 B: Lamb # # she is lambing. (S 3)

The counting procedure and categorization is exactly the same as those of copula. Appendix B-3 presents the number and percentage of the production of

auxiliary *be* in each of the subcategories. The earliest present progressive forms (see Figure 5.3 for the percentage) lack auxiliary (23a, b), the *-ing* morpheme (c), or both (d), or are produced in a way which indicates their rote-learned nature (e, f):

- (23) a. B: Mum salad food # fooding. (T 4)
- b. M: Mum salad eating. (T 4)
- c. B: You are open the door. (S 4)
- d. R: What is she doing? (S 4)
- M: You are she is thinking. (S 4)
- e. R: She is brushing her teeth. What am I doing?
- M: She is brushing her teeth. (Pointing at R.) (S 4)

Figure 5-3: Percentage of auxiliary *be*



From Sample 3 up to Sample 9 the auxiliary *be* production rate for B and M is 13.63% and 25.3% respectively. From Sample 10 to 20 the rate of production increases and reaches 46.97% and 34.40% but there is still a high fluctuation in their productions. What is quite evident regarding the auxiliary *be* is that the fluctuation in auxiliary production is much more than copula production. Following Zobl & Liceras (1994) (see 2.6.2.5), Hawkins (2001) explains this by proposing that copula *be* can freely select adjective phrases (24a), noun phrases (b), or prepositional phrases (c) as

complements whereas auxiliary *be* can only select VP (d) as complement providing that the V has *-ing* inflection as well and this complex selectional requirement makes it difficult to acquire:

- (24) a. She is [AP very [A fit [PP for her age]]]
 b. John is [NP [N a fool [PP with his money]]]
 c. They are [PP in [NP the garden]]
 d. She is [VP writ-ing [NP a novel]]
 e. *She is [VP write [NP a novel]]
 f. *She is [VP writt-en [NP a novel]]

(Hawkins, 2001)

Omission of auxiliary *be* in some utterances is consistent with the presence of IP for Haznedar (1997) because such a thing is normal in spontaneous production, and because Erdem makes no syntactic errors in verb raising (see 2.8.3.1). She also refers to Grondin & White's (1996) argumentation that showing evidence of using a category, even not consistently, suggests that the category is available to the learner, as already noted several times above. What I observed in this study was that aspect was not operating in the grammars of the subjects since they used both *ing*-inflected and non-inflected verbs mostly lacking auxiliaries or lacking agreement at the same time which emphasizes the superficial nature of early progressive constructions:

- (25) a. R: What is Spot doing?
 M: Spot go to the garden. (S 7)
 b. R: What is dad doing?
 B: Dad are reading. (S 7)
 c. R: What is the chicken doing in this picture?
 M: Chicken is jumper. (S 7)
 d. R: Are they walking?
 B: Are they walking. (S 7)
 e. R: What is the chicken doing?
 M: This chicken on the tractor sitting. (S 8)

The following two examples show how rote-learned and superficial the early utterances are. The two subjects have heard a lot at school that dinner nannies announce 'Wash your hands up' before starting the meal at school:

- (26) a. R: What is this girl doing?
 M: She is wash your hands up. (S 8)
 'She is washing her hands up.'
- b. M: My is wash your hands up. (S 8)
 'I am washing my hands up.'

This is exactly in line with what Myles et al. (1999) state (see 2.9) that the earliest productions of learners include lots of rote-learned chunks. Hawkins (2004) also states (see 2.9) that finite forms are presented in the chunks memorized by the learners and the learners do not recognize them as verbs.

Wagner-Gough (1978), discusses data from a Farsi-speaking child (Homer) acquiring L2 English. She notices that Homer produces progressive *-ing* to indicate 4 different time periods as shown by the following examples:

- (27) a. I'm going and found them. (Immediate intention)
 b. I am tomorrow going /in/ beach. (Distant future)
 c. I'm playing with that Mark. (Past)
 d. O.K. Sitting down like that. (Imperative)
 (Wagner-Gough 1978)

This shows that the mere emergence of a morpheme can not indicate that the underlying syntactic structure represented by that morpheme has been projected. In the present research the progressive *-ing* has been used in different contexts as well. What I also noted regarding the learners' production that is in line with Wagner-Gough's statement is that auxiliary *be* has replaced different time referents. This is, to me, lexical transfer from Farsi syntactic structure. Whereas Farsi has got different syntactic structures for present, present progressive, as well as future, the lexical equivalent of these different tenses in spoken Farsi is the same and this possibly affects verbal production of the learners while trying to put the words together to imply the meaning required.

- (28) a. Mæn hæɹ rooz be mædreseh mi-ræv-am.

I every day to school present-go-1sg.
'I go to school everyday.'

b. Mæn ælan be mædreseh mi-ræv-æm.
I now to school present-go-1
'I am going to school now.'

c. Mæn færda be mædreseh mi-ræv-æm
I tomorrow to school present-go-1sg
'I will go to school tomorrow.'

As Bardovi-Harlig & Reynold (1995) and Swan & Smith (1987) state, lexical aspect is an inherent semantic property of the verb phrase or predicate. According to Swan & Smith (1987), the *passé composé* in French is a compound past which is semantically equivalent to both simple past and present perfect in English and learners of L2 English from among other Romance and Germanic languages where there is a compound structure similar in form and meaning to the English perfect (e.g., the *passé composé* in French) were seen to have the same confusion. This seems to have nothing to do with the syntax and is only meaning-driven.

Another IP-related element to discuss the acquisition of is modal auxiliary verbs. Unlike copulas, which are present from the early samples in this study (mostly non-target-like), modal auxiliaries, like other kinds of auxiliaries are not productively used until Sample 15. The first modals appearing in this study are in Sample 4, where the learners are given some sentences to translate into English:

- (29) a. B: My can football play. (T 4)
b. B: Can football play. (T 4)
c. M: Can football play. (T 4)
d. M: My can football play. (T 4)
e. M: You can football play. (T 4)

What can be observed is that if the sentences given in Farsi contain a subject, the learners put the subject as well and if the Farsi sentences do not include a subject, the learners drop the subjects while producing the English equivalent. This shows that

they are translating word-for-word but this does not necessarily reveal their linguistic competence in English. The researcher is aware of the limitations of the translation task, and it should be pointed out that this task was used as a last resort to push the learners to produce utterances at the initial stages.

CP-related elements are also absent in the VP or FP stages. There are no yes/no questions up to Sample 9 excluding two tonic questions produced by M in Samples 3 and 4:

- (30) a. M: You like # drawing? (S 3)
b. M: Daddy writing? (S 4)

In Sample 9, the rate of raised copula for both B and M is 100% (2 out of 2).

These are all in the form of *Is this a ...* even when the subject is plural (31a):

- (31) a. M: Is this a strawberries? (S 9)
b. M: Is this a grass? (S 9)
c. B: Is this a milk? (S 9)
d. B: Is this a book? (S 9)

This may indicate at first glance that the learners have inverted subject-auxiliary but the next questions produced in Sample 10 show that this is not the case and all the questions formed by the two learners are intonation questions (8 out of 8):

- (32) a. M: This she is see-saw? (D 10)
b. M: Hat is you? (D.10)
c. M: This she is my looking? (D 10)
d. B: The ball is your? (D 10)
e. B: The boy is playing a bike? (D 10)

Moreover, the learners seem to answer according to the way they were asked. They even do the inversion in declarative sentences which shows the unanalyzed nature of early inverted patterns:

- (33) a. R: Is this a notebook? (S 10)
b. No, is this a book, is not a notebook.

- b. R: Whose hat is this?
M: Mum hat is this. (S 12)

No inversion occurs in Sample 13. Some questions are given to the learners to translate and each learner produces 15 questions. All questions are in declarative word order, using intonation:

- (34) a. B: Book on the table? (T 13)
b. B: She is like a apple? (T 13)
c. B: Apples a red? (T.13)
d. B: You is good student? (T 13)
e. M: Book on the table? (T 13)
f. M: She is like apple? (T 13)
g. M: Apples is red? (T 13)
h. M: You student is good? (T 13)

Excluding formulaic and in-situ wh-questions produced in Samples 8, 9 and 10, the first wh-questions are produced in Sample 13 during some translation tasks, and a high percentage (70.28%) of the questions are non-target-like and those which are frequently used in daily conversations are among the target-like ones:

- (35) a. B: What is it? (S 8)
b. B: Where is honey? (D 9)
c. M: Dates where? (T 9)
d. M: This girl what? (T 10)
e. B: What am I doing? (D 10)
f. M: What am I doing? (D 10)
g. B: Man what reading? (T 13)
h. M: What on the table see? (T 13)
i. M: What time is it? (T 13)
j. B: What do you like? (T 13)

What is quite interesting is that neither of the learners otherwise used *I* as a pronominal subject and they had used the non-NOM subject *my* in all other examples up to Sample 12. (35e,f) probably show unanalyzed rote-learned wh-questions. Sample 13 is quite indicative for some reasons. First, there are lots of wh-questions in this sample. Second, the sentences are translations, which diminish the risk of producing formulaic and memorized utterances. Only 22 out of 74 (29.72%) of these

questions are target-like and in the rest, either the auxiliaries are missing (33.78%), the questions are wh-in situ (24.33%), or there is no agreement between subject and the auxiliary (12.17%).

As already mentioned in Chapter Three, in spite of freedom in word reordering in Farsi, wh-expressions are relatively fixed and remain in their non-wh-counterparts since Farsi is a wh-in situ language (although wh-expressions do not always stay in situ and those corresponding to post-verbal adjuncts appear preverbally.) What I found in this study regarding wh-in situ status of the questions was that this only happens in translation tasks. As spoken Farsi has relatively free word order, the learners translate the sentences according to Farsi word order. If the sentence given to translate is wh-in situ, the learners put the wh in situ as well in English and if the wh word is put at the beginning of the question, the learners start the question with wh word too. All 27 wh-in situ sentences produced in the whole study are questions translated from Farsi; that is there is not a single question in the whole corpus where wh remains in situ in spontaneous production or diary data. This means that the wh-in situ status of Farsi does not influence learners' English.

As (35h) shows, wh-fronting precedes subject-auxiliary inversion. The reason behind this, according to Brown (1968), is that children might be limited in their transformations used in utterances. As the results of this study on the emergence of auxiliaries show (see Chapter Six), these are not initially (at VP stage) present and this affects the analysis of questions since there is no auxiliary to be inverted. The following examples show the early wh-fronted questions missing auxiliaries:

- (36)
- | | | |
|----|---------------------------------|--------|
| a. | M: How many candle on the cake? | (D 10) |
| b. | B: Who behind the door? | (T 13) |
| c. | M: What on the table? | (T 13) |
| d. | B: Who man on the chair sit? | (T 13) |
| e. | M: What colour shirt like? | (T13) |

f. B: When go home?

(T 13)

Overall, the early questions are only tonic and CP is not present in the initial state of child L2 acquisition. There may be some inverted questions as well but these are not indicative because the inverted form is overgeneralised in declarative sentences. This is the same as what Déprez & Pierce (1993) found. According to them, such errors occur because the verb fails to raise from within Spec, VP where it is base-generated. Moreover, the few early inverted questions contain both auxiliaries and modals, which may indicate a CP projection. Despite this, a closer look at the early productions shows that when the learners have received a lot of input during the data collection session just prior to their productions, the rate of correct production is much higher and the role of memorization and imitation is quite evident. From Sample 1 up to Sample 20, the rate of correct suppliance for yes/no questions produced through three different methods of data collection - spontaneous, diary and translation - is 44.18%, 29.03% and 12.50%, respectively. This shows how different data collection methods can influence the rate of production.

The next evidence for the absence of CP in VP stages is the absence of infinitival *to* in two-verb constructions. There is no obligatory context for this structure during the VP stage and this structure first appears in Sample 16. I will refer back to this in Chapter Seven.

Early embedded clauses including *because* and *if* are the last CP-related elements to discuss in this chapter. The first clauses with *because* occur in Samples 8 and 12 for B and M respectively. There are not many utterances containing *because* and only 10 utterances have been produced up to the end of Sample 16. Some of them are given below:

- | | | | |
|------|----|----------------------------------|--------|
| (37) | a. | B: Because four candle. | (S 8) |
| | b. | B: Because hands dirty. | (S 11) |
| | c. | B: Because cup breaking. | (S 11) |
| | d. | B: Because a water on the house. | (S 12) |
| | e. | M: Because is sleeping. | (S 12) |

5.3 Discussion

According to the minimal trees hypothesis of Vainikka & Young-Scholten (1994, 1996a,b) and Modulated Structure Building Hypothesis of Hawkins (2001), L2 learners transfer only the headedness of lexical categories of their mother tongue to the L2 at the initial state and this headedness will be reset to the value appropriate for the L2 before any functional categories appear. In contrast, according to FT/FA (Schwartz & Sprouse, 1994) the initial state of L2 acquisition is the final state of L1 acquisition and the entire L1 grammar (lexical and functional categories) constitutes the initial state. While the FT/FA Hypothesis of is in line with the two above-mentioned hypotheses as far as the transfer of lexical categories (VP) headedness is concerned, it claims that the entire L1 grammar immediately carries over as the initial state of a new grammatical system on first exposure to input from the target language. Following FT/FA, Haznedar (1997, 2001, 2003) claims that functional categories (IP, CP) were present at the initial stages of acquisition of L2 English in her study based on the mere presence of pronominal subjects, modals, copula and auxiliary *be* in Erdem's L2 data. Looking more closely at her data shows that there is a relation between copula production and the disappearance of null subjects in sample 8.

Following Vainikka & Young-Scholten (1996) claiming that at a subsequent point in development, but still at the VP stage, the Italian and Spanish learners switch the headedness of their VPs from head-initial to head-final ones, the two learners in

this study changed their early XV utterances to VX ones while they were still in their VP stage. This might be seen to be, on one hand, in full contrast with Clahsen (1990)³⁰ and Valian (1990), who suggest that, once set, parameters can not be reset during L2 acquisition. On the other hand, this is evidence against those studies claiming that functional categories are present in the initial states of child L2 acquisition (Lakshmanan 1993/1994, Lakshmanan 1994, Lakshmanan & Selinker 1994, Haznedar 1997, among others). Although copulas are found in the two learners' productions, these copulas are missing when the subjects are lexical, oblique or null suggesting that *he/she is* is a rote-learned chunk that does not constitute evidence for a functional projection (Myles, 2004). This can be compared with Vainikka & Young-Scholten's proposal (1996a) that learners project an underspecified IP-level functional projection, FP (Finite Phrase) to provide a position for a raised verb and for modals and auxiliaries as well. This is based on the evidence that when L2 speakers use *I*-related morphemes, these morphemes precede the VP. Thematic verbs move to the left of an adverb or Neg and suggest that an *I* is present without evidence of tense or agreement inflection on the verbs under *I*. This means that *I* is underspecified in the early stage of L2 acquisition.

Another reason for the underspecification of *I* in my data is that early verb forms are often mis-analyzed. In (2d,e) in this chapter the verbs *have* and *has*, seem to mean *be* for both learners, most likely because of phonological similarity of these two with the verb 'hast' in Farsi meaning 'to be' and indicates the role that semantics and morphology play in the initial states. Unlike Haznedar who claims that Erdem never uses copula at the end of the sentence by distinguishing it from thematic verbs, the present research shows that the reason behind not observing SOV order in copular

³⁰ It is possible that learners produce the surface order of English without recourse to syntax, as Clahsen and Muysken (e.g. 1986) claim in their canonical word order strategy.

constructions is that the learners in the initial stages do not analyze copulas in the input as verbs since early copulas are available as chunks. Another reason to conclude that rote learning of early copula constructions is involved is that there is a correspondence between missing copula and use of null or lexical subject (see 5.2) where the nominative subject and the following copula is a memorized chunk and the difference in the form of the utterance (using lexical subjects rather than pronominal ones) leads to the omission of copula as well (see Table 5.3). This is in contrast with Haznedar who takes the mere emergence of copula as an indication that IP is present.

Following V & Y-S (1994), a direct relationship between verbs in the VP and lack of subjects in these utterances is observed in this study. Although there were not so many null subjects with thematic verbs (only 41), 19 out of 28 (67.85%) XV utterances produced up to Sample 14 included null subjects. This also emphasizes the conclusion that the two learners have not transferred the null subject nature of Farsi into English because no L1 transfer above the VP level is possible based on minimal trees. This provides counter evidence for those who claim that the initial state of L2 acquisition is the final state of L1 acquisition. Finally, as many have found, the fact that Farsi has a subject-verb agreement paradigm does not give the two subjects an advantage.

Auxiliary production is the next IP-related element to discuss. From Sample 3 up to Sample 10, the rate of correct auxiliary production was only 22.38% while 22.38% of the utterances lacked auxiliaries. 47.61% of the utterances were incorrect (missing both auxiliary and *ing* or a non-target-like form) and 7.63% had missed *ing*. What is noticeable with respect to the auxiliary *be* is that the fluctuation in auxiliary production is much greater than for copula production. Hawkins (2001) explains this by proposing that copula *be* can freely select adjective phrases, noun phrases, or

prepositional phrases as complements, whereas auxiliary *be* can only select VP as complement providing that the V has *-ing* inflection as well. This complex selectional requirement makes it difficult to acquire. Following Grondin & White's (1996) argumentation that showing evidence of using a category, even not consistently, suggests that the category is available to the learner, omission of auxiliary *be* in some utterances seems plausible to Haznedar. In the present study aspect was not operating in the grammars of the learners since they used both *ing*-inflected and un-inflected verbs mostly lacking auxiliaries or lacking agreement at the same time. This emphasizes the superficial nature of early *-ing* forms. The learners also used *-ing* structure in different contexts. This is exactly the same as what was found by Wagner-Gough (see 5.2) in her data from a Farsi-speaking child, and it indicates lack of correlation between emergence of a morpheme and the function of that morpheme and provides counter evidence for both Grondin & White (1996) & Haznedar (1997) who only rely on emergence of a morpheme as evidence for the presence of the underlying structure referring to that morpheme.

The early modals (only *can*) were produced with non-nominative as well as null subjects, casting doubt on the idea that these early forms are located in IP. Apart from these early modals, there were no productions until Sample 15 where some target-like and non-target-like modals are produced. Haznedar also reports that modals were produced at her Sample 15 which, to me, does not mean the initial state and is also an indication that this was not already present in Erdem's grammar although Haznedar takes this late emergence of modals as referring to the initial stages. Moreover, similar to the present study the early modals in Haznedar's study were restricted to *can* and were sometimes replaced by other elements as well. Unlike Haznedar, who states that Erdem distinguishes modals from thematic verbs by not

inflecting them, the learners of the present study inflect modals just like other thematic verbs, use them as thematic verbs or replace them by auxiliaries (see 6.6). This all means that the learners have no idea about the grammatical function of modals in English.

3sg *-s* and past marker *-ed* (especially third person *-s*) are among the lowest morphemes produced by both learners of the present study compared with other morphemes. Haznedar finds the same low production of 3sg *-s* and *-ed* and takes this as counter evidence for V & Y-S's 60% criterion for the acquisition of AgrP and TP in German by arguing that other IP-related elements were present much before the emergence of these two in Erdem's production. What Haznedar has not taken into account is that for V & Y-S the emergence of auxiliary which is a free morpheme is considered as a trigger for the emergence of tense and agreement not the bound morphemes *-s* or *-ed*. This is exactly in line with Zobl & Licerias (1994) who found that copula *be* and auxiliary *be* are acquired before tense and agreement marking on thematic verbs since they are free morphemes moving from VP to I while tense and agreement are bound morphemes moving the other way round. According to Hawkins (2001) subject-verb agreement is more difficult to acquire because specifier-head relations are more difficult than head-complement relations.

CP-related elements were not present in the initial stages. As mentioned in this chapter, early questions are tonic and early inverted questions are also non-target-like. Although this is the same result observed by Haznedar (1997), she claims that CP is present in the initial states because Erdem was able to comprehend sentences with CP. To see whether the learners can really comprehend and process the questions or not and whether they notice the verb-auxiliary inversion in the sentence or just answer to the question when they are asked something with a rising intonation, I asked the same

questions with a time interval (S 4) and they were supposed to translate the sentences into Farsi. The first time the questions were in declarative intonation and neither of the learners took it as a question and translated it as a declarative sentence. The same questions were processed and translated as questions when they were asked in a rising intonation:

- (38) a. R: Do you like Football? (Declarative intonation)
 B: You said, 'I like Football.'
 M: You said, 'Everybody likes Football.'
- b. R: Do you go to Football? (Declarative intonation)
 B: You said, 'I am going to Football.'
 M: You said, 'Let's go and play Football.'
- c. R: Do you like Football? (Rising intonation)
 B: You said, 'Do you want to play Football?'
 M: You said, 'Can you play Football?'
- d. R: Do you go to Football? (Rising intonation)
 B: You said, 'Are you playing Football?'
 M: You said, 'Do you like to play Football?'

These examples show that in the initial stages the learners take the interrogative sentences as interrogative only on the basis of intonation and the meaning processed is not exactly the same as what was intended by the investigator. It seems to be a naive idea that they have any clues for projecting an English CP just for answering the question. Some more examples are provided below:

- (39) a. R: What is this in Maisy's hand?
 M: Maisy is hand. (S 3)
- b. R: Whose favourite animal is butterfly? Is that you B?
 B: No. (S 5)
 R: You told me last week you like butterfly.
 B: No.
 R: Do you remember you drew me a butterfly?
 B: No.
 R: Yes.
 B: Yes.
- c. R: Do you have a bike?
 B: Yes (S 5)
 R: You do?
 M: No.
 R: Do you know how to ride it?

M: Yes.

B: No

Comment: Both of them have bike and know how to ride.

- d. R: Where do you get the egg from?
No answer. (S 5)
R: You had the eggs earlier, what kind of animal? Do you remember?
M: One, one egg.
R: Who had the eggs? Did the ship have an egg?
No answer.
R: Do the chickens have an egg?
M: Yes.
B: No.
R: Do you eat boiled eggs? Do you have an egg like that?
B: Eggs.
R: Do you have or eat one?
M: No.
B: Yes.
R: Yes! No! Yes! No!
- e. R: Do you like stars?
M: Star, moon. (S 5)
R: Which one do you like best?
M: No answer.
R: Do you like chocolate? Yes?
M: Yes.
R: Do you know anyone who doesn't like chocolate?
M: No # yes.
R: Which do you like better, pencil or pen?
M: Pencil, it is a pencil.
- f. R: Where are my slippers?
M: Yes (S 6)
R: Whose hand is it?
M: No. (S 6)

To summarize, this chapter showed that there was no projection of IP and CP when the learners were in their VP stage.

Now that the acquisition of VP stage is covered, the acquisition of the IP system will be taken into consideration in Chapter Six.

Chapter Six: The acquisition of the IP system

6.1 Introduction

This chapter aims at addressing the status of functional categories in B and M's early L2 English. Similar to L1 acquisition studies, L2 acquisition studies have been the subject of considerable recent debate regarding the presence or absence of functional categories in early stages of interlanguage development. According to some of the authors discussed in 2.6.2, both lexical and functional categories are present in early L2 acquisition, whereas for some others only lexical categories and their projections are initially present.

I would like to address the status of functional categories in L2 acquisition by particularly focusing on Schwartz & Sprouse's (1996) as well as Haznedar's (1997) claims to see if these claims which are based on adult and child L2 acquisition, respectively, are supported by the data obtained in the present study. I will argue for Structure Building. Under this view, the question I pursue is at what point during data collection IP (or FP) is present, based on the evidence.

The organization of this chapter is as follows. In 6.2 case assignment, which is an IP-related phenomenon, will be discussed. 6.3 presents negation, which is another piece of evidence indicating the emergence of INFL. In 6.4, 6.5, and 6.6 the

production of both learners with regard to copulas, auxiliaries, and modals will be scrutinized. The next INFL-related element to be discussed in this chapter is 3sg marker *-s*, which is among the rarest morphemes in the production of both learners especially M. 6.8 deals with past tense marking in both regular and irregular past constructions and then discusses the overregularisation found. Lack of evidence for the CP-related elements during the IP stage is discussed in 6.10. A summary of the issues discussed will be presented in 6.11 and the researcher discusses the findings obtained to come to a conclusion.

6.2 Case assignment and finiteness

Nominative case assignment has been used most often to argue for the presence of functional categories (IP) in children's early grammars (Haznedar 1997, 2001, 2003, Hyams 1992). Gruber (1967) conducted the first formal syntactic treatment of case assignment in child L1 English and observed that when the subject of a copular sentence is non-NOM, the copula was always omitted.

- (1) a. Him bear. (Mackie, 2;2-2;5)
b. Me no bear. (Mackie, 2;2-2;5)

Following this idea and the idea that using a default case form ³¹ may be an indication of children's use of non-NOM subjects, many researchers (Haegeman 1995, Radford 1995, Rizzi 1994, Vainikka 1993/1994, among others) claim that there is a correlation between using non-NOM subjects and the Optional Infinitive or Root Infinitive (OI/RI) stage (or bare VP for V & Y-S). Haegeman (1995), for example, observes that

³¹ Schütze & Wexler (1996a) suggest that the default case in English is accusative. This is based on the observation (e.g., Radford, 1990; Rispoli, 1994) that English learning children produce no object case marking errors, whereas this kind of error has been shown for children learning Russian (Babyonyshev, 1993) and German (Schütze, 1995).

the proportion of overt subjects with finite forms is considerably higher (68%) than those with the OI/RIs (15%).

It is also attested in the literature that English-speaking children use accusative and genitive pronominal subjects in English in their initial production, and there are several studies which appear to support the more general thought that there is no evidence of the acquisition of case system in early child grammars of English. In one of the earliest studies Brown (1973) reported some examples of *her* subjects by Sarah and *me* subjects by Adam. Hamburger & Crain (1982) noticed early relative clauses with *my* subjects. Radford (1990) discusses the early *me* subjects in child L1 English as instances of NPs lacking case as support for his claim that the UG module of case theory is not mature at early stages. Under Radford's analysis only accusative case is operating at the early stages. Earlier Huxley (1970) observed accusative subjects and less frequently genitive subjects (only *my*) while studying the acquisition of child L1 subject pronouns. More recently Rispoli (1994) studied 12 children and observed that *he* and *they* were used a lot as nonsubjects, and accusative forms were noticed in place of nominative subjects as well.

Vainikka (1993/94) discusses the oblique (non-NOM) subject pronouns that are attested in child L1 English data and argues that unlike nominative subjects which are in the Spec, IP, oblique subjects normally occur in the Spec VP. According to Vainikka, the phonological representation of person pronouns in English is sometimes problematic and can be easily confused (e. g. *your* vs. *you're*, *its* vs. *it's*, *his* vs. *he's*, *their* vs. *they're*). If the child were to use the accusative form as a subject, it would be indistinguishable from the adult nominative subject + contracted auxiliary. Thus, the first person forms (*I* and *we* vs. *me/my*, *our/us*) where no such confusable contractions exist seem to be the most useful ones for a study of oblique subjects.

Vainikka discusses data coming from the CHILDES data base containing longitudinal data from several English-speaking children. Vainikka analyzed the data from five children: Adam, Eve, Sarah, Nina and Naomi regarding their pronominal forms and related elements. She reports that in the collected files, in addition to nominative subjects, oblique subject pronouns are attested in the production data of these children. She adds that the systematicity observed in the distribution of oblique subjects suggests that these forms have a syntactic basis, instead of reflecting random performance errors. Some examples are given in (2).

- | | | |
|-----|--------------------------------|-------------|
| (2) | a. My see that. Adam see that. | (Adam, 2;3) |
| | b. My play bulldozer, hmm. | (Adam, 2;3) |
| | c. My climb. Climb | (Adam, 2;3) |
| | d. My need her. | (Nina, 2;0) |
| | e. My make red table. | (Nina, 2;0) |
- (Vainikka, 1993/1994)

The data allow Vainikka to reject early nominative subject forms (which co-occur with non-nominative subjects) are evidence of IP and supports bare VP. She reports two robust findings in her study regarding Nina's parallel acquisition of nominative case, inflection elements and subject raising and the fact that all the children studied also used oblique subjects in their early wh-questions, although they used nominative subjects elsewhere.³²

Can it be argued that early subjects are not evidence of IP? To see to what extent child L2 acquisition is similar to child L1 in this regard, some of the studies are introduced here. Following Rizzi's Truncation Hypothesis (TH), Prévost (1997a) argues for the existence of OI/RI in child L2 acquisition. He examines longitudinal data from two L1 English children acquiring L2 French and notes that the proportion of OI/RI clauses with null subjects for Kenny and Gregg is 29.9% and 52.5%,

³² This shows lack of CP in earliest productive wh questions.

respectively. This also emphasizes the co-occurrence of non-finite forms with null subjects in L2 acquisition similar to what is observed in L1 acquisition. Prévost (2003) then examines data from child L2 German and reports that while null subjects occur with different verb forms, a high proportion of null subjects (61.8%) is found in infinitival clauses and only 8.6% of the utterances with null subjects are inflected. According to Prévost, the high occurrence of null subjects with infinitival clauses casts doubt on the idea raised by Missing Surface Inflection Hypothesis (Haznedar & Schwartz, 1997) that L2 child RIs are finite and the infinitival ending is used as a substitute for finite markers due to a mapping problem (Lardiere, 2000) between morphology and syntax.

Haznedar (1997) considers the use of oblique subjects as well as the relation between null subjects and finiteness. Regarding the use of oblique subjects, Haznedar reports that unlike the result reported by some L1 studies (Haegeman 1995, Radford 1995, Rizzi 1994, Vainikka 1993/1994, among others), almost all of the pronominal subjects used by Erdem in the whole corpus are nominative. There are only three oblique subject pronouns in the entire corpus as follows:

- | | | |
|-----|---|------------------|
| (3) | a. Me is finish | (Erdem, S 8) |
| | b. This is not # me big # me very very. | (Erdem, S 9) |
| | c. No # me not break this is bicycle. | (Erdem, S 14) |
| | | (Haznedar, 1997) |

She also examines Erdem's null subjects both in auxiliary contexts and in main verb contexts. Auxiliary contexts with the null subjects only occur starting in Sample 3, and Sample 8 is the last sample where a relatively high percentage (19.23%) of null subjects is found. She notes that although there are null subjects in early utterances, they constitute only a small proportion of the data. This means to Haznedar that

Erdem has acquired very early that English is not a pro-drop language. Having a closer look at Haznedar's data shows that Sample 8 is where copula production increases, and this shows, at least, a relation between copula production and lack of null subjects, on one hand, and indicates that the subject + auxiliary combinations produced before Sample 8 are all chunks. This also indicates lack of L1 transfer since Turkish does not have auxiliaries; functional projections are not head-final; and it is a pro-drop language. The high percentage of null subject with main verbs (83.33% in Sample 12) shows a longer period of high occurrence of null subjects with main verbs comparing to the auxiliary verbs which is another reason for the rote-learned nature of early subjects and auxiliaries.

Haznedar then compares the demise of null subjects with the emergence of verb inflection and notes that the percentage of uninflected verbs is very high (82%) despite the demise of null subjects. This led Haznedar & Schwartz (1997) to put forward MSIH (see above). I think 3 sg in English is just a default form and can not be a good justification for the absence or presence of IP, while copulas and auxiliaries are more indicative.

Let us now turn to B and M's data regarding the production of null and oblique subjects. Data from the present study confirms the systematicity observed by Vainikka in her L1 English study and suggests that absence of case assignment is not limited to L1 acquisition. For B and M, out of 108 thematic verbs produced up to Sample 14³³, there are only 6 pronominal subjects (5.55%), whereas there are high percentages of null (37.96%) and oblique (52.77%) subjects in these utterances (see Table 6.1). B and M had no instances of the pronominal subject *I* in their production up to Sample 12 where B produced the following non-target-like sentences with *I* as a

³³ Sample 14 is where IP in this study is thought to emerge.

result of imitating what R says. In Sample 13 both subjects again used *I* (4b,c) but in (4c) it marks possession and is not target-like.

- (4) a. R: Do I like dogs?
B: I am not like dogs. (S 12)
'You do not like dogs.'
b. B: I am a not a student. (S 13)
c. M: I friends not here. (S 13)
'My friends are not here.'

They produced the genitive form, *my*, in all the other instances where *I* was needed up to Sample 13 (see Table 6.2 for figures). Moreover, nominative pronouns *she* and *we* were found in several obligatory contexts for possessive marking (5b,c,d). Accusative pronouns are also used in contexts requiring genitive case (5e):

- (5) a. M: My is two leg. (S 8)
'I have two legs.'
b. B: She jumper is yellow. (S 8)
'Her jumper is yellow.'
c. M: She is hair a brown. (S 8)
'Her hair is brown.'
d. B: We house is white. (S 8)
'Our house is white.'
e. M: This book is not a me. (S 13)
'This book is not mine.'

All the above-mentioned examples indicate that there is no case system operative in the earliest child L2 grammars of English since no systematic formal case contrasts exist.

Table 6-1: Thematic verbs with regard to word order and subject type and position

S	Null		Pro.		Ob.		Lex.		XV		VX		Total	
	B	M	B	M	B	M	B	M	B	M	B	M	B	M
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	3	1	1	0	6	5	2	2	12	7	0	1	12	8
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	3	0	0	0	0	0	0	0	0	0	0	1	3
7	3	0	0	0	1	2	0	0	0	2	1	0	4	2
8	0	2	0	0	11	11	0	0	2	4	2	2	11	13
9	7	2	0	0	0	8	0	0	0	8	0	0	7	10
10	1	0	3	0	3	3	0	0	1	1	5	2	7	3
11	1	0	0	0	0	0	0	0	0	0	0	0	1	0
12	1	1	0	0	0	0	0	0	0	0	0	0	1	1
13	7	5	0	0	4	1	0	0	0	0	4	1	11	6
14	1	2	2	0	1	1	0	0	0	0	3	1	4	3
15	0	0	2	1	1	0	0	0	0	0	3	1	3	1
16	0	0	23	17	0	0	0	0	0	0	23	17	23	17
17	0	0	25	27	0	0	0	0	0	0	25	27	25	27

S=Subject/learner

Pro=Pronominal subjects

Ob=Oblique subjects

Lex =Lexical subjects

As mentioned above Farsi does not have a range of different pronominal subjects for different case and the same morphemes are used to stand for different case. This may have affected the two learners' production of different case. Moreover, phonologically speaking, 'my' is very similar to 'man' (I, me, my in English) and this led the learners to substitute 'my' in all cases where 'I' is needed. Table 6.1 shows the number of early oblique and null subjects produced by both learners up to Sample 17. The high number of null and oblique subjects up to Sample 14 (note there is no null or oblique subjects afterwards except 1) where INFL is considered to emerge in this study (see 6.4) is a good indication of projection of IP around this time.

Thematic verbs are not the only place where null and oblique subjects are found. Although the rate of oblique subjects with copular constructions when copula

is present is 0%, use of non-Nom subjects when copula is absent is indicative in two ways.

Table 6-2: Utterances missing copula with regard to subject type and position

S	Null		Nom.		Ob.		Lex.		Total	
	B	M	B	M	B	M	B	M	B	M
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	1	0	0	0	0	0	1	0	2	0
5	0	0	0	0	0	0	2	0	2	0
6	0	0	3	0	0	0	4	3	7	3
7	3	0	1	0	1	1	19	10	24	11
8	6	5	0	0	2	1	12	6	20	12
9	2	2	0	0	0	1	14	3	16	6
10	0	0	0	0	0	0	4	2	4	2
11	0	0	0	0	0	0	10	6	10	6
12	2	0	0	0	0	0	14	4	16	4
13	0	0	0	0	2	1	19	7	21	8
14	1	1	0	0	0	0	11	7	12	8

Nom=Nominative subjects

Ob=Oblique subjects

Lex =Lexical subjects

First, Following Gruber (1967), the researcher also notes that there is a high correspondence between absence of nominative pronominal subjects and copula omission, as shown in Table 6.2. Out of 134 and 60 utterances missing copulas produced by B and M, respectively, up to Sample 14, only 4 sentences (2.98%) have nominative subjects. These were all produced by B (2.98%). There are 9 (5 for B and 4 for M) copular contexts with non-NOM subjects, and in all these instances, the copula is absent. No instances of a non-Nom subject with a copula are found in the whole corpus (see 6). Since copula presence normally means a trigger for IP projection (see Hawkins, 2001) and case assignment is INFL-related as well, this co-occurrence is indicative of a lack of IP up to Sample 14. If the copula is really in place, it should be evident when the subject is not a nominative one. Second, the 100% presence of copula along with nominative subjects (see Tables 6.3-6.5) and a

0% of copula production with non-NOM ones indicates that the former combination is a rote-learned chunk (see 2.9) acquired by the two learners. Changing one element in this combination will lead to wrong production. The high correspondence of lexical subjects and copula absence is another reason that the early subject + copula combination is a rote-learned chunk. This will be explained in detail in 6.4.

- (6) a. B: My boy. (S 8)
 b. M: My girl yes. (S 8)
 c. M: My here on the chair. (S 9)
 d. B: My not a girl. (S 13)

Table 6-3: Copula 'is' with regard to word order and subject type and position

S	Null		Nom		Ob.		Lex.		XV		VX		Total	
	B	M	B	M	B	M	B	M	B	M	B	M	B	M
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	2	0	0	0	0	1	0	0	2	1	2	1
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	2	0	0	0	0	0	0	0	2	0	2	0
6	0	0	0	0	0	0	0	1	0	0	0	1	0	1
7	0	0	17	17	0	0	0	0	0	0	17	17	17	17
8	5	0	2	8	0	0	0	4	0	0	7	12	7	12
9	1	0	13	3	0	0	1	3	0	0	15	6	15	6
10	7	3	1	6	0	0	22	9	0	0	30	18	30	18
11	0	0	2	2	0	0	3	0	0	0	5	2	5	2
12	0	0	9	9	0	0	14	14	0	0	23	23	23	23
13	0	0	2	11	0	0	21	24	0	0	23	35	23	35
14	0	2	4	2	0	0	7	13	0	0	11	17	11	17

Nom=Nominative subjects

Ob=Oblique subjects

Lex =Lexical subjects

Table 6-4: Copula 'are' with regard to word order and subject type and position

S	Null		Nom		Ob.		Lex.		XV		VX		Total	
	B	M	B	M	B	M	B	M	B	M	B	M	B	M
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4	0	0	2	0	0	0	0	0	0	0	2	0	2	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	16	7	0	0	0	0	0	0	16	7	16	7
7	0	0	16	10	0	0	0	0	0	0	16	10	16	10
8	0	0	22	13	0	0	0	0	0	0	22	13	22	13
9	0	0	0	1	0	0	0	0	0	0	0	1	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	1	3	0	0	0	0	0	0	1	3	1	3
12	0	0	4	15	0	0	0	5	0	0	4	20	4	20
13	0	0	2	2	0	0	0	0	0	0	2	2	2	2
14	0	0	14	6	0	0	1	3	0	0	15	0	15	9

Nom=Nominative subjects

Ob=Oblique subjects

Lex =Lexical subjects

Table 6-5: Copula 'am' with regard to word order and subject type and position

S	Null		Nom		Ob.		Lex.		XV		VX		Total	
	B	M	B	M	B	M	B	M	B	M	B	M	B	M
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	1	0	0	0	0	0	0	0	1	0	1
8	0	1	0	0	0	0	0	0	0	0	0	1	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	2	0	0	0	0	0	0	0	2	0	2
13	0	0	0	1	0	0	0	0	0	0	0	1	0	1
14	0	0	4	2	0	0	0	0	0	0	4	2	4	2

Nom=Nominative subjects

Ob=Oblique subjects

Lex =Lexical subjects

Looking at Tables 6-3 to 6-5, one may think that copula is present from Sample 4 or 5 on, but comparing Table 6-2 with Tables 6-3 to 6-5 shows that rote learning is involved. The high occurrence of missing copulas with lexical subjects casts doubt on the idea that copula production indicates IP projection or Pronominal subjects are in

the Spec, IP. Let us Take Sample 7 as an example. Whereas 100% production of copulas and nominative subjects in this sample may indicate IP projection, the high relation between missing copula and non-Nom subjects rejects this idea. Out of 24 utterances with missing copulas, only one (4.16%) has nominative subject. This shows that *he is, you are*, etc. have been memorized because of being repeated by the investigator during the data collection session and if a little change occurs, the whole chunk will disappear.

To see whether there is any evidence up to Sample 14 of other functional categories, e. g. CP, the appearance of null subjects in wh-questions will be now discussed. Rizzi (1993/1994) claims that OI is the result of truncation. This means that the child can start derivation below CP. If Truncation is right, non-subject wh-questions (such as 7 and 8) can not have null subjects because null subjects occur when the subject is the specifier of a root and the specifier of the root in wh-questions is filled with wh-phrase. Roeper & Rohrbacher (1995) argue against truncation when they found many null subjects in the wh-questions of Adam's CHILDES data (Brown, 1973):

- | | | |
|-----|--|--|
| (7) | Where go? | Adam (2;3)
(Roeper & Rohrbacher (1995)) |
| (8) | a. B: What see on the table?
b. B: What colour like?
c. M: Where going?
d. M: What time go to the school? | (S 13)
(S 13)
(S 14)
(S 14) |

The results of the present study support Roeper & Rohrbacher. To calculate the percentage of null subjects the researcher considered the total number of wh-questions with null subjects versus those with pronominal subjects. Subject wh-questions and wh-questions with lexical subjects are not included in the counts since the former does not require movement to C, and the latter does not show any case

assignment. The total numbers of wh-questions with null subjects are compared with the number of declarative null subject utterances within the same period. In Samples 13 and 14, 8 out of the 19 (42.10%) non-subject wh-questions without lexical subjects produced by B had null subjects and for M it was 5 out of 13 (38.46%). During the same period, the rate of null subjects with declarative sentences was 2 out of 112 (1.78%) and 0 out of 89 (0%) for B and M, respectively. Some of the wh-questions with null subjects are given in (8). Utterances in (8) indicate that the initial wh questions in child L2 questions are in the Spec, VP rather than Spec, CP and placement of the wh element does not mean that the verb is in INFL. The next section deals with the negative utterances in the production of the two learners.

6.3 Negation development

Here I present both nominal and verbal negation to see whether there is any difference regarding the position of the negative element and to survey the degree of L1 transfer involved. Haznedar (see 6.3.1) claims that the headedness of Erdem's initial NegPs indicates L1 transfer and argues against minimal trees. Referring to what mentioned in 3.2.3, one can note that Farsi has a double or multiple negation construction. When negative elements *hič/hiči* 'none' precede a noun phrase, the verb must also change into a negative form and this is referred to as multiple or double negation. This simply means that nominal negation must necessarily accompany a verbal negation unless there is phrasal negation rather than sentential negation³⁴:

- (9) Chai mi khah am na ghahveh
 Tea pres. Want 1sg not coffee
 'I want tea not coffee.'

³⁴ Constituent negation is beyond the scope of this study.

Although there is difficulty to some extent to distinguish whether the learners intended to produce a nominal or a verbal negation for the double negative nature of negation in Farsi, we will proceed with the discussion and study both types of negation where the categorization of negative utterances into nominal and verbal will be decided according to the context.

6.3.1 Verbal negation

There are not that many verbal negations produced in the early samples. The following examples in (10) are from the 18 verbal negation utterances produced from Sample 4 up to Sample 10. The verbs negated include sleep (10), jump (2), eat (1), play (1), and like (4).

First of all, unlike Haznedar's study in which Erdem uses *no* for nominal negation and *not* for verbal negation, there is no differentiation between *no* and *not* for either learner (B even uses unanalyzed *don't*) and only the lexical concept of negation is evident for both learners. This is also in contrast with what Cancino et al. (1978) noticed, that is, the L2 learners go through four developmental stages (see 2.4).

Second, since there is no copula, auxiliary, or modals in the early productions, the position of negation markers in relation to copula construction can not be determined and this provides counter evidence for Haznedar's study asserting that Erdem can distinguish the difference between lexical verbs and the auxiliaries. Among the 18 sentences with negation produced by B and M up to the end of Sample 10, only five contain auxiliaries (10) and in the other ones the auxiliaries are missing.

- (10) a. M: My food like don't. (T 4)
'I don't like the food.'
- b. B: My food don't eat. (T 4)
'I don't eat the food.'
- c. B: They are not sleeping (S 6)
- d. M: No, not a is a pen. (S 10)

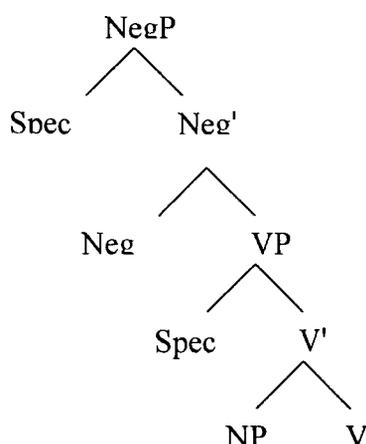
- 'No, it is not a pen.'
- e. B: She is not a your looking (S 10)
'She is not looking at you.'

(10c) is the only utterance in which the auxiliary and negation have got a correct position in relation to each other. This is definitely a chunk since it is the only (negative) auxiliary construction in Sample 6 having the auxiliary (see Appendix C.1). In (10d) the positioning is correct but the verb is still head final and can not be indicative. Third, the negation marker in early stages can take different positions since the learners have no idea that auxiliaries behave differently from lexical verbs and as mentioned above; the learners just intend to convey the negation concept in their utterances. Let us have a look at the six following sentences to get a better picture of early verbal negation.

- (11) a. B: My food like don't. (T 4)
'I don't like the food.'
- b. M: My lettuce like no. (T 4)
'I don't like lettuce.'
- c. B: My lettuce like no. (T 4)
'I don't like lettuce.'
- d. B: My food don't eat. (T 4)
'I don't eat the food.'
- e. M: My dog like not. (S 7)
'I don't like dogs.'
- f. B: No, girl see-saw play not (D 10)
'No, the girl is not playing see-saw.'

As mentioned in 3.3 verbal negation marker in Farsi, just like English, precedes the lexical verb, that is, Farsi has a head-initial NegP (see 12). keeping this in mind, (11d) can be interpreted either as a transfer from Farsi negative structure or as an indication that B has got the rule for L2 English negation by putting *don't* before the verb. Either interpretation would be an argument against MT and for Full Transfer/Full Access (FT/FA) (see 2.6.2).

(12)

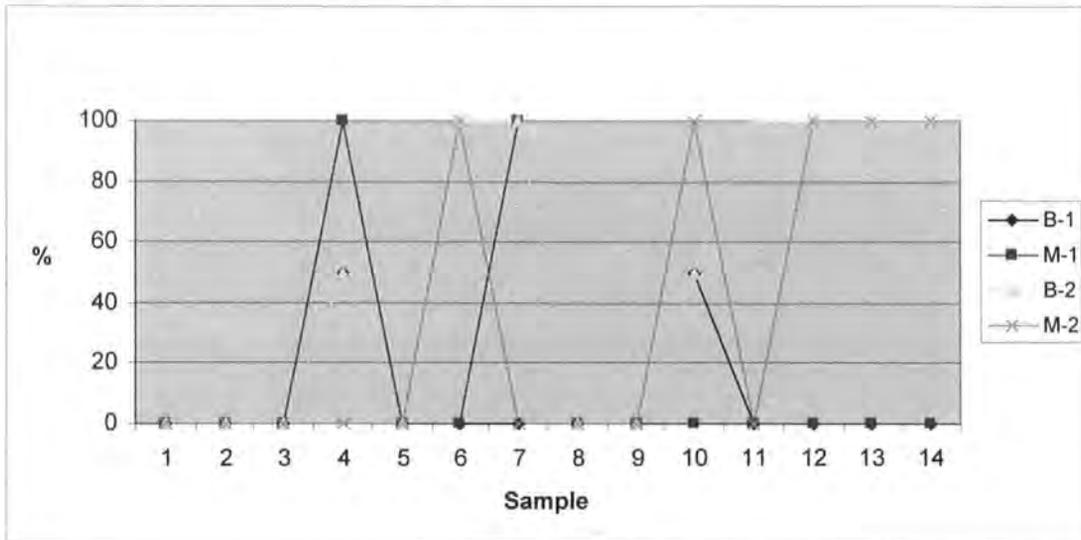


According to the first interpretation, NegP as a functional projection has been transferred from the learners' L1. The second interpretation is also problematic for MT since the learners, according to this hypothesis, have developed the functional category NegP which should be absent in the initial states of L2 acquisition. Although (11d) is non-target-like and can indicate nothing regarding the emergence of functional categories and the learners have not even changed their L1 VP headedness yet, it can indicate otherwise for FT/FA. The view of Schwartz & Sprouse (1996) and Epstein et al. (1998), who assume that even a minimal evidence of functional categories indicates that learners have full knowledge of lexical and functional categories, are also problematic since the analysis fits English not Farsi structure. Before deciding on the plausibility of one of the above-mentioned accounts, the question which first arises is why should B produce utterances showing two different structures? Why should M produce two sentences (11b,e) both violating the headedness parameter setting of Farsi NegP? The first answer which comes to mind is that there is no specific order for NegP at the initial state and the learners put the elements next to each other just by chance. This answer seems not to be that

unrealistic especially since six of these utterances were translations. The other answer is that with reference to 3.3, we saw that compound verbs in Farsi consist of an element (noun, adjective or preposition) followed by a light verb such as the verbs *do*, *give* or *hit* among others. In these structures, the verb loses its original meaning. It joins the preverbal element to form a new verb. The verb *doost dashtan* meaning 'to like' is a compound one, where *Doost* means 'friend' and *dashtan* means 'to have' but *doost dashtan* as a whole means 'to like'. When B wants to negate *like*, he takes it as the first part of the compound verb and then adds to it *not* which lexically means 'not have' to him. This, above all, means that early L2 structures are only lexical and learners only put the items next to each other based on their meaning and there is no functional structure involved. If B can distinguish between thematic and auxiliary verbs and that negation in English always follows auxiliaries and precedes thematic ones, this position should not have been changed depending on the lexical meaning of the verb. Now we return to answer the above question regarding the plausibility of the two hypotheses. First, the different position of the negation marker is an indication that the underlying syntactic structure is initially minimal. Second, although there is a kind of transfer from the L1, this transfer is only at the level of lexicon. From among 18 verbal negations produced up to Sample 10, there are only two compound verbs and in all instances (11a-e) the negative marker follows the verb, whereas in other cases the negative marker precedes the lexical verb. Juxtaposing some words together is a prerequisite for acquiring functional categories since the syntax takes an array of lexical items from the lexicon to merge into phrase markers and morphemes belonging to functional categories must be acquired to indicate that functional projections have been constructed (Hawkins 2001). Learners initially focus on those morphemes which are more meaningful and morphemes belonging to V, N, and A

belong to this category since they are phonologically strong and associated with stable conceptual meanings (Ibid.).

Figure 6-1: Percentage of V + Neg vs. Neg + V



B-1 % V + Neg
M-1 % V + Neg

B-2 % Neg + V
M-2 % Neg + V

This all is to show that it is the lexical concept of negation which is given priority by both subjects in the initial state and what is produced by B and M is done on this basis. Figure 6.1 (above) shows the percentage of V + Neg vs. Neg + V utterances in this study.

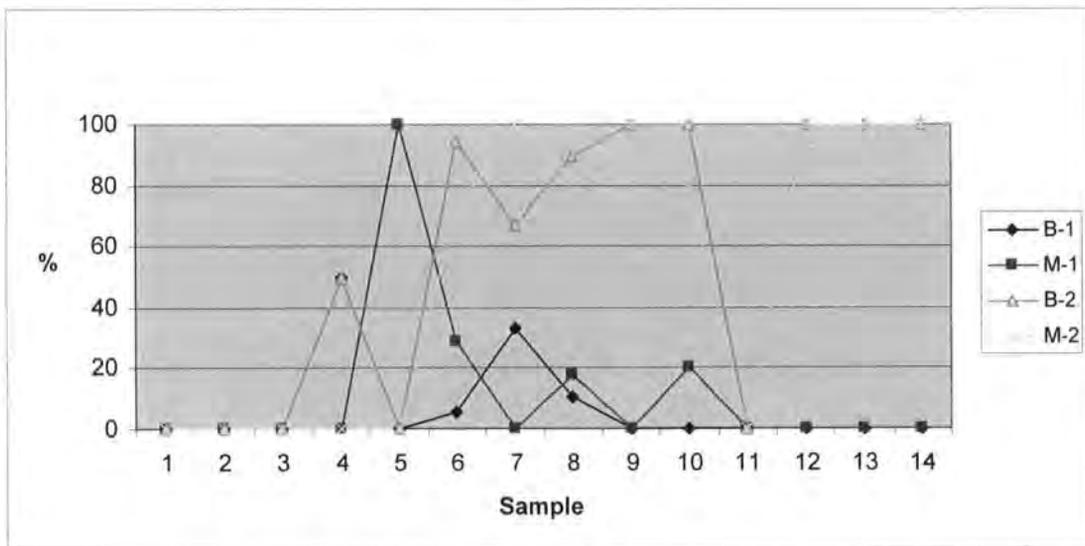
6.3.2 Nominal negation

Unlike English, when a noun is negated in Farsi, the following verb must be negated as well as shown above, and this makes the analysis production in the present study more difficult. It was mentioned in the previous section that *no*, *not*, or even unanalyzed *don't* are used in apparently free variation by the two learners. Taking this into consideration and adding to this the fact that Farsi is a double negation language makes it difficult to decide whether the learners intend a nominal negative utterance or a verbal one. The position of negation in the sentence is not indicative at all while

trying to consider whether the L1 is involved in negative utterances. Moreover, there is no difference between Farsi and English nominal negation with respect to the position of the negation marker since it precedes the noun in both languages. To remove the ambiguity involved, the researcher decided on the status of a negative sentence (verbal or nominal) according to the element preceding or following negative marker. If it is noun, the utterance will be considered a nominal one. As for verbal negation, nominal negations have also been divided into N + Neg versus Neg + N ones. Figure 6.2 shows the percentage of nominal negation in this study.

Figure 6.2 shows that although English and Farsi have got the same position for negation markers in nominal negation, as was the case with verbal negation, the same discrepancy observed in verbal negation is also found in here. This again means that there is no transfer from Farsi. As English has got the same order, the input can not be the source either. The question here is that what the source of producing N + Neg really is. Let us look at some of the early negative utterances to find the answer:

Figure 6-2: Percentage of N+ Neg vs. Neg+ N



B-1 % N + Neg
M-1 % N + Neg

B-2 % Neg + N
M-2 % Neg + N

- (13) a. R: Is this a pen? (In Farsi)
 M: No, pen not. (T 5)
- b. R: Is she a monkey?
 B: They are monkey no. (S 6)
- c. B: She bag no. (S 6)
- d. M: Hat has. Hat no. (S 6)
- e. B: She has a shoes. She has a no shoes. (S 6)
- f. R: Does she have a bag?
 B: She have a no bag. (S 6)

All sentences in (13a-d) show nominal negations different from both Farsi and English. A breakdown of one of the sentences may help us analyze such utterances:

- (14) a. na, medad nist (na + ast)
 No, pen not be
 'No, it is not a pen.'
- b. kolah dar-ad.
 hat has-s(he)
 '(S)he has a hat'.
- c. Kolah na-dar-ad
 hat no-has-3sg
 'S(he) doesn't have a hat.'

(14) shows that unlike the superficial form of the two sentences denoting a nominal negation, the two utterances are verbal negations. However, since Farsi is a pro-drop language the two forms might be taken as nominal negations. As verbs are the last element in a Farsi sentence and the negation marker attaches as a bound morpheme to the verb, and since *be* and *have* are *stative* rather than action verbs and the perceptual meanings of the verbs are not conveying any activity, *no* stands for Neg + V at the end of the sentence.

In summary, the analysis of verbal and nominal negation production shows that although English and Farsi have the same order for both verbal and nominal negation, both learners use a different ordering in their production and sacrifice the grammar for the sake of lexicon. Unlike Haznedar's study which concludes that Erdem transfers the headedness of his L1 NegP, this study shows that at the early

stages it is lexical categories which play a very significant role and this is exactly in line with Vainikka & Young-Scholten's MT asserting that the learners' initial L2 grammars consist of lexical projections and these have the structural properties of their L1 grammars. The evidence argues against FT/FA, which claims the learners bring their L1 grammars as a whole from the start and throughout the course of L2 acquisition. There is no evidence in the sentences in (13) of emerging functional categories. In the next section, the production of copula *be* which is another IP-related morpheme will be discussed.

6.4 Copula *be* production

I discussed the early production of the learners' copulas in 5.2. They included rote-learned forms which did not show any IP projection. From Sample 10 to 14, the emergence of copulas with lexical subjects for B and M reaches 50% and 65.11% respectively but despite this high percentage, either the position of the copula is not target-like or there is lack of agreement. Following Vainikka & Young-Scholten, I conclude that following the VP- stage, between Samples 10 and 14, learners have projected an underspecified IP-level functional projection as learners show evidence of properties representing IP emerging, i. e. copulas modals, auxiliaries and verb raising, but there is lack of overt agreement which suggests that this projection is different from IP.

- (15)
- a. B: Your trousers is green. (S 10)
 - b. B: She book are they. (S 10)
 - c. M: Mummy is shirt a yellow and green. (S 10)
 - d. M: Daddy is trousers is black. (S 10)
 - e. M: Mum hat is this. (S 12)
 - f. B: Mum book is this. (S 12)

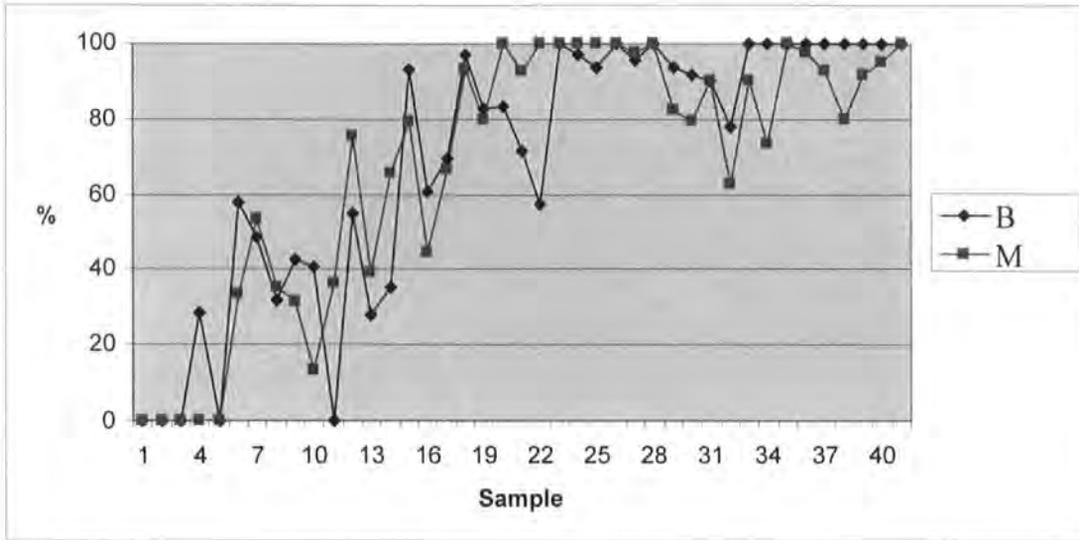
- g. M: No, not Ali and Abolfazl it's the # short. (S 12)
- h. B: They apples is on the tree. (S 13)
- i. M: Monkeys is not a beautiful. (S 13)
- j. B: I is your son. (S 14)

What is more important regarding missing copulas with lexical subjects is that it casts doubt on the idea that any nominative subjects that are produced in the early stages are really positioned in the specifier of IP since if it were the case, there should have been a stable IP node to put the copula in even in the absence of nominative subjects. This may indicate that *he is*, *they are* and *you are* produced early on are all chunks rote-learned as a result of input overloaded to the learners. During Samples 15-18, the production of copulas with lexical subjects gradually increases and reaches 100% in Sample 18 for both learners. Looking at Figure 6.3, it can be noted that it is from Sample 18 on that the production of copula is almost always target-like and there is not a high fluctuation in the learners' productions. This seems to show a high correlation between producing copulas with lexical subjects and producing copulas as a whole.

The question here is why there is still a little fluctuation in learners' production regarding this morpheme in some files of this study. Figure 6.3 shows this fluctuation and some of the non-target-like copulas are presented in (16):

- (16) a. M: What colour his hat? (S 19)
- b. B: What they mum name? (S 19)
- c. B: What in your bag? (S 19)
- d. M: What in your bag? (S 19)
- e. B: He said, 'You friend with me?' (S 19)
- f. M: What time for cartoon? (T 19)
- g. B: Because the bee hive just for the bee. (S 22)

Figure 6-3: Percentage of copula



All the above sentences show that while copula is already productive in the grammar of both learners, they have problem to raise this to a higher projection to make questions or embedded clauses. I will get back to these later while discussing tense operation and CP projection. Moreover, they have also problem with tense and it is not yet operative in their grammars either.

To summarise: The researcher noticed that copula *is* is used as a master key and is produced in many contexts mostly in non-target-like forms in the initial stages of L2 acquisition. Even when the learners have a good command of copula forms, there are still some oversuppliances of copula *is*. From Sample 12 up to Sample 17 where the children acquire the morphemes for the different pronominal subjects, the percentage of non-agreement increases and *is* stands for other copula forms as well. The rate of copula production in this study depends mostly on two factors. First, data collection method had an impact on the rate of copula production. The rate of copula production is higher in spontaneous speech production than in an elicited production task such as translation in this study. This shows that input received during the data collection method in spontaneous speech leads the learners to produce some cliché forms which will not exist when they produce the same structures by themselves. This

is in line with Cox (2005), who claims different methods of data collection (elicited production vs. spontaneous and cross-sectional vs. longitudinal) is the source of discrepancy noticed in different studies. Second, the type of subject (pronominal versus non-pronominal) influences the rate of copula production. Copulas often followed pronominal subjects whereas non-pronominal subjects at the initial stages mostly lack copulas which again indicate that rote learning is involved. This provides strong counter-evidence for Haznedar (1997, 2001, 2003) and L & S (1994) who take only the presence of copula as evidence supporting the presence of IP (functional projections) in the initial state and strongly argues for V & Y-S (1994; 1996a, b) who claim that initial grammars lack the full complement of functional categories. Following V & Y-S the mere presence of copula indicates that learners project an underspecified IP-level functional projection since despite the presence of copula there is a lack of an agreement paradigm for that. The next IP-related element to discuss in the next section is the production of auxiliary *be*.

6.5 Auxiliary *be* production

I already discussed the production of early auxiliary *be* forms in 5.2 to show no evidence of IP projection. I mentioned that fluctuation in auxiliary production is much more than copula production as auxiliary *be* can only select VP as complement providing that the V has *-ing* inflection as well which makes this structure difficult to acquire. It was also mentioned that lexical aspect is an inherent semantic property of the verb phrase and is mostly meaning-driven focusing less on syntax:

- (17) a. R: What did the animal do?
 B: The animal washing the baby. (S 9)
 b. M: I don't reading the two books. (S 15)
 c. B: She is not playing piano every afternoon. (S 15)
 d. R: What do you do when you get up in the morning?

- B: I am eating the breakfast. I washing my hands. (S 15)
- e. B: He ask his mother can I watching TV. (S 16)
- f. B: No, I didn't drinking banana. (S 17)
- g. B: No, he doesn't fighting. (S 17)
- h. M: What mummy everyday doing? (S 19)
- i. R: Does he cry?
M: No, he doesn't crying. (S 19)
- j. R: I am thinking of an animal that you know.
M: It's jumping? (S 20)
'Does it jump'?
- k. R: What did you do today?
B: I am draw and writing (S 20)

Stauble (1984) conducted a study on six Japanese and six Spanish speakers at different proficiency levels to compare target-like use of verb-related morphemes. Data were collected in the form of two hours of spontaneous speech and their use of verbal morphology was recorded. One common feature of her study with the present one is that Stauble also measured target-like use of the morpheme rather than supplying a morpheme accurately in obligatory occasions (cf. Hawkins, 2001). She also took into account the number of times a morpheme was used in a context where a different morpheme was needed. The high proportion of non-target-like use of verb forms (uninflected) or *-ing* (without auxiliary) as well as inconsistent tense or agreement inflection strongly suggests that the learners had not acquired English syntax and *-ing* morpheme syntactically plays no role. Stauble found that accuracy on copula *be* emerged in advance of accuracy on auxiliary *be* for all subjects in both low intermediate and intermediate levels. The non-target-like use of auxiliary *be* correlated with the non-target-like use of *V-ing* which backs up the suggestion that progressive aspect was not acquired. Moreover, the subjects used a lot of bare verb forms as well.

When it comes to the other auxiliary in English, *have*, the production rate in this study is much lower than auxiliary *be* for both learners. The complex behavior of

this auxiliary which shares all the morphological properties of its main verb counterpart but syntactically functions like *be* by moving from V to I whereas like its main verb counterpart has two forms (have and has) makes it a little confusing for the learners. The first obligatory context for *have* occurs in Sample 18 and it has been replaced by *do* by both subjects:

- (18) a. R: Have you got an elephant?
 M: No, I don't got an elephant. Do you got an elephant? (S 18)
 b. B: Do you have # do you have got an elephant? (S 18)

(18b) may indicate that B analyzes *have* as a main verb by making the sentence interrogative using auxiliary *do*. The only place this auxiliary is used is in accompanying with *got* which again shows its rote-learned nature as it is missing in all the other contexts:

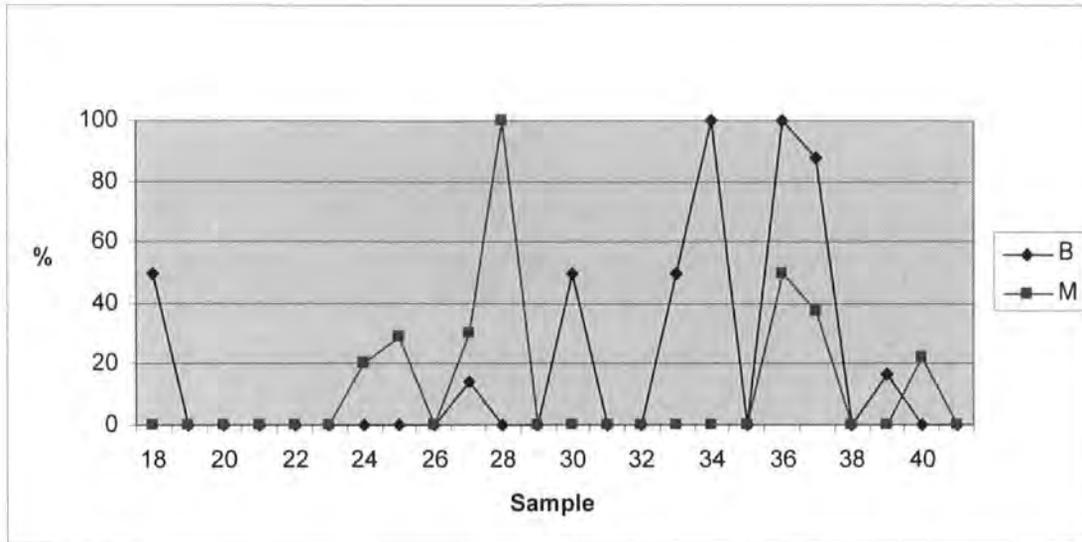
- (19) a. B: I didn't go to this sea. (S 24)
 'I haven't gone to this sea.'
 b. M: We doesn't read this book. (S 25)
 'We haven't read this book.'
 c. B: She just got a tail. (B 27)
 She has just got a tail.'
 d. M: I see the film of this. (S 27)
 'I have seen this film.'
 e. M: I cut my hand for three times. (S 29)
 'I have cut my hand three times.'
 f. B: We done all of our thing good. (S 30)
 'We have done everything well.'
 g. B: We already done these things. (S 31)
 'We have already done these things.'
 h. M: I didn't cry any time. (S 31)
 'I have never cried.'
 i. B: Do you got a cousin? (S 32)
 'Have you got a cousin?'

The first auxiliary *have* accompanied by verbs other than *get* appeared in Sample 30 where B produced the following sentences:

- (20) a. B: Because we have been good. (S 30)
 b. B: I've forgotten. (S 30)

Figure 6.4 shows the percentage of production of auxiliary *have*³⁵:

Figure 6-4: Percentage of auxiliary *have* production



The next instance of this auxiliary is in Samples 34 and 36, where the learners narrate a story but after that, the production of auxiliary *have* dips considerably.

The first obligatory context for auxiliary *do* is in Sample 3 but neither of the learners produces it until Sample 12 where an unanalyzed *do* emerges in their negative utterances:

- (21) a. B: She is don't like dog. (S 12)
 b. B: She is doesn't reading a book everyday. (S 12)
 c. M: They are don't play Football everyday. (S 12)
 d. M: We are doesn't every morning play Football. (S 12)
 e. B: We go to the Newcastle? (S 12)
 f. B: What colour like? (S 12)
 g. M: What on the table see? (S 12)
 h. M: You go to the school? (S 12)

³⁵ 100% production in Sample 28 for M is quite misleading as she produces two contracted forms (I've).

Figure 6-5: Percentage of auxiliary *do* production in obligatory context

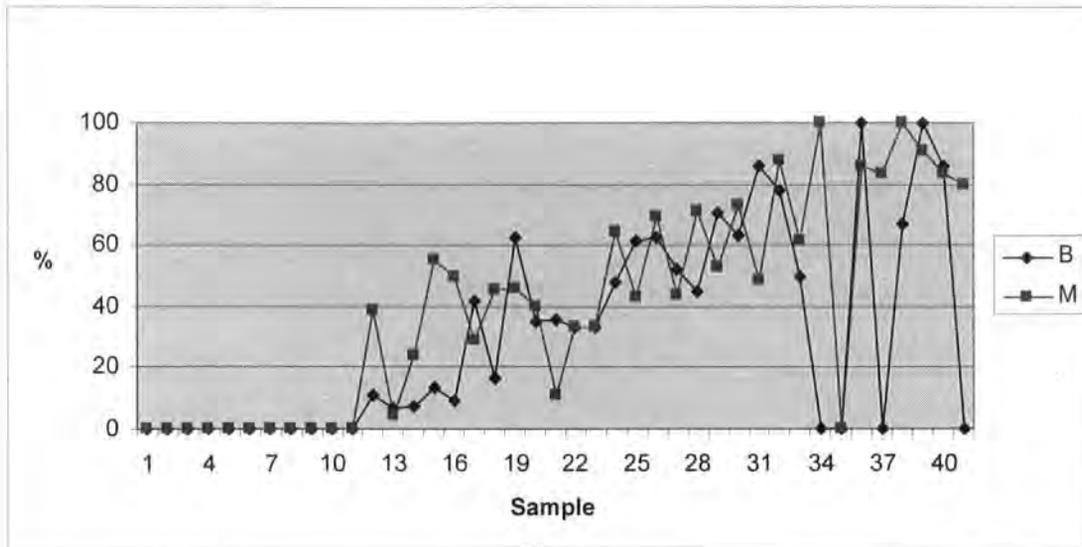


Figure 6.5 shows the percentage of auxiliary *do* in the learners' production.

Between Samples 12 and 17 the rate of *do* production in obligatory context for both learners is low. This rate is 14.93% and 33.36% for B and M, respectively, and mostly includes negative rote-learned utterances usually used frequently in the input. Only 3 out of 48 (6.25%) instances of *do* occurs in higher positions in interrogatives. The learners always form questions using intonation, as examples in (21e-h) show, and no *do* is raised until Sample 14. What is more noticeable is that in early negative utterances the auxiliary *do* is used accompanied with a form of *be* as well as it is shown in (21a-d).

What was covered in this section regarding the auxiliary production indicates, above all, that the auxiliary is acquired later than copula for both learners and that there is more fluctuation involved as well. While *be* and *have* both syntactically move from V to I, they do not emerge at the same time and auxiliary *be* emerges earlier than *have*. One reason for the late emergence of *have* may be due to the fact that *have* in English functions both as a main verb and auxiliary verb and this makes the learners more confused since these two forms feel different functions in the sentence.

Moreover, *have* is used less frequently in the input and this can influence the correct production rate of this auxiliary too. Let us now turn our attention to the production of the modal verbs in the next section.

6.6 Modal verbs

Excluding the unanalyzed early modals produced in Sample 4 (see 5.2), there are no obligatory contexts for modals up to Sample 15 when the learners produce sentences where the modals are correctly produced, missing, or have been replaced by or accompanied by other elements. As (22) shows, the early modals are restricted to *can*, and all the other modals are missing in learners' productions. This is the same as what Bellugi (1967) & Bloom (1970) found in the L1 acquisition of English. In Samples 15 and 16, M misses 8 out of 11 (72.72%) of modals and produces only 3 (27.28%) correct ones. B, on the other hand, produces 8 out of 12 (66.66%) of modals, but produces some non-target-like forms as well. Non-target-like use of modals for M occurs until Sample 21:

- (22)
- a. R: Can I play football?
B: No, you can't play football. (S 15)
 - b. R: Can I play the guitar?
B: No, you are doesn't # +/. (S 15)
 - c. R: Can you play rugby?
B: No, I am not # # I am can't play rugby. (S 15)
 - d. R: Can this bird fly?
B: No, this bird is can't fly. (S 16)
M: This bird is not fly. (S 16)
 - e. B: Why the sport is good?
M: Because we can running very fast. We can strong. (S 21)

Unlike correct suppliance of modal *can* to some extent for each subject as mentioned above, there was no production of other modals even in non-target-like form at this stage:

- (23) a. R: Will you go to school tomorrow? (S 15)
 B: No, I don't # +/.
- b. R: Where will you go tomorrow? (S 20)
 M: I'm go to the swimming tomorrow
- c. R: How many flowers will you paint? (S 22)
 M: I want to paint two flowers.
- d. R: Will you paint your flower in yellow? (S 22)
 M: No, I'm not paint my flower in yellow.

From Sample 21 on, there is less fluctuation in the production of learners and they start producing other modals such as *will* and *could* as well, but they still have problems using modals in interrogative sentences and treat them as thematic verbs by using auxiliary *do* to raise them. They also sometimes inflect modals just like other thematic verbs, use them as thematic verbs or replace them with auxiliaries. This is in contrast with what Haznedar (1997) (see 2.8.3.1) states that Erdem does not overregularise auxiliaries or modals and distinguishes them from thematic verbs by not inflecting them.

- (24) a. M: How we can swimming? (S 21)
- b. R: Will you go to school next Sunday? (S 23)
 M: I didn't go next Sunday.
 B: I doesn't go to school next Sunday.
- c. B: Did you can lift this heavy box? (S 26)
- d. B: Do you can open the door? (S 26)
- e. B: Did you can swim in the sea? (S 27)
- f. M: She will angry. (S 27)
- g. M: Then M can'ted fight with him (S 33)

Figure 6-6: Percentage of modal verbs production in obligatory context

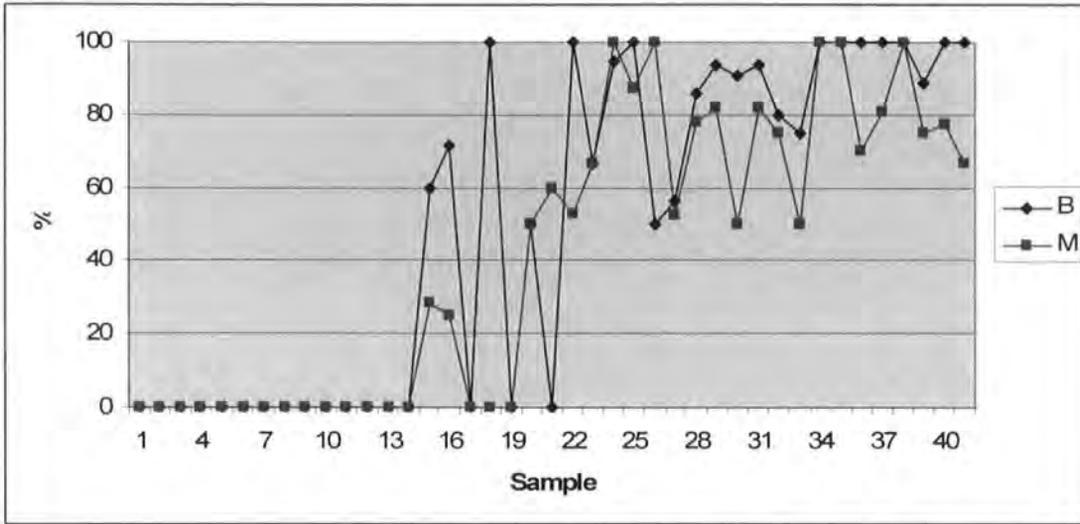


Figure 6.6 shows the percentage of modal verbs. Comparing Figures 6.3 with Figures 6.4-6.6 it can be noticed that modals and auxiliaries emerge later than copula in the productions of both learners and there is less fluctuation involved in the production of copulas as well. In the next section, the production of third person singular *-s* will be discussed.

6.7 Third person singular *-s*

The following two sections of this chapter are going to discuss tense and agreement. Let us start with agreement. Agreement in English is represented by the copula and by auxiliary *be*, *do* and *have*, as well as 3sg *-s*. This study already covered the production of copula and different auxiliaries and it was seen that copula is among the first to emerge and involves less fluctuation compared to other inflectional categories. All auxiliaries emerge at the same time with more fluctuation through among them *be* appears earlier and has a higher rate of production. Regarding the counting procedure, only present tense thematic verbs inflected or non-inflected with 3sg *-s* will be covered since *be*, *do* and *have* can be counted as suppletive forms. A breakdown of

inflected and non-inflected auxiliary verbs in respect to agreement, however, is given in Appendix C-11 in case a comparison needs to be done between suppletive and inflected forms³⁶. The counting procedure is the same as the one for the copula and auxiliary and there is a 'missing' category added to the table, just like for the copula table, to distinguish between non-inflected verbs and those inflected but incorrectly.

The first obligatory context occurs in Sample 7 for B and in Sample 10 for M. but both learners fail to produce the correct form:

- (25) a. B: M school go. (S 7)
 b. R: Does she like TV?
 M: She is like TV. (S 10)
 'She likes TV.'

There are more sentences in the next samples as well but no 3sg *-s* morpheme is produced up to Sample 15:

- (26) a. M: Mummy like is³⁷books. (S 10)
 b. B: Mummy rush on the room. (S 12)
 c. M: Mash put up the lips lipstick. (S 13)
 d. B: He sees his mum and his sister. (S 15)
 e. M: He sees mummy. (S 15)

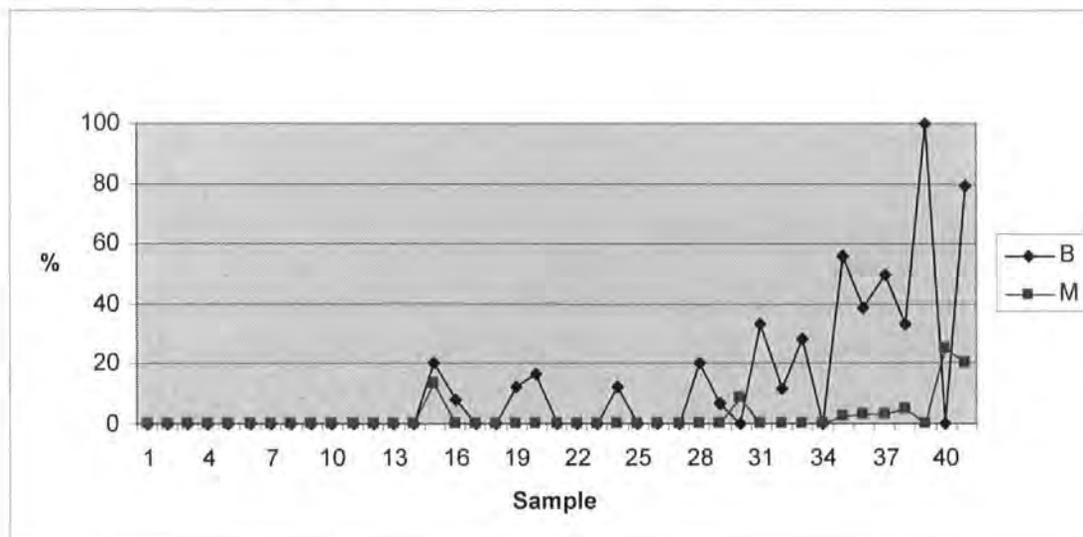
Figure 6.7 shows the production rate of this morpheme. It can be easily found through looking at 6.7 that despite emergence of 3sg *-s* morpheme in Sample 15, there is no increase during the next 10 or 20 samples. What is quite noticeable in this study is the difference between B and M regarding the production rate of this morpheme. Although the production rate for B is also much lower than the rate for the other morphemes, M's production is next to nothing up to Sample 40. Between Samples 15 to 30 the production rate for M is 0% and around 7% for B and only in one Sample

³⁶ This follows V & Y-S (1994) treating FP and AgrP on main verbs separately.

³⁷ This could be epenthesis (insertion of an extra sound into a word) since Farsi-English involves this.

(28), does it reach to 20%. It is from Sample 31 on that B's production increases gradually so that it reaches to 100% in Sample 39.

Figure 6-7: Percentage of 3sg -s production in obligatory context



Appendix C-8 shows a breakdown of all inflected and non-inflected verbs in the whole study. The researcher noticed that the verb *wake up* was used five times out of eight (62.5%) for M in obligatory context which is her highest rate. The only explanation may be that this verb usually started at the beginning of the discussion when they narrated something about themselves or someone else and has been memorized by M. There is no such priority observed for the other verbs. This was not the case for B who optionally inflects or does not inflect verbs, and there is no priority for any verb in his production.

The present study also shows that despite high omission of 3sg -s morpheme by both learners, it is almost always used correctly when produced; there are only five instances in the entire corpus where this morpheme is used with other subjects to make a wrong agreement:

- (27) a. M: I sees in this picture rabbit, lamb, and duck. (S 15)
 b. M: I sees in this picture one ball and Teddy bear. (S 15)
 c. B: I sees a bird and sun. (S 15)
 d. M: I likes sleepy story read. (S 17)
 e. B: I sees my friend in market. (D 20)

The question here is why the production rate of third person *-s* is so low for both learners of the present study compared to other morphemes. Ionin & Wexler's (2002) study of 20 L1 Russian children acquiring L2 English ranging from 3;9 to 13;10, investigated omission of verbal inflection in L2 acquisition. They examined how the child L2 learners treat forms with versus without overt inflection in both spontaneous production and on a grammaticality judgement task. They examined two affixal inflections (third person *-s* and the past tense *-ed*) and two suppletive ones (auxiliary *be* and copula). In the case of suppletive inflection, omission refers to the absence of an auxiliary or copula rather than use of non-finite *be* because there were only two such instances of non-finite *be*. They also computed the number of tense/agreement errors. They found that when finite forms are used by the child L2 learners, they are almost always used with the appropriate tense, person, and number specification. To them, the data provide evidence against the impairment hypothesis since they expected a higher rate of feature mismatch whereas there were very few tense/agreement errors in the data (5% and 0% for *-s* and *-ed* respectively; (7% and 9% for auxiliary *be* and copula *be*). Despite few tense/agreement errors on the main verb, morpheme omission was greater especially for inflectional affixes compared to the forms of *be*. According to Ionin & Wexler, the high use of suppletive inflection can not be transferred from Russian, since it lacks *be* copula in the present tense and has no *be* auxiliary in any tense except for the future. To them, the explanation regarding the low use of affixal inflection is that the affixal status of *-s* and *-ed* makes them difficult to acquire. Epstein et al. (1996) consider whether the omission of *-s*

and *-ed* may be due to reduction of phonemes or clusters in word-final position by examining the learners' production of irregular inflection which requires a change to the stem rather than affixation. Comparing the omission rates of third person in regular verbs versus the irregular ones in adult L2, they found a high correlation and concluded that *-s* omission is not purely phonological. The other evidence comes from their finding that if omission of third person *-s* were due to reduction of word-final phoneme, there should be similar rates for plural *-s*, whereas it was not the case in Ionin & Wexler's study.

In one of the first attempts to explain the L2 morpheme order, Zola & Liceras (1994) found that plural *-s* is acquired earlier than third person *-s* by adult L2 learners as in L1 acquisition. They also observed that copula *be* and auxiliary *be* are acquired before tense and agreement marking on thematic verbs and concluded that this is because they are free morphemes moving from VP to I while tense and agreement are bound morphemes moving the other way round.

Regarding the target-like use of third person singular *-s*, Stauble (see 6.5) observed that it was less difficult for the Spanish speakers studied than regular past tense *-ed*. Moreover, these learners found it easier than the Japanese learners of English studied. Hawkins (2001) suggests that this may be due to the L1 transfer since Spanish has a rich system of subject-verb agreement, while Japanese has nothing comparable. This is not compatible with Anderson who found in his study of 89 Spanish speakers there was no such facilitating effect on the performance of the learners. Although both Farsi and Turkish have a rich system of subject-verb agreement, B and M as well as Erdem in Haznedar's study were all pretty slow with regard to third person singular *-s* morpheme.

Hawkins (2001) also states that subject-verb agreement is more difficult to acquire, perhaps because specifier-head relations are inherently more difficult for L2 learners than head-complement relations.

According to Goldschneider & Dekeyser (2001) semantic complexity is considered to enhance the difficulty of establishing a one-to-one relationship between form and meaning. They mention the third person singular *-s* as an example denoting number, person, tense and aspect and state that when these four independent components of meaning happen to coincide this morpheme makes its appearance. The study came to the conclusion that saliency is the ultimate predictor of the order of acquisition.

The present study has not yet answered the question behind the persistent omission of third person singular *-s*. To find a plausible answer, based on what was discussed regarding the production of the copula, and following Hawkins (2001), the researcher assumes that the appearance of IP is triggered by the acquisition of a morpheme which requires the barest of specifications. This is copula *be*. By such an assumption, it is clear that the omission of third person singular morpheme does not mean that the learners' grammar contains no functional projections or that the MSIH applies since the copula emerges somewhere around Sample 14-18 in this study and although this study argues that the early stages of L2 acquisition lack functional categories, the early stages has nothing to do with later developments. As far as L1 transfer is concerned, Farsi has got rich verbal morphology for agreement and person and no transfer can be hypothesized. Following Hawkins (2001), Vainikka & Young-Scholten (1994, 1996a, b, 1998), Zobl & Liceras (1994), the results of this study also indicate that free morphemes emerge before bound morphemes in the learners' grammar.

What is quite noticeable in the present study and has not been tackled by any of the hypotheses mentioned in this section regarding verbal morphology is that even though the two learners have the same L1, have the same input and have roughly the same age, they show two different striking rates for 3sg *-s* with respect to inflectional morphology. This suggests that there are non-linguistic factors involved which affect the morpheme production rate and Chapter Eight is going to deal with this. The next section will present the development of past tense marking.

6.8 Past tense marking

Similar to the result of early (Bailey et al. 1974, Anderson 1978, among others) L2 research on staged development and cross-learner systematicity, more recent research shows that frequency in English L2 verb-related morpheme production is a common pattern occurring for all L2 learners regardless of the age and the L1 (Haznedar 1997, Ionin & Wexler, 2002, Zobl & Liceras, 1994), among others). Ionin & Wexler's (2002) data (see 6.7) regarding the verbal morphology production show that free morphemes (copula and auxiliary) are produced earlier than bound morphemes (third person singular *-s* and past *-ed*).

This section examines the production of regular and irregular past tense forms. The first issue to be discussed is the production of irregular past tense forms.

6.8.1 Irregular past tense

According to Wolfram (1985, 1989) & Wolfram, Christian & Hatfield (1986), the distribution of simple past morphology can be related to phonological salience. They claim that irregular verbs show greater tense marking than regular verbs and the phonetic shape of the past tense will influence the likelihood of their occurrence.

Working on Vietnamese learners of L2 English, Wolfram (1985, 1989) concluded that

the most probable marked regular past verbs are those with syllabic past [Id], (e.g., treated), with singleton consonant [d], (e.g., stayed) and with clusters specially where the clusters are followed by a vowel than a consonant. Regarding the irregular verbs, marking is most likely when the past form has the least similarity with the non-past one. Suppletives (*be*), internal vowel change (*sleep/slept, come/came*), and modals are the most likely ones to be marked. The least likely ones to be marked are the replacives (*have/had*). Bayley's (1991, 1994) study of L1 Chinese learning L2 English and Lafford's (1996) one with the L2 Spanish also indicate the role phonological salience plays in marking past.

The first obligatory context for the irregular past form occurs in Sample 9, at the bare VP stage, for both subjects. Whereas B produces 3 out of 29 (10.34%) irregular forms, M produces 14 out of 21 (66.67%):

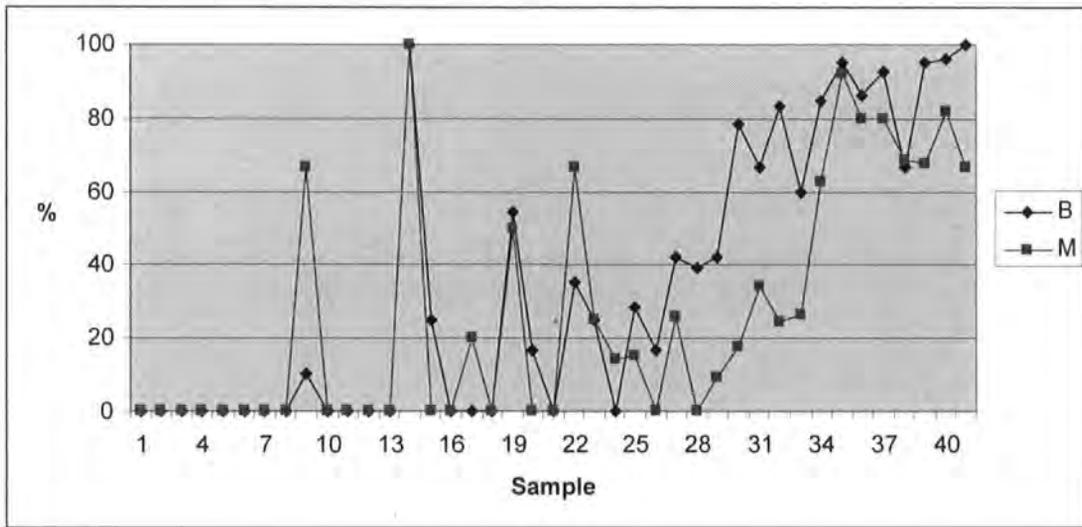
- (28) a. R: What did the caterpillar eat on Thursday?
 B: The Thursday food³⁸ four strawberry. (S 9)
 b. R: What did the caterpillar eat?
 M: The caterpillar is ate sausage. (S 9)
 c. R: What did the cow say?
 M: Cow said moo. (S 9)

The number and percentage of irregular past tense verbs is presented in Figure 6.8. M's high percentage of the past tense form in Sample 9 is a mere rote learning since 12 out of the 14 past tense verbs produced in this sample were the verb 'ate' and this verb was repeated several times in the story she read. The other verb was the verb *said* which was produced a lot by both subjects. All three productions by B in Sample 9 included the verb *said*. B even used this verb in a non-past tense context, which again emphasizes the likelihood that it was not analyzed as a past form especially since the uninflected form had not yet been produced by either subject.

³⁸ The verb 'eat' in Farsi is a two-word verb consisting of 'food + eat'. The word food here is used as a verb.

- (29) a. B: The duck said quack quack. (S 9)
 b. M: A Tuesday he ate strawberries. (S 9)
 'He ate strawberries on Tuesday.'
 c. R: What does the mummy say?
 B: Mummy said no chips for you. (S 12)

Figure 6-8: Percentage of correct past irregular in obligatory context



There was no obligatory context for past tense between Samples 9 and 14. In Sample 14 the production percentage for both subjects was 100%, which is misleading since both subjects produced only one example:

- (30) a. R: What did mummy say to the baby bear?
 B: Mum said, 'Go to the bed.' (S 14)
 b. R: What did she say?
 M: Mummy said, 'Go to the bed.' (S 14)

What is clear in B's early past tense production is that he uses both regular and irregular past verb forms simultaneously, and often with auxiliaries, whereas this fluctuation is rarely found in M's early productions, and past marking as a whole emerges later:

- (31) a. R: Did I play basketball yesterday?
 B: You are went play basketball yesterday. (S 15)

- b. R: Did I go to school yesterday?
B: Yes, you are came. (S 15)
- c. M: If that girl was wanted to go somewhere # +/. (S 27)

As already mentioned, many researchers (White 1996; Lardiere 1998a; among others) argue that once a morpheme is used productively even in small number of cases, the underlying syntactic structure for that morpheme must exist as well. The Missing (Surface) Inflection Hypothesis (Haznedar & Schwartz 1997; Lardiere 1998a, b, 2000; Lardiere & Schwartz 1997; Prévost & White 2000a, b; Robertson 2000), on the other hand, holds that abstract morphosyntactic features are present even in the early interlanguage grammar and the underlying syntactic representation is unimpaired.

Stauble (see 6.5), on the other hand, argues that a high proportion of non-target-like use of verb forms as well as inconsistent tense or agreement inflections strongly suggests that the subjects had not acquired English syntax. Both Japanese and Spanish advanced speakers acquired progressive aspect as well as past tense, but there was a major difference between acquisitions of irregular past tense forms versus regular ones; that is, irregular past tense forms were more often target-like.

The results of the present study also show that the subjects have not acquired the rule for making past tense in English in spite of producing some irregular past forms. Up until Sample 19 the production of past irregular is low and the subjects produce very few utterances with these. From Sample 20 on, they start to produce more irregular past tense forms, but there is still a high fluctuation in their past tense form production.

- (32) a. R: Did you go to school today?
B: Yes, I am go to the school. (S 20)
- b. B: Concuss fell. We picked they. (S 22)
- c. R: What did the monster do first?
M: Said, "I want to eat Bernard." (S 23)

Comparing the percentage of correct past irregular verbs produced between Samples 15 through 22 with the production percentage between Samples 22 through 30 for both learners, the gradual continuing development of the irregular past form is quite evident. Whereas the production rate during the former period was 18.78% and 19.52% for B and M, respectively, during the second period the production rate increased to 34.1% and 26.2%. As we will see later in this chapter while discussing the production of regular past morpheme, the production rate for this morpheme was also very low during this period. From Sample 30 on production of the irregular past form increases rapidly so that between Samples 30 through 41 (by the end of data collection), the production rate for B and M reaches 81.9% and 62.21%, respectively. The learners' regular past tense production will be discussed next.

6.8.2 Regular past tense

In this part, the production of the past tense form of regular verbs in B and M's data is discussed. The counting procedure was the same as the one used for the past irregular form. The data was examined for the presence or absence of overt past tense marking in obligatory past tense contexts. The terms and definitions used are the same as those discussed while considering the past irregular form. Although the first obligatory context for the regular past form occurs in Sample 9 for both subjects, no verbs inflected with the regular past *-ed* are produced until Sample 17, where M produces the first inflected regular past verb while narrating a story:

- (33) a. M: The bee stung to his feet and he jumped over there. (S 17)
b. M: She swallowed the cat # dog. (S 18)

Figure 6-9: Percentage of past regular

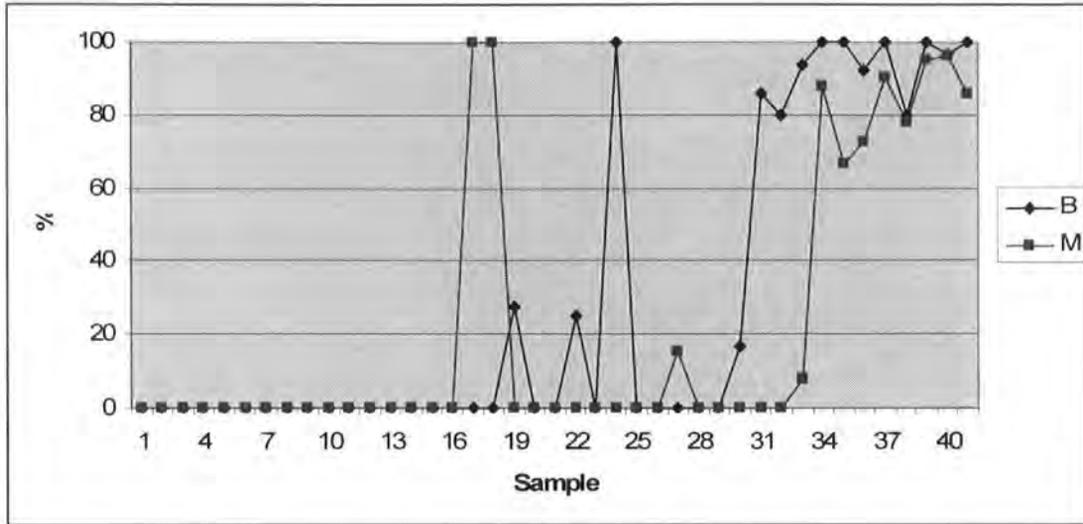


Figure 6.9 is misleading since the two 100% productions in Samples 17 and 18 are both 1 out of 1. M inflects no more regular verbs for until past Sample 33 with the exception of 2 out of 13 (15.38%) produced in Sample 27 which can be discounted since the same verbs were not inflected again in the later samples (up to Sample 36), and it suggests that she just uses *-ed* because she has heard it used with some verbs and does not analyze the form. From Sample 33 on, she suddenly starts producing more past regulars and the rate of production increases to 75.5% between Samples 33 through 41; while this rate was only 1.3% between Samples 22 through 32.

While the first obligatory context for the regular past for B occurs in Sample 9, the earliest target-like appearance of this form is found in Sample 19 where he produces 3 out of 11 (27.27%). With the exception of Sample 22, where the frequency is 2 out of 8 (25%) and Sample 24 where the rate of production is 100% since it is only 1 out of 1, the rate of production until Sample 30 is very low. It is after Sample 30 that B's production increases rapidly. What is quite interesting regarding the production of past regular verbs is the considerable difference between the two subjects. During Samples 22 through 32 where M's rate is only 1.3%, the production

rate for B was 27.9%. This dominance continued up to the end of data collection period so that between Samples 33 through 41, where M's rate is only 75.5%, the rate of production for B is 95.3%. The possible reasons behind this difference will be discussed later in Chapter Eight.

When comparing past irregular versus past regular two things should be mentioned. First, the subjects produced past irregular well before past regular. Whereas the first obligatory contexts for producing both irregular and regular past forms occurred in Sample 9 and both subjects produced the irregular past form in the same sample, there was no target-like form for regular past up to Sample 17 for M and Sample 19 for B. Regarding the distribution of verbs inflected for past irregular, it was observed that the frequency of the verbs inflected by B was higher than for M. This means that M only used the past irregular forms of those verbs which were used a lot in the input and the majority of the non-frequent verbs were left uninflected. 12 out of 14 verbs produced in Sample 9 were 'ate' because the investigator read a story where a caterpillar ate different things on different days and she repeated this verb for many times in that session. B inflected even non-frequent verbs although in later samples he left the same verbs uninflected³⁹. So frequency can be seen as a factor effecting the production of irregular verbs. Does this really mean that B has got the syntax for making past, i. e., the underlying functional grammar? If the answer is yes, where does the problem lie?

Lardiere (1998 a,b) provides a detailed case study of an adult (Mandarin) Chinese speaker's functional categories in L2 English. Lardiere examines Patty's⁴⁰ use of tense and agreement inflection in spontaneous production. She reported an evident optionality in Patty's simple past tense marking production while other

³⁹ This may be as a result of his stronger verbal short term memory (see Chapter 7).

⁴⁰ Note she has had a lot of exposure before data collection and was not in her initial state.

evidence from Patty's spontaneous oral production suggest that she has full command of various syntactic phenomena associated with tense and agreement (100% correct incidence of nominative case assignment, hardly any null subjects, no variability in verb placement with respect to adverbs and negation as well as projection of CPs). She suggests that the problem lies in the mapping between syntax.

Beck (1997) (see Hawkins & Liszka, 2003), on the other hand, considered the reaction time of 31 adults having different L1s in producing past tense forms in English. They were given the verb stems on a computer screen and were asked to produce the past forms orally, and the reaction times with respect to their production were taken into account and were compared with those of 32 native speakers. Beck noticed that the reaction times for low frequency irregular stems were slower than on high frequency irregular stems for natives as well as non-natives whereas this difference did not exist in regular stems and concluded that optionality is not the result of deficit in the domain of morphology.

To test the claim that the source of optionality in tense marking lies at the interface between the syntactic and morphological components, Hawkins & Liszka (2003) selected advanced L2 speakers of English whose L1s were Chinese, Japanese and German. The data were elicited from a past tense morphology written test as well as an oral production test. The subjects were given six verbs at the top of each page (half real, half invented) followed by six sentences with a blank part and the learners were supposed to put the past form of those verbs in those blanks. Hawkins & Liszka found that the frequency of past tense marking in the responses of advanced non-natives was very similar to those of the natives, and consistent with Beck's findings, they suggested that the morphological component is operating similarly in these speakers to the way it operates in natives and can not be the source of optionality

since the subjects are aware of the regular versus irregular distinctions. The results of the oral production test showed that the Chinese informants were less likely to inflect both regular and irregular thematic verbs for past tense than the Japanese or German speakers. This was in contrast to the performance of these speakers on the morphology test, where there was no significant difference between the three non-native groups. These results are problematic for the view that L2 speakers generally have difficulty mapping phonological forms with layers of morphological features onto terminal nodes generated by the syntax as is claimed by Lardiere (1998 a, b). They also rejected the possibility that spontaneous oral production introduces performance pressure which delays speakers' access to inflected past tense verb forms as was supposed by Prévost & White (2000) since the Chinese speakers were perfect in inflecting past participles and irregular past in contrast to regular past tense forms. This is because both are aspectual in nature and result from a verb-internal word formation process which does not involve the T-V configuration and these have independent lexical item properties for Chinese speakers. They finally come to the conclusion that the reason behind this optionality lies in the absence of some parameterised syntactic features in the speakers' L1s. While learning English, Chinese are unable to establish that English T is specified for [\pm past] and in their English grammars the terminal string T-V for them includes only [\pm finite]. Moreover, there were individual differences markedly involved in the extent of verb inflection among the high proficiency speakers and this also depends on whether they speak spontaneously or they are doing a written activity.

MacWhinney (1978) & Pinker (1984) state that young children learning English possess a correct irregular in their lexical long-term memory and represent it as the past of the corresponding stem, but either the content for the irregular or the

link to the stem, or both, is not retrieved. As observed in the present study in Sample 15, B produced forms such as *came*, *are came*, *are go*, and *are went* which shows that neither content nor link to the stem is retrieved. This emphasizes the independent lexical properties of past irregular where these items are initially stored in short term memory and acquisition depends on the short term memory span and then on retrieval speed from long term memory. This revolves around two psychological processes as rote memory and rule deployment (Marcus, Pinker, Ullman, Hollander, Rosen, & Xu, 1992). Under the rote process, the learner memorizes verb forms one by one. The child uses this process at the outset of language development, where the English regular past tense rule is not present. The young child sticks to correct forms for they are easily available from rote memory (We will refer back to this discussion while talking about overregularisation in 6.9).

Second, while there was a gradual increase in the rate of past irregular, past regular increased quite rapidly in both subjects' data. The reason behind this is that past regular is acquired differently. Whereas past irregular is learned by rote, regular is totally rule-governed. This is in line with what Clahsen, Avelledo, & Roca (2002) present regarding the morphological analyses of verb inflection produced by 15 L2 English Spanish-speaking children (age range: 1;7 to 4;7). The data come from longitudinal and cross-sectional samples of spontaneous speech and narratives. According to Pinker's (1984) dual-mechanism model of inflection, regular and irregular inflection are dissociated in children's grammar in the same way as is claimed for the adult grammar, involving a set of lexical entries that are listed in memory, and a set of rules to form larger linguistic expressions. A form such as *bringed*, for example, is due to applying a regular affixation rule in cases in which the

lexical entry for the irregular version is not available. These forms disappear once the child can reliably retrieve the correct irregular word form.

When the past morpheme *-ed* is internalized by subjects they start inflecting many different verbs and the rate of non-inflected regular verbs quickly goes down. It is exactly at this moment when overregularisation comes to the scene. Whereas the production rate of regular past for B during Samples 25 to 30 was only 2.7%, this rate increased to 79.35% between Samples 30 to 35. The first overregularisation was also produced in Sample 30 for B and from that sample on his production rate increased very rapidly. There seems to be a high correlation between the high production of regular past tense morpheme and overregularisation. This was exactly the same for M. The rate of past regular morpheme production for her was only 2.5% from Sample 25 up to Sample 31 where she produced the first overregularisation. This rate increased to 32.4% between Samples 31 to 35. This clearly shows that unlike irregular past tense forms, regular forms are not acquired gradually and are produced at a high rate as soon as is internalized. This does not mean that after acquiring the rule for marking past regular, there will be no fluctuation in the production of past tense and a 100% production seems not to be guaranteed. While the correct production of regular verbs grows rapidly (depending on the learner as well), the production of correct irregular past, on the contrary, goes down once the learners start to overregularise and this overregularisation continues for a long time when the learners produce many non-target past forms. This is totally in line with what was already mentioned in this chapter as to the differences between B and M regarding the production of past tense forms. While B does not mark 6 out of 120 (5%) past regular verbs between Sample 30 when he produced the first overregularisation and Sample 41 which is the end of data collection period, this rate was 51 out of 239 (21.33%) for M between Sample 31

when she used the first overregularisation and Sample 41. To see how overregularisation works, next section will deal with this.

6.9 Overregularisation

Overregularization, which is the application of a regular pattern to an irregular stem, has been taken as the demonstration of the creative nature of human language (Chomsky, 1959). Past tense overregularization is one aspect of a specific section of the English language grammar where lots of errors have been committed for as long as the acquisition of language has been studied (Brown, 1973; Brown & Bellugi, 1964; Ervin, 1964; Ervin & Miller, 1963).

Overregularization became famous when Ervin & Miller (1963) first observed a kind of developmental course in the process of acquiring past tense marking. They found that the first overregularization errors seem to appear after a period in which children use correct irregular past tense marking. Overregularization in their view represented a decline in performance in overt tense marking resulting in a U-shaped curve when the correct proportion of irregular past tense forms was plotted against age. This indicated successive reorganization of child's linguistic system.

Ervin & Miller point out that understanding the developmental course of overregularization requires more than distinguishing between rote and rule. The interaction of the regular rule with the irregular items should be taken into account as well (Ibid). Some linguists (Aronoff, 1976; Kiparski, 1982) have proposed a psychological mechanism called the blocking principle according to which the child's hearing an irregular form blocks the subsequent application of a regular process to that item. Every time the child hears an irregular past tense, it is recorded in the lexicon and the regular rule is blocked from applying to it. The problem with this

principle is that while the full developmental sequence of inflection in children is examined, this principle explains a monotonic improvement not a U-shaped one. It explains how children get out of an overregularization stage without saying how they get into it. With blocking at work, the irregulars would dominate from the beginning and no U-shaped sequence would result. If children go from correct irregulars to overregularization back to correct irregulars, there remains no way to think of blocking as being inherent to child language system. This is why all the researchers dealing with overregularization state that the overregularization errors coexist with the early irregulars rather than replacing them (Cazden, 1968; Ervin & Miller, 1963; Kuczaj, 1977). When the general rule is learned, children stop using the previously learned irregular forms and produce a regularized version instead. Children may proceed through five steps in acquiring some inflections, in this case for the past marker: no inflection, adult form, overregularization, transition and adult form (Reich, 1986).

As noted above, overregularisation in the present study first began in Samples 30 and 31 (see appendix C-14) for B and M respectively:

- (34) a. B: It was about science and they make a # maked a # made a bear. (S 30)
b. M: We do it together. Then he just goed. (S 31)

There were 8 obligatory contexts involving the verb 'make' for B before this and he always used the un-inflected form. The first correct form was produced in the same sample and in the same sentence, as shown above. As for M, there were also 46 obligatory contexts for past with the verb *go* before this sample and she did not use the correct irregular form: in all cases the verb was left un-inflected. What is interesting in this study is that not only the rate but also the nature of overregularisation is totally different for the two subjects of this study. With respect to

rate, B produces only 18 overregularised forms, while the rate of production for M is 51. Regarding the nature of overregularisation, B overregularises only those verbs which he uses for the first time and for which he has not already produced the correct irregular form. The only exception is the verb *make* he overregularises up to Sample 38 although he used the correct form in Samples 34, 35 and 36. For M the situation is different. She overregularised many irregular verbs for which the correct forms were already present in her data. According to Bybee & Slobin (1982) adults overregularise as well when they are either under pressure or must utter irregulars with low-frequency verbs. Being in danger of not being uniformly memorized, these verbs will be regularised. As far as B's data is concerned, the results of this study are in line with the idea that low frequency plays a role in the overregularisation process since he only overregularises those verbs he used for the first time which were not that frequent in the data but M follows an alternative pattern. It seems that neither frequency alone nor age can be the source of difference between the two subjects and the difference must lie elsewhere. (see Chapter Eight).

Another difference in the nature of their overregularisation is that while B never added *-ed* to the inflected past forms of irregular verbs with the exception of one verb 'broke', M produced many combinations of this sort:

- (35) a. B: Suddenly the magic broke. (S 34)
 b. M: Then her foot stucked on a tree. (S 36)
 c. M: She broke all her mirrors. (S 36)
 d. M: She sawed anyone in the house. (S 37)
 e. M: She gaved her a dress. (S 37)

Whereas the researcher does not exactly know where the difference for producing these forms lie, MacWhinney (1978) & Pinker (1984) state that if the content of a stored past tense form is retrieved without the features of the past tense, overregularization including an affixed past stem such as *came*d will result.

The question here is whether overregularization errors completely ever disappear. Marcus et al. (1992) state that overregularization diminishes gradually. Although both children and adults (under certain conditions) overregularize, there is also a dramatic difference in the rate. The difference is perhaps a consequence of having more tokens of each irregular verb as one lives longer, with more exposure leading to more reliably accessible memory traces (Ibid.).

6.10 Lack of evidence for the CP

As mentioned in 4.2, there was no CP projection during the VP stage. This section considers all CP related elements to see if there is any CP projection during the IP stage. The first yes/no questions in this stage occur in Sample 14 where five out of five questions are formed without any inversion:

- | | | | |
|------|----|----------------------------|--------|
| (36) | a. | B: You like a ice-cream? | (T 14) |
| | b. | B: He is reading the book? | (T 14) |
| | c. | B: You are a good student? | (T 14) |
| | d. | M: He reading a book? | (T 14) |
| | e. | M: You are a good student? | (T 14) |

Whereas in Sample 16 the rate of inversion increases to 50% for M and 100% for B (see 37), sentences produced in the next samples (18, 19, 20) show that the learners have not yet acquired subject-verb inversion (see 38):

- | | | | |
|------|----|--------------------------------|--------|
| (37) | a. | B: Can I play with my toys? | (S 16) |
| | b. | B: Can a mouse fly? | (S 16) |
| | c. | M: Can I fly? | (S 16) |
| (38) | a. | M: She is tummy is ache? | (S 18) |
| | b. | M: The flowers are they happy? | (S 18) |
| | c. | M: The books are on the table? | (T 19) |
| | d. | M: Are you OK? | (T 19) |
| | e. | B: The lamp is off? | (D 19) |
| | f. | B: It's we computer? | (D 19) |
| | g. | B: The books are in the table? | (T 19) |
| | h. | B: Are you all right? | (T 19) |

- i. M: I am reading the book? (D 19)
- j. B: He is crying? (D 19)
- k. B: Do you know where is my roller skate? (S 19)
- l. M: Is it fast? (S 20)
- m. B: Does it have # does it long? (S 20)
- n. B: Does it a big animal? (S 20)
- o. M: Does it fast? (S 20)

There are only three target-like questions among the above sentences and all of them contain copula. Following Hawkins (2001), this shows that inversion occurs first with copula. The existence of *do* and *does* in non-target-like sentences show the unanalyzed and chunk form of these auxiliaries in these examples.

The next CP-related element to discuss is wh-question. As I mentioned in 4.2, wh-fronting precedes subject-auxiliary inversion. Following Brown (1968) the reason might be due to children's limitation in their transformations used in utterances. They are able to do Wh-fronting, but not subject-auxiliary inversion. This happens even after the learners in this study have projected IP in their grammars. This shows that subject-auxiliary inversion follows the IP projection:

- (39) a. M: What time go to the school? (T 14)
- b. B: What children doing? (D 19)
- c. M: What colour his hat? (D 19)
- d. B: What you buy yesterday? (D 19)
- e. M: Who you see into the market? (D 20)
- f. B: Where he # this animal live? (S 20)

What is quite evident regarding these embedded clauses is that either the head or specifier of IP in all the above sentences but the last one is empty. This casts doubt on the idea that *because* is really in the CP in the IP stage:

- (40) a. B: Because he sleeping. (S 16)
- b. B: Because is little. (S 16)
- c. M: Because elephant any have wing. (S 16)
- d. B: Because is very late. (S 16)
- e. B: Because he don't have wing. (S-16)

The last type of embedded clauses to discuss here is the infinitival clauses which are mostly with the verbs *like* and *want*. The early infinitival clauses are represented in (41):

- (41) a. B: He ask I want play with my toy. (S 16)
 b. M: He like play with the flower. (S 17)
 c. B: I like swim. (S 17)
 d. M: I likes sleepy story read. (S 17)

Out of 17 infinitival clauses produced up to the end of Sample 19, only four (23.52%) include infinitive marker *to*(42a-d):

- (42) a. B: Yes, he like to fight. (S 17)
 b. B: No, he don't # doesn't want to come out. (S 17)
 c. M: No, he don't # doesn't want to come out. (S 18)
 d. B: Titch try to do clean the steps. (S 19)
 e. M: I like eat chocolate. (S 17)
 f. B: I like swim. (S 17)

This all show that despite the presence of IP in the learners' grammars, CP is not projected yet and this is in line with the hypothesis that CP follows IP.

6.11 Summary

In this chapter the researcher observed that whereas copula is used as a master key and is produced in many contexts mostly in non-target-like forms in the initial stages of L2 acquisition, the appearance of IP is also triggered by the emergence of copula *be* which requires the barest of specifications. This is based on less fluctuation noticed in the production of copula between Samples 14 and 18 where the projection of IP has been supposed in this study. With respect to auxiliary *be*, it emerges a little later than copulas having more fluctuation due to complex selectional requirements. Auxiliary *be* also represents different time reference which is argued to be the result of lexical transfer from Farsi verbs. Auxiliaries *do* and *have* emerge later because of the syntax

they involve. Modal auxiliaries, like other kinds of auxiliaries are not productively used and neither of the learners distinguish them from thematic verbs and treat them like thematic ones at the start. Third person singular *-s* emerges late like modals but the increase is very low especially for M, whose production is almost next to nothing up to Sample 40. This indicates that bound morphemes are acquired later than free morphemes (Zobl & Liceras, 1994). There is also a great discrepancy between the two learners in respect to producing this morpheme and this led to devoting a chapter to discussing the reasons (Chapter Eight). The case was the same regarding the production of the past tense. The early emergence of past tense involves only those irregular verbs frequent in the input and it has been hypothesized that these are not always marked for past since B used this verb in non-past tense contexts. Moreover, he used both regular and irregular past verbs simultaneously with auxiliaries. The researcher also observed that the frequency of the irregular verbs inflected by B as well as the production rate was higher than those produced by M, and M only used the past irregular forms of those verbs which were used frequently in the input, with the majority of infrequent verbs left uninflected. This indicates that frequency can be seen as a factor affecting the production of irregular verbs at least for some learners. There is considerable difference between the two subjects regarding the production of past regular verbs as much as with 3sg *-s*. With respect to the rate of increase in producing regular versus irregular past, the researcher observed a gradual increase in the rate of production of past irregular, whereas past regular increased quite rapidly in both subjects' data. The reason behind this is that past irregular and past regular are acquired differently and whereas the former is learned by rote, the latter is rule-governed. The rate and nature of the overregularisation found is different for the two learners of the study. Whereas the number of overregularised verbs for B is only 18 in

the whole corpus, this rate of production for M is 51. Moreover, B overregularises only those verbs which are used for the first time, whereas M overregularises many irregular verbs including those had already been produced correctly.

The data presented in this chapter will be discussed in the next section in light of the hypotheses presented in 2.6.2 to see which of those hypotheses is on the right track regarding the early states of child L2 acquisition.

6.12 Discussion

Let us start the discussion with Haznedar (1997) who claims that functional category IP is present in the initial stages of L2 acquisition. She reports that almost all of the pronominal subjects used by Erdem in the initial stages are nominative. Unlike Haznedar and following the results of child L1 English study by Vainikka, the present research showed a systematicity in the distribution of oblique subjects that has a syntactic basis. This means that unlike nominative subjects which are in the Spec, IP, oblique subjects are initially in the Spec, VP. Haznedar also reports that although there are null subjects in early stages, they constitute only a small proportion of the data which is an indication that Erdem has acquired the rule that English is not a pro-drop language. It seems that what she has not mentioned is that there is a relation between copula production and lack of null subjects in her early data, which means that the early subject + auxiliary combinations are chunks. This also indicates lack of L1 transfer since Turkish does not have auxiliaries; functional projections are not head-final; and it is a pro-drop language.

Data regarding the production of another IP-related element, NegP, shows that unlike Haznedar's study in which Erdem uses *no* for nominal negation and *not* for

verbal negation, there is not such a differentiation in B and M's data and only the lexical concept of negation is considered for both learners, and L1 transfer is also only at the level of lexicon. Moreover, unlike Haznedar who claims that Erdem can distinguish the difference between lexical verbs and the auxiliaries through correctly placing the negative marker, the present study shows that there is no copula, auxiliary, or modals in the early productions and the position of negation markers in relation to copula construction can not be determined.

Data collected on another IP-related element, copula, show that copula is missing with lexical subjects. This means that early copulas and the nominative subjects are chunks and indicates that nominative subjects produced in the early stages are in the Spec, IP otherwise there should have been a stable IP node to put the copula in even in the absence of nominative subjects. This provides counter evidence for Haznedar and Full Transfer followers who take the emergence (rather than mastery) of a morpheme as evidence supporting the presence of the underlying grammar. Following Cox (2005), this also shows that methodological inconsistencies lead to the lack of consensus among L2 English researches.

What was mentioned above show that initial grammars include only lexical categories and lack IP of both the L1 or any other source. Grammars in the earliest stage of development lack certain subsequent properties, and functional categories emerge gradually.

6.13 Conclusion

This chapter comes to the conclusion that in line with the Minimal Trees, Modulated Structure Building, Valueless Features hypotheses, and Myles (2004, 2005), syntactic features are not established until speakers show productive use of the morphology in

their utterances. The rate of copula production in this study depends mostly on two factors. First, data collection method and second, the type of subject (pronominal versus non-pronominal). Utterances collected in learners' diaries or in translation tasks contained less copulas than the utterances in which the learners received a lot of input and produced some cliché copulas. Non-pronominal subjects in the initial states mostly lack copulas. Copulas which are initially absent in the learners' utterances are considered as triggers for the emergence of functional categories.

Fluctuation in auxiliary production is much more than copula production because copula *be* can freely select adjective phrases, noun phrases, or prepositional phrases as complements whereas auxiliary *be* can only select VP as complement providing that the V has *-ing* inflection as well and this makes it difficult to produce. Auxiliaries are used out of context as well which indicates that the mere emergence of a morpheme do not mean that the underlying syntactic structure represented by that morpheme has been fixed in the learners' grammars. Modal auxiliaries, like other kinds of auxiliaries are not productively used in the initial states and emerge later than copulas.

Morpheme omission was greater especially for inflectional affixes comparing with the forms of *be*. The reason behind the low use of affixal inflection is that the affixal status of *-s* and *-ed* makes them difficult to acquire. Copula *be* and auxiliary *be* are acquired before tense and agreement marking on thematic verbs since they are free morphemes moving from VP to I while tense and agreement are bound morphemes moving the other way round. It is also found that third person singular is more difficult than past morpheme for both learners in spite of the fact that Farsi has a rich verbal morphology. This rules out the role that L1 transfer can play in this regard.

Semantic complexity is probably taken as a factor enhancing the difficulty of this morpheme since third person singular *-s* denotes number, person, tense and aspect.

It was found that in spite of having the same L1, input and age, the two learners produced two quite different rates of tense and agreement morphemes. This shows that there might be some non-linguistic factors involved which affect the morpheme production rate. The emergence of another functional category (CP) is discussed in Chapter Seven. To them, the explanation regarding the low use of affixal inflection is that the affixal status of *-s* and *-ed* makes them difficult to acquire. Following Hawkins (2001), Vainikka & Young-Scholten (1994, 1996a, b, 1998), Zobl & Liceras (1994), the results of this study also indicate that free morphemes emerge before bound morphemes in the learners' grammar.

Chapter Seven: The acquisition of the CP system

7.1 Introduction

Full Transfer/Full access (see 2.6.2.1) claims that CP is initially available via the L1 and the X'-theoretic values of the L2 CP are determined through L1 grammar. The Minimal Trees/Structure Building hypothesis (see 2.6.2.3), on the other hand, claims that only lexical projections are available at the onset of acquisition and functional structures develop in response to the interaction of X'-theoretic principles and lexical learning (V & Y-S, 1994). Under this hypothesis, the CP stage follows the IP, and evidence for which are wh-questions, yes-no questions and subordinate clauses used by the learners in a target way for more than 60% of the time.

Here we will look at different CP-related elements including yes/no questions, Wh-questions, embedded clauses and infinitival clauses to find out whether the learners' productions in this regard after IP has been projected are different from non-target-like attempts at the VP and IP stages. The data show that target-like forms are not present during VP and IP stages and support Structure Building.

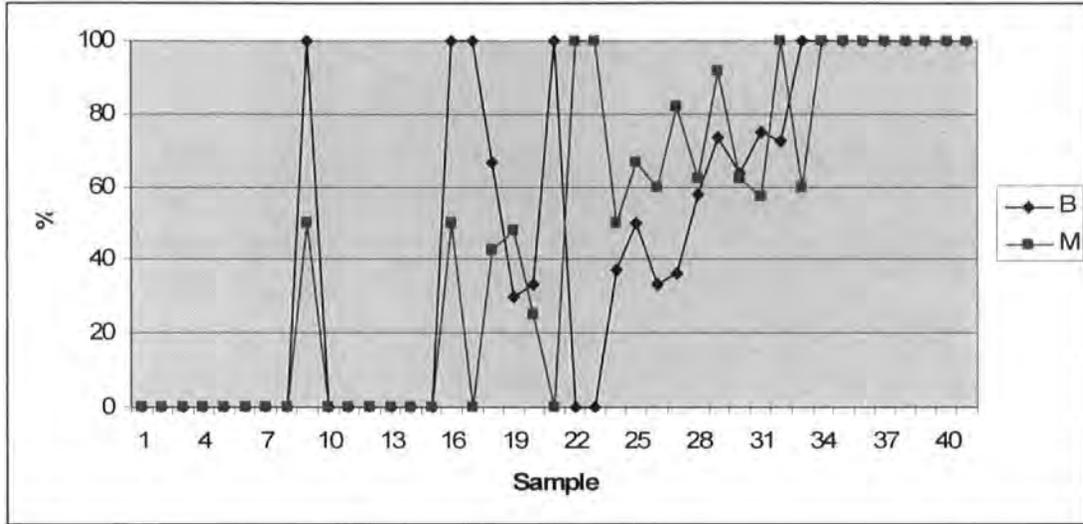
7.2 Yes/no questions

The counting procedure and categorization in yes/no questions are as follows. All questions have been divided into correct suppliance, incorrect suppliance and wrong-raised. As mentioned in Chapter Five, excluding two sentences produced by M in Samples 3 and 4 through using intonation, there are no yes/no questions up to Sample 9. The first yes/no questions in the IP stage occur in Sample 14 where five out of five questions are formed without any inversion (see Chapter Six). Regardless of some rote-learned questions produced before Sample 20, it is from this Sample on that the learners start to invert the subject and the verbs but at the same time, the rate of incorrectly-inverted verbs increases as (1) shows. This is where the CP seems to project in the learners' grammars.

- | | | | |
|-----|----|--------------------------------------|--------|
| (1) | a. | B: Are you went alone? | (S 22) |
| | b. | M: Is your elephant have a name? | (S 24) |
| | c. | M: Is your elephant have three tail? | (S 24) |
| | d. | B: Is they like a people? | (S 24) |
| | e. | M: Is your children # are naughty? | (T 26) |
| | f. | B: Does the sun is shining? | (T 26) |
| | g. | B: Do you can open the door? | (T 26) |
| | h. | B: Is daddy's shirt is blue? | (D 28) |
| | i. | M: Is my book and notebook are blue? | (D 28) |

From Sample 28 on, the rate of wrongly-inverted questions decreases and this is where the correct suppliance of yes/no questions increases rapidly. It is from this sample on that the fluctuations in yes/no questions with auxiliaries, copula forms or modals gradually decrease so that the rate of target production reaches 100% for both learners by Sample 33:

Figure 7-1: Percentage of correct yes/no questions



- (2) a. B: Do you know what a brain gym is? (S 29)
 b. M: Can you make food? (S 30)
 c. B: Is it sweet or something? (S 32)
 d. M: Are they making snowman? (T 33)

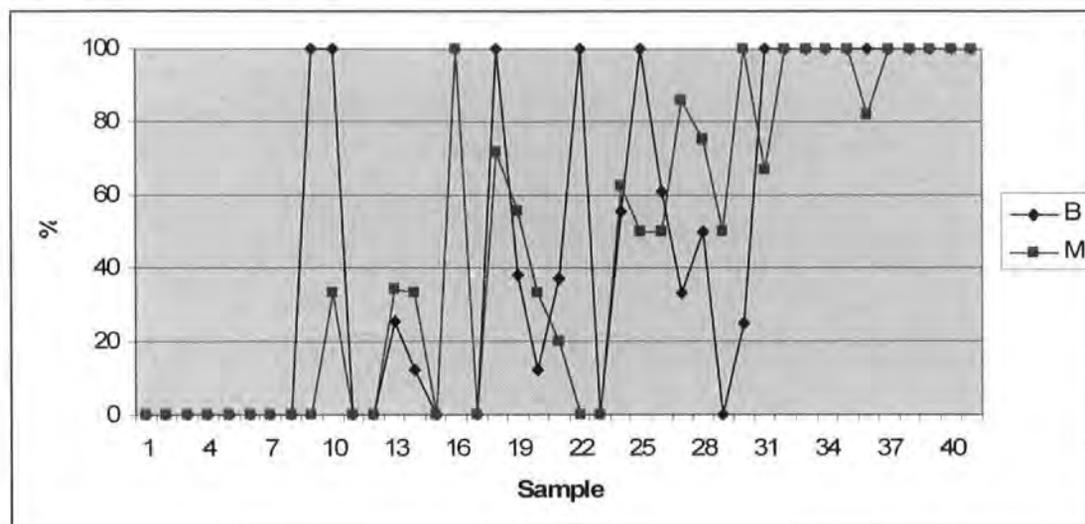
As mentioned in 6.4, it is between Samples 14 and 18 that the production of copula is almost always target-like and there is a low fluctuation in the learners' productions in this regard. Yes/no questions appear after the learners have acquired the copula. Since the acquisition of the copula in this study is proposed to trigger IP, target-like yes/no questions are produced after the learners have IP in their grammars. There are only seven target-like questions out of 54 (12.96%) produced before Sample 18, and these are all cliché forms. This indicates that the learners have acquired IP before CP is projected in their grammars.

7.3 Wh-questions

Regarding the counting procedure and categorization for wh-questions, all questions were divided into correct suppliance, incorrect suppliance and wh-in situ. Regardless of the rote-learned wh-questions that were produced in Samples 8 and 9, there is no subject-verb inversion in early samples and early wh-questions are wh-in-situ, miss

auxiliaries, or there is no agreement between subjects and the auxiliaries (see Chapter Five).

Figure 7-2: Percentage of correct wh-questions



The following sentences show the lack of agreement between subject and the auxiliary verb. Just the same as copula and auxiliary production where there was an overgeneralization of *is*, in early wh-questions the same thing is evident:

- | | | |
|-----|---------------------------|--------|
| (3) | a. B: Where is books? | (T 13) |
| | b. M: Where is the books? | (T 13) |
| | c. B: Who is they? | (T 13) |
| | d. M: Where is spoons? | (T 13) |
| | e. B: You where is go? | (T 14) |
| | f. M: Where is I am? | (T 19) |
| | g. B: Where is they are? | (T 19) |
| | h. M: Where is they are? | (T 19) |

The above examples show that CP is not projected in the early stages and the raising of wh-question words followed by *is* is a rote-learned form.

It is also observed that *do*-insertion is acquired after auxiliary inversion. There are 77 obligatory contexts for *do* insertion up to Sample 26, and there are only 9 (11.68%) questions where auxiliary *do* has been inserted (4a-d) and the other sentences are missing this auxiliary (4e-h).

- | | | | |
|-----|----|------------------------------------|--------|
| (4) | a. | B: What do you like? | (T 13) |
| | b. | M: What colour do you like? | (T 13) |
| | c. | M: What do you want? | (T 19) |
| | d. | B: How many people does Iran have? | (S 21) |
| | e. | M: It have a long nose? | (D 20) |
| | f. | M: We have just big star? | (D 21) |
| | g. | B: They can fly? | (S 24) |
| | h. | B: You say cat like water? | (S 25) |

Similar to Klima & Bellugi (1966), I also observed that inversion is more productive in affirmative wh-questions compared to negative ones. Although there are only six negative wh-questions in the whole study, in none of them has the auxiliary been inverted:

- | | | | |
|-----|----|---|--------|
| (5) | a. | B: Why you don't eat it? | (S 17) |
| | b. | M: Why you don't like it? | (S 17) |
| | c. | M: Why you didn't clean the step? | (S 19) |
| | d. | B: Why you don't have a mouse? | (S 24) |
| | e. | B: Why you didn't go to this, this, this? | (S 24) |
| | f. | B: Why Morocco is not expensive? | (S 24) |

It was also observed that the learners did not distinguish subject wh-questions from non-subject wh-questions and they inserted auxiliaries where not needed. There are only 12 subject wh-questions out of 432 in the whole study and in five the auxiliary *is* was wrongly inserted:

- | | | | |
|-----|----|-----------------------------------|--------|
| (6) | a. | B: Who is everyday buy the bread? | (T 19) |
| | b. | B: Who is go to school everyday? | (T 19) |
| | c. | B: Who is eat the lunch everyday? | (T 19) |
| | d. | B: Who is water the garden? | (T 26) |
| | e. | B: Who is broke the window? | (T 26) |

This shows that auxiliary *is* is overgeneralised in interrogative as well as declarative sentences. Moreover, just as in declarative sentences, auxiliary *be* is the first one which is fixed in the learners' wh-questions and auxiliary *do* emerges later (see example 4). It seems that it is after Sample 22 that the percentage of correct wh-questions increase so that by Sample 31 the correct production reaches to 100%.

In the next section, the production of another CP-related element, embedded clauses, will be discussed.

7.4 Embedded clauses

Another CP-related element to discuss in this chapter is the embedded clauses. Clauses including *because* and *if* will be discussed first. Second, the use of infinitival clauses will be taken into account.

It was mentioned in Chapter Six that in early embedded clauses with *because* either the head or specifier of IP is empty. After Sample 16, the rate of target-like embedded clauses rapidly increases so that there are no non-target-like embedded clauses with either *if* or *because* by Sample 18:

- (7) a. M: Because the bee sting him. (S 17)
- b. B: Because is black. (S 17)
- c. M: Because elephant is very big. (S 18)
- d. B: Because I don't like you ask we questions. (S 19)
- e. M: Because the cow like him, I think. (S 20)

The first *if* clauses occur in Sample 24. All *if* clauses produced are target-like:

- (8) a. B: If you wish whatever you like, he bring it to you. (S 24)
- b. M: If he is a baby why you take him here? (S 24)
- c. M: If you say my English is better, B cross. (S 25)
- d. B: If it was a name, I didn't lost it. (S 29)

Complement clauses with *wh*-clauses are the other CP-related elements to be discussed here. These clauses first appear in Sample 15. The chunk form of 'where is' in the following sentences again show the CP is not present:

- (9) a. B: No, I am # I don't know mum where is. (S 15)
- b. M: I don't know B where is. (S 15)
- c. M: I don't know where is your book. (S 15)
- d. M: Do you know what am I doing? (S 18)
- e. B: I don't know what his name. (D 22)

7.5 Infinitival *to*

Another CP-related element is the production of infinitival clauses. As mentioned in 5.2, the first obligatory context for the infinitival *to* is in Sample 16, but there is almost no *to* appearing up to Sample 18, where IP projected in both learners' grammars. It was after Sample 18 that the obligatory context increased and this construction turned to target-like in the production of both learners. From Sample 19 up to Sample 40, B produced 83 utterances and except three sentences in Samples 19 and 20 (10a-c), all sentences were target-like:

- (10) a. B: Because he wanted bring it his towel. (S 19)
'Because he wanted to bring his towel.'
b. B: Because I don't like you ask we questions.' (S 19)
'Because I don't like you to ask us questions.'
c. B: I don't like go to school tomorrow. (S 20)
d. B: Girl like to play with girl. (S 25)
e. B: I want to be a Football player. (S 30)

M produced 97 sentences from Sample 19 up to Sample 41 and all the sentences were target-like:

- (11) a. M: He want to buy the book to read. (S 20)
b. M: Oh look! I want to show you something. (S 28)
c. M: I want to be a doctor. (S 31)
d. M: I want to give you apple. (S 36)

The above examples (target-like CP after Sample 18) all show the emergence of CP after IP, although it seems that infinitival clauses become target-like earlier than yes/no and wh-questions.

7.6 Discussion

Let us start the discussion with respect to the FT/FA hypothesis which claims that CP is present in the initial states of L2 acquisition and the properties are transferred from the L1. The first CP-related element discussed in this chapter is yes/no questions. I already discussed in Chapter Five that early questions made are mainly tonic and the learners start to invert the subject and verb after they project IP. The early inverted questions are also non-target-like and there is no evidence to show that CP is projected. This is exactly the same as what Haznedar (1997) observes in her study that Erdem does not regularly produce questions. Despite this, Haznedar claims that CP is present in the initial states because Erdem was able to comprehend and process sentences with CP. This is not the same as what I observed in the present study. There are many instances where the learners respond *yes* or *no* just to stop the investigator asking more questions and their judgement on the question is just based on the meaning of some of the words in the sentence (see examples 38 and 39 in Chapter Five). All those examples show that although the learners may answer some cliché form questions memorized as a result of repetition, they have problems to answer unexpected questions. This shows how limited their comprehension at the early stages is. This provides counter evidence for Grondin & White's (1996) study on the acquisition of French by two English-speaking children in which the children provided answers to wh-questions.

The second CP-related element discussed in this chapter was wh-questions. It was observed that wh-fronting precedes subject-auxiliary inversion. This primarily shows that unlike Farsi, which is a wh-in situ language, early wh-questions are not in-situ, which indicates that no L1 transfer is involved. Haznedar, on the other hand, states that the absence of early in-situ wh-questions in Erdem's speech represents a

transfer effect as Turkish does not allow Wh-phrases to occur in postverbal position. This is misleading. Neither English nor Turkish grammar allows this, so it does not have anything to do with transfer because there is no reason for Erdem to produce such utterances. It was also observed that there is no subject-auxiliary inversion because the auxiliaries are not present at the initial stages to be inverted. If the CP projection were present in accordance with the FT/FA hypothesis, assuming that all *wh*-phrases move to Spec-CP, it is not clear why the auxiliary did not move to Comp.

Bhatt & Hancin-Bhatt (2002) conducted one of the recent studies regarding the status of CP at the initial state. The subjects of the study were 125 (25 in each grade) Hindi L1s learning English L2 in a public school in New Delhi across five grade levels. In line with the present study, the results of their study also show that *wh*-fronting precedes aux-inversion. It was also observed that the learners at the initial stages are unable to distinguish subject *wh*-questions from non-subject *wh*-questions by inserting auxiliaries where not needed (see Chapter Five). This indicates that Aux inversion at the initial stages happens randomly. Haznedar (1997) argues against V & Y-S's MTH by claiming that V & Y-S predict the root subject *wh*-questions are acquired first as movement is impossible due to lack of CP projection. First, there is not such a prediction as far as I know. Second, the learners insert and invert the Aux even in subject *wh*-questions whereas their non-subject *wh*-questions lack inverted Aux at the same time. This, to me, means that CP is not projected.

Absence of target-like embedded clauses at the initial stages also provides counter evidence for FT/FA hypothesis. Either the head or specifier of IP in all the early embedded clauses with *if* and *because* is empty and casts doubt on the idea that *because* is really in the CP. The initial infinitival clauses also lack the infinitive marker *to*, whereas at the later stages this marker is 100% present in the production of

the learners. Following V & Y-S the mere presence of copula indicates that learners project an underspecified IP-level functional projection since despite the presence of copula there is a lack of an agreement paradigm for that.

7.7 Conclusion

The empirical considerations noticed in this chapter indicates that in contrast to the FT/FA hypothesis, the early L2 grammars of the two children in this study do not provide any evidence for the projection of CP. The result was obtained through looking at the two learners' yes/no questions, wh-questions, embedded clauses including *because* and *if*, complement clauses with wh-phrases, as well as the infinitival clauses produced in the early stages and comparing it with those produced in later stages.

The earliest productions on both yes/no and wh-questions indicate that the learners neither comprehend the early questions exactly, nor can they produce target-like questions where the Aux is inverted. The only questions comprehended at the start are those repeated a lot and memorized by the learners as chunks. If there is a bit change in the structure of the questions made, the learners will get them wrong. Moreover, they take questions as questions if there is a rising intonation, and the same sentences without rising intonation will be taken as declarative sentences at the early stages. This argues against Haznedar who takes the mere response to some yes/no questions as an indication for CP projection.

The researcher also observed that from Sample 20 on the learners start to invert the Aux and this reaches to 100% by Sample 33, which is significantly later than when IP was fixed (around Sample 18) in their grammars. This means that the

learners have acquired IP before CP is projected in their grammars and supports structure building regarding the initial stages in adult L2 acquisition, on one hand, and provides counter-evidence for FT/FA hypothesis which claims the early grammars project CP, on the other.

This chapter also shows that different data collection methods can influence the rate of producing questions and data acquired through D and T provide a clearer picture of the initial state and the initial grammar better than what spontaneous data often do. Regarding wh-question formation, despite the fact that Farsi is a wh-in situ language, there is not even one question in the whole corpus where wh remains in-situ in questions produced spontaneously, whereas all the questions made during translation tasks are in-situ. This again shows how the data collection method can affect results and also emphasizes the unanalyzed nature of early wh-questions.

Following Brown's (1968) study of child L1 acquisition, I also observed that wh-fronting precedes subject-auxiliary inversion. To me, this may be due to the absence of Aux at the early stages that affects the production of questions as well. I also found that *do*-insertion was acquired after auxiliary inversion, as is the case with declarative clauses discussed in Chapter Six.

Early embedded clauses are not target-like as well, which is more evidence for lack of CP prior to IP. Although there are some clauses including *because* and *if* in the early samples, the head or specifier of IP in these clauses is empty, which shows that these elements have not been raised to CP, whereas later samples show that the learners project CP. Although embedded clauses emerge after IP has been projected in the learners' grammars (around Sample 20) which confirms the earlier proposal made in this study that CP follows IP, they were present quite before the time that questions emerged in the study. This indicates that some properties of CP may emerge later than

others which depend on the nature of the construction under discussion and the present study has found no reason behind this. This is the same with *wh*-embedded clauses as well as the infinitival ones which emerge around Sample 19 just after the learners have fixed IP in their L2 grammar.

To summarize, this chapter, together with Chapters Five and Six show that the functional category CP is not present at the initial stages of L2 acquisition and emerges after the learners have mastered IP in their grammars.

In Chapter Eight the two learners' differences with regard to past and 3-sg morphemes will be taken into consideration and the researcher tries to find out where the difference for the two learners lies.

Chapter Eight: Individual differences in child L2 acquisition

8.1 Introduction

No one has ever denied that there are individual differences (IDs) in rate in L1 acquisition. White (1982) considers the child's L1 grammatical restructuring as a change in the perception of input which is the result of increasing memory, attention span and general maturation factors. These factors are subject to individual differences. However, Gass & Ard (1980) argue that since child L2 learners have already undergone the relevant non-linguistic maturational development, it may be argued that these cognitive factors do not operate in the same way in L2 acquisition as in L1.

The present study revealed some systematic individual differences between the two learners regarding the production of some morphemes which suggests L2 learners may vary as much as L1 learners do.

Research in the domain of second language acquisition shows that, while language acquisition is highly systematic regarding the route of development, the rate as well as the outcome of the learning process is highly variable for different learners, particularly for adults (Skehan, 1989). To explain the variability involved in adult L2 acquisition, SLA researchers have focused on the role of instructional factors such as

input and the learning interaction on one hand, and those variables referring to the learners themselves, on the other. Variables such as intelligence, aptitude, attitude, working memory, and speed of processing are among the most important learner variables that have been identified (Dörnyei, 2002; Dörnyei & Skehan, 2003; Skehan, 1989).

Although the contrast between the study of common processes and the study of individual differences is well established in psychology, this is not the case in second language acquisition, where a robust ID tradition is somewhat lacking (Skehan 1989). As was mentioned in Chapter Six, there was a large difference between B and M regarding the production of some morphemes such as 3sg *-s* and past marker *ed*.

The researcher also observed that another L1 Farsi speaker boy, T, who had come to England six months earlier than the two subjects of this study and spent most of his time with them at school and home and was exactly the same age, sex, and in the same school class as B, produced fewer morphemes than him and even than M; T was therefore included in all ID measurements and data collected from him to consider morph-syntax acquisition. In this chapter, the researcher discusses the main areas in which language learners differ through looking at different variables to find out where the difference between the two subjects might lie.

The cognitive variables discussed in this chapter are based on a model of second language learning proposed by Carroll (1965). Although this model focuses on a limited set of variables, it can be generalised to incorporate other variables and more complex situations. It is important that applied linguistics researchers use this model since what are urgently required in second language learning are models which allow both instructional factors and individual difference variables to operate

simultaneously (Skehan 1989) and this model considers these two major classes of variables.

The rest of this chapter is structured as follows. Section 8.2 explains instructional and exposure factors and subcategories to investigate their role in accounting for the variation in the spontaneous production of the three learners. In 8.3 the cognitive variables, relating to individual differences will be discussed. This includes subcategories such as intelligence, verbal aptitude and cognitive style. Tests were administered regarding the most important subcategories and the results are discussed. In 8.4 the last test administered, the PhAB test, is introduced. This test measures phonological awareness, processing speed, and fluency. The results and conclusions proposed are brought together in 8.5.

8.2 Instructional factors

The first sub-category of one of the two major classes of ID variables, instructional factors, is time. This hypothesizes that progress is a function of the amount of time spent on learning. The more time spent on the language learning process, the better the results of the instruction. This variable can easily be ignored in this study since the two main subjects started their acquisition at the same time, spent the same time at school and home, and were brought up in the same environment, receiving the same amount of input. The third subject, T, started acquiring English six months earlier than the other two. The only difference among them was that B devoted more time to reading books and this can be roughly estimated as twice as much as M did. The case was the same with T as for M and he was, therefore, directed by his teacher to read more books to improve his reading skills to catch up with the other students (native

speakers) in his class. Reading time by itself may have an effect on their morpheme production.

Curriculum and instructional methods in language teaching may be totally different depending on the ultimate goal of the learners and the instructors. The second subcategory of instructional factors instructional quality refers, among the other things, to how effective and useful the classroom as well as the school situation is, how instructional supports are provided for individuals, and how appropriately the learners are evaluated. The only place this difference could have shown itself was at school where the subjects were receiving different input while the teacher was teaching different subjects. One presupposition may be that some grammatical points were directly taught during the class time, which may have influenced B's performance. By looking through their homework books during the school year and asking their teachers about the grammatical points covered during the class time, the researcher found no evidence that such things were taught differently to be traced to B's better morpho-syntax performance and so this variable was rejected as well. In section 8.3 different subcategories of individual differences will be discussed one by one along with the tests done regarding every subcategory.

8.3 Internal individual differences

The second major class of variables is internal individual differences. Presenting a complete list of individual differences is beyond the scope of this study. The researcher will try to elucidate those which have been thought to play a significant role in learners' differences.

8.3.1 Intelligence

The second variable to be discussed here is intelligence. This is conceived of as the learner's capacity to understand instruction, and to understand what is required of him in a learning environment. It is a kind of talent for not wasting one's efforts while doing an activity. In nineteenth century, psychologist Alfred Binet embarked on testing and measuring human capabilities through intense trial-and-error. Working with groups of average students and groups of mentally handicapped ones, he noticed some tasks that average students could handle but handicapped ones could not. Binet calculated the normal abilities for students at each age, and based on this, he was able to figure out how many years a student's mental age was above or below the norm. An average IQ score on a Binet test was 100. Any score above 100 was considered above average, and any one below 100 was below average. Wechsler (1939) felt that the Binet scales were too verbally loaded, so he designed an instrument with sub-tests to measure both verbal and nonverbal abilities. He adopted a mean score of 100 since the Binet metric had become universally accepted. In 1949, Wechsler produced the Wechsler Intelligence Scale for Children (WISC), which competed with the Binet test. In 1955, he produced a revision of the adult scales named the Wechsler Adult Intelligence Scale (WAIS).

To measure the subjects' scale of intelligence a WASI (Wechsler Abbreviated Scale of Intelligence) test (a new version of Wechsler's tests used both for adults and children) was administered. This test includes four subtests, namely vocabulary, similarities, block design, and matrix reasoning. Vocabulary and similarities are

categorized as verbal intelligence whereas block design and matrix reasoning indicate non-verbal or performance intelligence⁴¹.

Before explaining the tests administered in this study, it should be mentioned that the learners were being tested one at a time in order not to get any feedback during the test session from the other two peers. Moreover, the researcher tried to consider and remove all factors which could influence the scores on the tests in order to administer a reliable test.

In the vocabulary test the administrator reads a word to the subject and s/he is supposed to define that word. There are some rules while administering the test. These are start point, reverse rule, discontinue rule, stop point, and scoring rule. Start point refers to the test item where the test should start, which is age-dependent. According to the reverse rule, if the subjects score 0 or 1 on the first items, the test should be administered from the preceding items in a reverse sequence until the learner scores 1 on each of 5 consecutive items. According to the discontinue rule, the test should be put to an end if the subject scores 0 on 5 consecutive items. Stop point refers to the number of the test items administered which is age-dependent as well. According to the scoring rule, the subject will score 0, 1, or 2 according to the definition given for a specific test item.

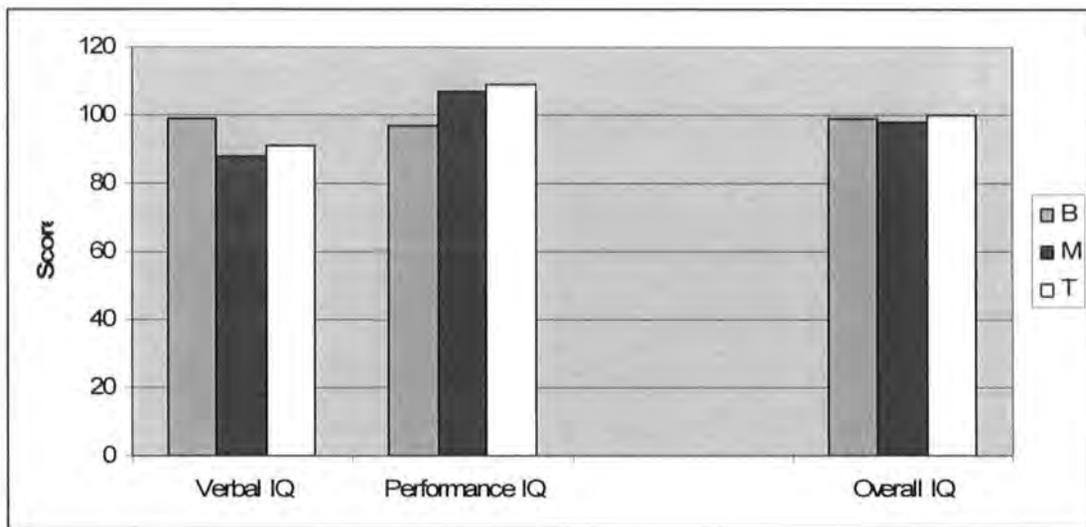
In the similarities test the subject is given two words and he is required to explain how these two words are related to each other and what kind of similarity exists between them. For example, if they are given the two words *love* and *hate*, they are required to answer that these words both refer to feelings. They will be scored 0, 1, or 2, based on their explanation.

⁴¹The researcher administers all the tests mentioned in this chapter with the help of lecturers and PhD students in the Psychology Department at Durham University. The different subtests of the intelligence test are administered as follows.

In the block design test the subject is given nine blocks and the picture of a design is put in front of him/her. S/he is required to make that design in specific amount of time using as many blocks required. Each design has got an appropriate score depending on the difficulty level and the time the subject spends on making that design.

In the matrix reasoning test the subjects are given a shape with a missing part and they are required to pick from the five given pieces the one which fill in the missing part appropriately. Appendix E-1 shows a sample of this test. The results of the intelligence test are given in Figure 8.1.

Figure 8-1: Intelligence test



Having roughly the same overall IQ score indicates that IQ as a whole is not the source of the diversity in learners' production of morpho-syntactic elements in the present study. However, B's score in verbal IQ is significantly higher than M's and T's, and indicates a possible connection between verbal IQ and higher production of morphemes. This then led the researcher to administer some additional tests to find out what this higher score represents and whether a link between verbal IQ and

morpho-syntax can be justified⁴². In the next section another individual difference, aptitude, will be discussed.

8.3.2 Aptitude

The third individual difference, aptitude, (in this case foreign language aptitude) is the capacity to learn language which is different from intelligence and consists of several sub-components. The earlier studies who tried to devise aptitude test batteries to find out whether there is any correlation between language aptitude and language achievement suffered from two major drawbacks. First, the correlations with achievement scores were not very impressive and second, they were dependent on grammar-translation methodology (Skehan, 1989).

Talking about aptitude requires a review of the work done by American psychologist J. B. Carroll. Rarely has a sub-area been so dominated by one person. By devising a large number of tests and correlating them with a learner's achievement, Carroll (1965) put forward the standard version of language aptitude test which included four components such as phonemic coding ability, grammatical sensitivity (grammatical memory), inductive language learning ability, and associative memory (Skehan, 1989).

Regarding phonemic coding ability, Carroll (1965) concluded that the ability to make isolated sound discriminations was of limited relevance for language aptitude. He focused on a sound-symbol association ability to make a link between sound and symbol and renamed it 'phonemic coding ability', with a new emphasis on the capacity to discriminate and code foreign sounds in a way that could be recalled

⁴²Note that individuals have got different talents and being talented in a specific activity does not guarantee mastering other skills. B's lower score in performance IQ is evidence of this case. M is more interested and talented in art and design technology and puts a lot of time on drawing whereas T is more talented and interested in maths than the other two learners.

later. In 1979 he speculated that what is involved relates to the ability to spell and handle phonetic-orthographic material.

Grammatical sensitivity is the ability to recognize the grammatical functions that words fulfill in sentences. One might think that such ability may be related to different methods of language teaching or susceptible to training and experience, but Carroll interprets it as a capacity to profit from instruction in this area.

Carroll (1973) defines inductive language learning ability as the ability to examine language material and from this to notice and identify patterns of correspondence and relationships involving either meaning or syntactic form. This ability is similar to the construct of grammatical sensitivity but with more emphasis on reasoning and extrapolating.

Following the tenets of associationistic psychology, Carroll (1973) conceived rote learning as an ability to involve the bonding of connections between native language words and target language words. He proposed that people vary in the efficiency with which they make such bonds and therefore in speed of vocabulary growth and consequently in foreign language achievement.

Since Carroll's work, aptitude has not been researched very much for two main reasons. First, it has potentially been disadvantaging many learners with no hope offered of overcoming the handicap of low aptitude. Moreover, although all teachers agree that learners differ from one another, the bulk of language teaching materials have assumed that all learners are the same. Second, many language teachers have associated foreign language aptitude with the methodologies that prevailed at the time of Carroll's research. Krashen, for example, considered aptitude as being linked to learning and being teacher-led (Skehan 1989). These teacher-led approaches left no place for the study of innate capacity. Other approaches to L2 acquisition such as

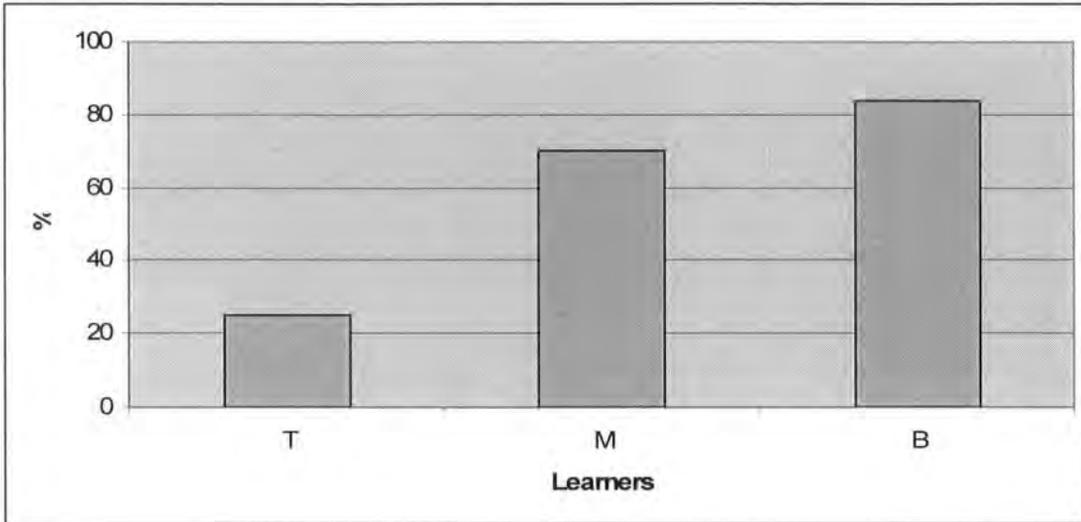
those based on Chomsky (1981) and Universal Grammar emphasize lack of individual differences within a speech community. With so many developments in other related fields such as psychology and neuroscience, nowadays things have changed and the role of individual differences has become more evident.

To measure the subjects' aptitudes, the researcher administered the WORD (Wechsler Objective Reading Dimension) test. This test includes three subtests. The first test is basic reading. The subjects are given 55 words to read aloud (the starting point of reading is age-dependent) and are scored according to their reading accuracy level. They had ten seconds to read each item. If the subjects scored 0 on any of the first 5 items administered, the examiner administered the preceding items in reverse sequence until the subject scored 1 on each of five consecutive items. The test should be put to an end after six consecutive scores of 0.

The second subtest is spelling. The subjects had 10 seconds to begin writing and as much time as needed to complete the response. The words (50) were spelled loud to them by the investigator. If they scored 0 of any of the first five items administered, the test would be administered in reverse sequence until they scored 1 on each of five consecutive items. The test should be ended after 6 consecutive scores of 0.

Reading comprehension is the last subtest. The subjects had to read a short extract and they were asked a question about the extract they read. They had 15 seconds for each (38) item. If they scored 0 on any of the first five items administered, the test would be administered on preceding items in reverse sequence until the subjects scored 1 on each of 5 consecutive items. Administration stops after 4 consecutive scores of 0. The test results are given below in Figure 8.2.

Figure 8-2: Wechsler Objective Reading Dimension (WORD) test



B's higher scores in all subtests pattern with his higher production of morphemes and higher scores in the aptitude test. What is noticeable is that B's performance in L1 regarding basic reading as well as spelling was as much higher than the other subjects' as the L2 ones. This shows that these capabilities and talents are individual and do not have anything to do with the nature of the two languages involved. This again strengthens our findings in verbal intelligence denoting that some people are better at some kinds of activities and weak at others. The question here is that what the source of this connection is. The first that comes to mind is that this may be related to memory capacity.

8.3.3 Memory and processing

The last individual difference subcategory discussed in this chapter is cognitive style. Metacognition is traditionally defined as the experience and knowledge we have about our own cognitive processes and has broad applications across a number of different settings (Perfect & Schwartz 2002).

Research in the domain of metacognition of children dates back to the work of Jean Piaget and his claim that children do not know that there are such things as conceptual, perceptual, and emotional perspectives of points of view. A second line of research was initiated in the early 1970s by Brown, Flavell, and their colleagues. The research focused on knowledge about memory, which was coined 'metamemory' by Flavell (1971). This concept was later broadened as 'metacognition' by Flavell (1979). This is considered as any knowledge or cognitive activity that takes as its cognitive object any aspect of any cognitive activity. This is a broad conceptualization that includes people's knowledge of their own information-processing skills, as well as knowledge about the nature of cognitive tasks, and about strategies for coping with such tasks. It includes executive skills related to monitoring and self-regulation of one's own cognitive activities. Although most developmental studies classified as 'metacognitive' have explored children's metamemory, the term has also been applied to studies investigating children's comprehension, communication, and problem-solving skills (Flavell, 2000; Schneider & pressley, 1997).

The earliest study on children's metamemory was published by Kreutzer et al. (1975). Children in kindergarten were asked about person, task and strategy variables. They were asked if they ever forgot things, if it was easier to remember the gist of the story or to recall it verbatim, and if learning pairs of opposites was easier or harder than learning pairs of unrelated words. The result of this study and other related assessments indicated substantial improvements on most of the variables as a function of age. Whereas young elementary school children do not have a clear understanding of the effects of task difficulty and strategy use on memory performance, this pattern changes during the next few years (Perfect & Schwartz 2002). For instance, only the nine- and ten-year-olds but not the seven-year-olds studied by Moynahan (1978)

knew that taxonomically organized items are easier to recall than conceptually unrelated items. Generally speaking, the empirical evidence shows that some declarative metamemory exists in preschool children and develops steadily over the elementary school years.

To find out whether memory or processing has any role to play in L2 acquisition development, the researcher administered two additional tests known as automated working memory assessment test as well as the Phonological Assessment Battery (PhAB) test.

The automated working memory assessment test is composed of different subtests to measure different kinds of memory such as verbal short-term memory, verbal working memory, visuospatial short-term memory, and visuospatial working memory.

The first sub-test to measure the verbal short term memory is word recall. In this test, subjects hear a sequence of words and have to recall each sequence in the correct order. The number of words per list is increased with each successive block. The stimuli are presented using sound files. The second sub-test is digit recall. The subjects hear a sequence of digits and have to recall each sequence in the correct order. The number of digits per list is increased with each successive block. The stimuli are presented using sound files. The third one is nonword recall. The subjects hear a sequence of nonsense words (nonwords) and have to recall each sequence in the correct order. The number of nonwords per list is increased with each successive block. The stimuli are presented using sound files.

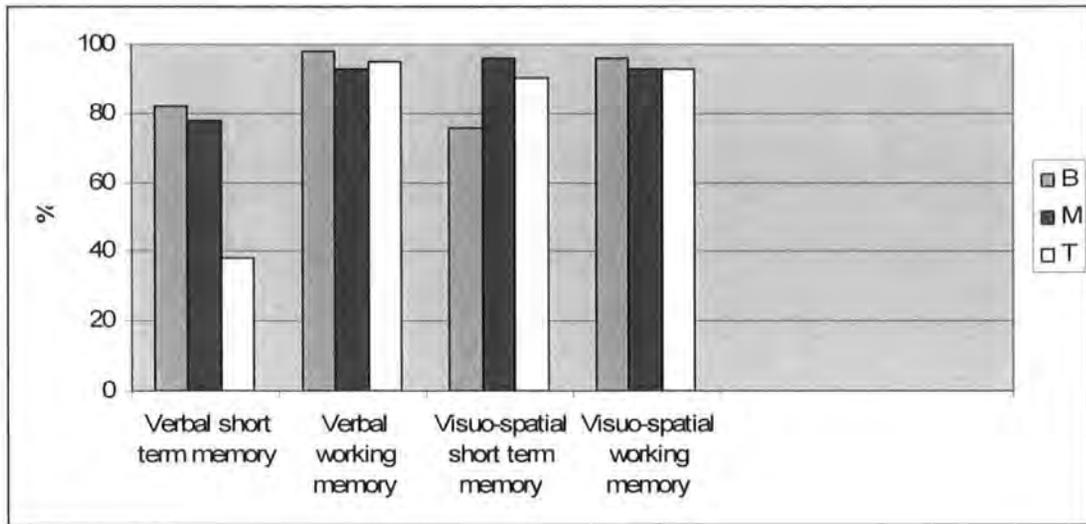
The first subtest in visuo-spatial (non-verbal) short term memory is dot matrix. The subjects have to recall the position of a red dot in a series of four by four matrices. The number of consecutive matrices presented is increased with each

successive block. The subjects recall which squares the dots appeared in by tapping squares on the screen. The stimuli are presented using picture files. The second one is mazes memory. The subjects view a maze with a red path drawn through it. The task is to trace in the same path on a blank maze presented three seconds later on the computer screen. The complexity of the mazes is increased with each successive block. The stimuli are presented using picture files. The last subtest in this section is block recall. The subjects view a series of blocks being tapped, and reproduce the sequence in the correct order by tapping on a picture of the blocks. The number of blocks tapped is increased with each successive block. The stimuli are presented using movie files.

Verbal working memory consists of three subtests. In listening recall subtest the subjects listen to a series of individual sentences and judge if each sentence is true or false. At the end of trial, the subjects must recall the final word of each sentence in the correct order. The number of statements per list is increased with each successive block. The stimuli are presented using sound files. In backwards digit recall the subjects hear a sequence of digits and have to recall each sequence in backwards order. The number of digits per list is increased with each successive block. The stimuli are presented using sound files. As many younger children (below 6 years) struggle with concept of backwards, and will need training using visual aids, there are two possible practice sessions (easy and normal) for younger (under 6 years old) and older subjects, respectively. In counting recall the subjects have to count the number of dots in a series of arrays and then recall the tally of numbers in sequence. The number of dot displays is increased with each successive block. The stimuli are presented using picture files.

Visuospatial (non-verbal) working memory includes three subtests. In odd-one-out task the subjects view three shapes, each encased in a square presented in a row. The subjects must first determine the odd-one-out shape. At the end of trial, they must recall the location of each odd-one-out shape, in the correct order, by tapping the correct square on the screen. The number of shape sets is increased with each successive block. The stimuli are presented using picture files. In Mister X the subjects view a picture of two adjacent Mister X figures. The one on the left wears a yellow hat and the one on the right wears a blue hat. Each of them holds a ball in one hand. The subjects must first identify whether the Mister X with the blue hat is holding the ball in the same hand as the Mister X with the yellow hat. The Mister X with the blue hat may also be rotated. At the end of each trial, the subjects must recall the location of each ball in the correct order, by pointing to a picture with eight compass points. The number of Mister X pairs is increased with each successive block. The stimuli are presented using picture files. There are two types of practice session provided depending on the age of the subjects. In spatial span the subjects view a picture of two adjacent shapes where the shape on the right has a red dot on it. The subjects must first judge whether the shape on the right is the normal or mirror image of the shape on the left. At the end of each trial, the subjects must recall the location of each red dot on the shape, in the correct order, by pointing to a picture with eight compass points. The number of shape pairs is increased with each successive block. The stimuli are presented using picture files. The results of the memory tests are given in Figure 7.3.

Figure 8-3: Working Memory Assessment test



Whereas B's visuo-spatial short term memory is lower than the other two subjects', his verbal short term memory is higher than M's and much higher than T's. Regarding working memory, all subjects have performed roughly the same in visuo-spatial working memory as well as verbal working memory, and thus the role of working memory in higher morpheme production as a whole can be easily ruled out in the present study. Regarding verbal memory, B performed a little higher than the other subjects and this again is in agreement with our other earlier test (verbal IQ) that verbalness as a whole is involved but it is not that significant in the case of memory test.

There are some studies (Moynahan, 1978; Sodian, Schneider, & Perlmutter, 1986) indicating that memory is a phenomenon functioning in older children compared to young children. While the result of the memory test here confirms the idea that there is a kind of memory involved in older children, it also indicates that the older children perform differently in different kinds of memory activities.

While short term memory as a whole can not be the source of discrepancy between the subjects, B's higher performance in verbal short term memory is

significant (especially compared to T's), while his performance in visuo-spatial short term memory is weaker. This shows the tests are valid and reliable.

From among the three tests administered up to this stage, the WORD test indicated the diversity noticed between the subjects regarding the higher production of morpho-syntactic features more than the other two tests (IQ and Memory). The question here is that if intelligence and memory are not the crucial factors in B's higher performance in both morpheme production and on the reading and spelling test, what other factor(s) are involved? This led to the administration of the last test, the PhAB (Phonological Assessment Battery). Section 8.4 will explain the test and the way it was administered.

8.4 Phonological Assessment Battery (PhAB) test

The test is composed of three different parts to assess phonological awareness, processing speed, and fluency. The phonological awareness part is composed of four subtests. The first one is the alliteration test in which the subject is supposed to pick from among three words the two which start with the same sound. The second subtest is the rhyme test in which two out of three given words rhyme with each other. In the spoonerism test a word with a swapping initial sound is given and the subject should decide what the final word will be after swapping is done. In the last subtest, the non-word reading test, some fake words are given to subjects to read to evaluate their ability to discriminate sounds.

Regarding the L2 input processing system, VanPatten (1996) proposed Input Processing Theory which refers to the set of principles underlying how linguistic input is processed. Based on this theory, semantic processing is preferred over the

morphological one and the learners initially process content words. Inflections are only processed in case the context does not provide enough input for the learner.

Prasada, Pinker & Snyder (1990) and Seidenberg & Bruck (1990) noticed that while fluent English native speakers were asked to produce the irregular past forms of some stems, those with high past tense frequencies were processed faster than the low-frequency ones but the frequency seemed to have no effect on the latency of the regular verbs. Ellis & Schmidt (1997) argued that performance of the regular forms is close to asymptote. St. John & Gernsbacher (1998) tried to find out why passive and cleft-object constructions are more difficult to learn and harder to comprehend and came to the conclusion that since these are less frequent and less practiced, it takes more to be processed as well.

According to a series of input processing studies (Lee, Cadierno, Glass, & Vanpatten, 1997; Muzumeci, 1989; Sanz & Fernandez, 1992), it was noticed that learners of French, Spanish, and Italian as foreign language scored higher in assigning temporal reference on recall tasks at both sentence and discourse level when adverbs were present comparing when there was only verbal morphology present. Production and processing studies notice the importance of lexical over morphological items and state that low-level learners rely more on adverbials comparing the advanced ones. According to Giacalone Ramat & Banfi (1990) the use of adverbs makes using tense markers less urgent and the strength of adverbial reference may free emergent verbal morphology for an aspectual function. Dietrich, R., Klein, W., & Noyau, C. (1995) state that many untutored learners may reach the stage to use adverbials and never go beyond this stage to use tense marking. Moreover, high level of appropriate use of morphology seems to be more common in tutored learners than the untutored ones

although appropriate use is by no means guaranteed by instruction (Bardovi-Harlig, 1992, 1994; Bergström, 1995; Hasbún, 1995).

Psycholinguistic studies of sentence processing indicates vast statistical knowledge of adults regarding the lexical items and indicates that frequent analyses are processed easier and faster than the less frequent ones. Seidenberg and MacDonald (1999) stated that this is not only limited to lexicon and includes all aspects of lexical, syntactic and discourse comprehension. All this indicates that the underlying knowledge of a language can and should not be constrained only by its grammar.

The second test is processing speed. This is composed of two subtests. In the first one, the naming speed test (pictures), fifty pictures composed of five objects randomly repeated are given and the subject is supposed to look at those pictures and name them as fast as he can while he is being timed. This naming is done twice to increase the reliability of the test. The total time to the nearest second for both trials is given in Table 8.1. The same test is done using digits rather than pictures.

Table 8-1: Processing time to the nearest second

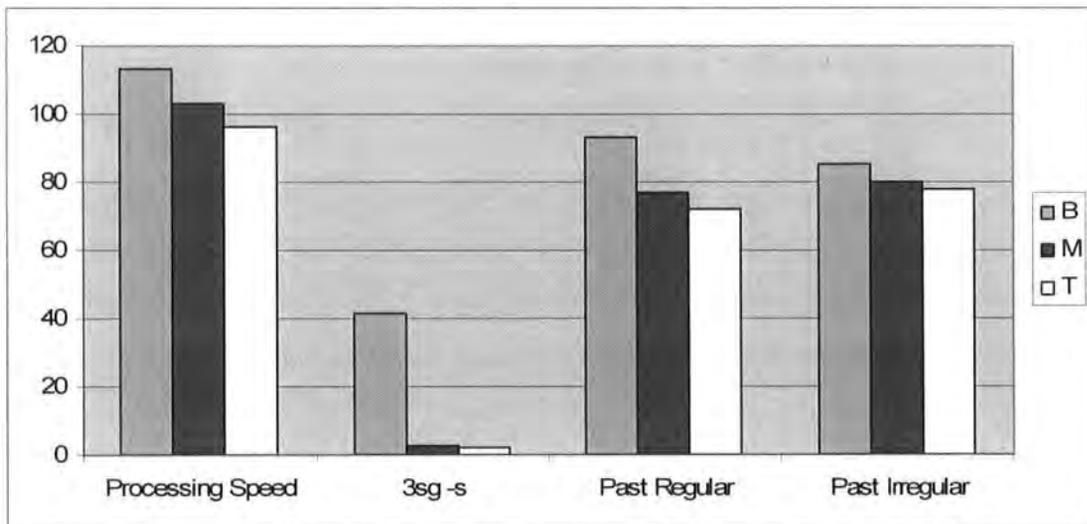
	B			M			T		
	Trial 1	Trial 2	Total	Trial 1	Trial 2	Total	Trial 1	Trial 2	Total
Picture naming	40	37	77	54	44	98	58	47	105
Digit naming	24	19	43	27	25	52	35	31	66

The last part of the test is the fluency test. The first section of this part deals with semantic fluency. The subjects are required to think of different items or things in their schools or at home and try to name them as fast as they can in a specific time period. In the second section, alliteration, they are required to name as many words starting with the same sound as they can, while being timed.

Regarding the phonological awareness test, there is not that much difference between the subjects' scores and this section can be ignored. The fluency test does not show any discrepancy between the subjects either.

The only section of the PhAB test which indicates a large difference in subjects' performance is processing speed. B scored much higher in this part, i. e., he was much faster. This correlates with morpheme production. This means that as far as verbalness is concerned, it takes less time for B to process. Although this is a general cognitive verbal measure, his fast processing allows B to analyse utterances he hears faster and to provide the morphemes where necessary whereas his processing is slow compared with the other two, in nonverbal activities. Figure 8.4 shows this connection.

Figure 8-4: Past and 3sg -s morphemes production and processing speed



8.5 Conclusion

The results of the all above tests can be summarized as follows:

1. Whereas overall IQ is not where the difference lies for the subjects' discrepancy in morpheme production, B's higher verbal IQ is of note.

2. B's markedly higher score in reading and spelling can be regarded as an existing connection between this ability and higher morpheme production. What is equally important is that B's performance in L1 regarding basic reading as well as spelling was as much higher than the other subjects as with the L2 ones. This shows that these capabilities and talents are individual and not connected to the languages involved.

3. While the subjects did not perform differently in their working memory assessments, B's higher verbal short term memory (and significantly lower visuospatial short term memory) is in agreement with our other earlier test (IQ) that **verbalness** as a whole is involved but it is not significant in the case of memory test. The subjects did not perform differently regarding the working memory.

4. The last but the most important difference are the PhAB test results. The last part of the test, speed of processing shows the large difference between B and the other two subjects and emphasizes the correlation between processing speed and producing some morphemes.

5. To wrap up, this study comes to the conclusion that **verbalness** and the **speed of processing** are the two main factors correlating with B's higher rate of morpheme production.

Chapter Nine: Conclusion

In this study the acquisition of English morpho-syntax by two Farsi-speaking children has been examined in light of different proposals on child and adult L2 acquisition. Here I will review the main findings of this study while comparing them with the general theoretical issues discussed in the literature to find plausible answers for the questions raised in this study (see 1.4).

The first issue discussed in this research was the headedness of the early verb phrases. High proportions (91.30%) of the thematic verbs produced up to Sample 7 are in SOV order, which shows the canonical word order in Farsi. This is in line with all studies mentioned in 2.6.2, indicating that learners at the initial state transfer the headedness of their L1 VP to the L2. The headedness of VP changes to the English one between Samples 7 and 13, when the learners are still in their VP stage and IP is not yet projected. This is in line with Vainikka & Young-Scholten's work, for example their 1996 study of VP stage for Italian and Spanish learners.

The next issue addressed in this study to provide an answer for the second question raised in 1.4 is the acquisition of functional categories. The development of IP system discussed in Chapter Six shows that, although there were not so many null subjects in this study, a high proportion of null subjects (67.85%) occurs in SOV utterances produced before Sample 14 where IP seems to be projected. This emphasizes the correlation between SOV utterances and the existence of utterances

with null subjects. Moreover, translation data from the early stages show that if the learners are given a null subject sentence to translate into English, the English equivalent will also be without subject. Following Corder (1977, 1981) the researcher concludes that - at least in part - grammar is initially determined by semantic and situational contexts rather than by syntax and the lexical-thematic nature of the elements in the learners' grammars exceed the functional-nonthematic ones. This is also in line with V & Y-S's (1994) claim that there is a direct relation between non-raised verbs and lack of subjects in the utterances of L2 German learners.

Lack of case assignment in the early stages of L2 acquisition in this study is more evidence for the non-availability of the functional category IP since, according to Vainikka (1993/1994), oblique subjects normally occur in the Spec, VP. The two learners had no pronominal subject *I* in their production up to Sample 12 and produced the genitive subject, *my*, in all instances where *I* was needed. This again may be due to the phonological similarity of '*my*' in English and '*man*' in Farsi since this is the only word referring to first person singular in all cases in Farsi. This shows that, similar to the results reported by some L1 studies regarding the absence of case assignment (Haegeman 1995, Radford 1995, Rizzi 1994, Vainikka 1993/1994, among others), there is a relation between using oblique subjects and being at the OI/RI stage at least at the initial stages. After the initial stages, although the production of null subjects decreases, the percentage of uninflected verbs is still high. This is in line with Haznedar's study. What makes the present study different from Haznedar's study is that by observing no relation between null subjects and verb inflection, Haznedar and Schwartz (1997) put forward MSIH whereas the result of this study shows that lack of inflected verbs are due to some non-linguistic factors such as verbalness, short term

memory, as well as speed of processing. Moreover, MSIH is not referring to the initial stages of L2 acquisition and addresses the later stages of development.

Despite Haznedar (1997, 2001, 2003) and FT/FA proponents who take suppliance of a morpheme as the evidence of underlying grammar, following Hawkins (2001) the present study shows that the mere suppliance of morphemes is not indicative since a morpheme may also be used in a context where it should not have been. Although copula as another INFL-related element is found in the two learners' early productions, these copulas are missing when the subjects are lexical, oblique or null. This shows how rote-learned the nature of early copulas is, where the nominative subject and the following copula are memorized as a chunk and a small change in the form of the utterance leads to the omission of copula. Following Vainikka & Young-Scholten's proposal (1996a) that learners project an underspecified IP-level functional projection to provide a position for a raised verb and for modals and auxiliaries as well, the early copulas, auxiliaries and modals in this study are evidence of an underspecified IP. Syntactic features are established when speakers show productive use of the morphology in their utterances (Vainikka & Young-Scholten, 1994, 1996a, b, Hawkins, 2001, Eubank, 1993/1994, Myles 2004, 2005). In line with those studies which emphasize the role of data collection method (Ellis, 1987, Dulay, Burt & Krashen, 1982, Unsworth, 2005), the present research shows that the rate of copula production is higher in spontaneous speech production than in an elicited production task such as translation due to the feedback received during the data collection session.

Haznedar (1997) argues against V & Y-S (1994, 1996a, b) by claiming that there is no hierarchy in the acquisition of functional categories (IP before CP) due to the later production of bound morpheme verbal inflections compared to CP-related

elements. Although the results of this study also show the copula (as trigger for IP projection) is more productive than other morphemes (-ed, -s, -ing), the nature of these structures makes them more difficult for learners in the initial stages. Following Zobl & Licerias (1994) and Hawkins (2001) the present study explains late emergence of auxiliary *be* compared to copula by proposing that complex selectional requirements of auxiliary *be* make it more difficult to produce. Regarding the lower rate of *-s* and *-ed* production compared to copula and auxiliary in the present study, again following Zobl & Licerias (1994), the researcher claims that copula *be* and auxiliary *be* are acquired before tense and agreement marking on thematic verbs since they are free morphemes moving from VP to I while tense and agreement are bound morphemes moving the other way round. Moreover, similar to Ionin & Wexler (2002), this can not be due to L1 transfer since Farsi has a rich verbal morphology system, which would be expected to facilitate acquisition. Although this study can not claim a clear reason for the lower rate of third person singular morpheme *-s*, following Goldschneider & Dekeyser (2001) the researcher hypothesizes that semantic complexity of this morpheme which stands for number, person, tense, and aspect makes it difficult to acquire.

The next issue addressed in this study is whether structure building can be supported in its claim that initial grammars lack the full complement of functional categories and functional categories emerge developmentally in a way that VP is acquired first followed by IP which is then followed by CP. Regardless of some rote-learned questions produced before Sample 20, it is from this Sample on that the learners start to invert the subject and the verb and this follows the learners' projections of IP. This is against the idea adopted by the proponents of FT/FA. Whereas Haznedar takes the comprehension of questions in the early stages as a

reason for the emergence of CP, it was observed in the present study that the learners answered some questions just to stop the investigator from asking them more questions and their judgement on those questions was based only on the meaning of some of the words in the sentences.

The degree of L1 transfer is the third question raised in 1.4. To see whether the headedness of functional categories is transferred from the L1, the learners' negative utterances were taken into consideration. The verbal negation marker in Farsi, just like in English, precedes the lexical verb, where Farsi also has a head-initial NegP. Looking at the early utterances with negative thematic verbs produced by the two learners, we see that they produce structures which violate the headedness parameter of Farsi and English NegP since there is no specific order at the earliest stages and the position of the negative marker is determined by the meaning of the verb rather than the syntactic position of the verb. This can be especially noticed in Farsi compound verbs which consist of an element (noun, adjective or preposition) followed by a light verb such as the verbs *do*, *give* or *hit* among others. In these structures, the verb loses its original meaning and joins the preverbal element to form a new verb. In all early negative compound verbs, the negative marker follows the verb, which shows that these verbs have not been identified by the learners as verbs. This, above all, means that early L2 structures are only lexical and the lexical meaning of the verb plays an important role in the syntactic position of the elements. This provides counter evidence for Full Transfer/Full Access hypothesis of Schwartz & Sprouse (1996), which claims the entire L1 grammar constitutes the initial states of L2 acquisition. This also argues against Haznedar (1997) who claims that Erdem transfers the headedness of NegP from his L1 Turkish. Assuming that NegP is a functional projection, the present study supports Minimal Trees Hypothesis of

Vainikka & Young-Scholten which argues for the mere transfer of lexical categories. It was also found that phonological and semantic transfer is more likely to occur in children's early verb phrases than the syntactic transfer. The English main verbs *have* and *has*, which are also placed in final position in the VP, semantically mean 'to be' and have been produced by both subjects due to similar phonological appearance of *have* and *has* with the verb '*hast*' meaning 'to be' in Farsi. SOV order is not observed in English copular constructions since the learners do not use finite form copulas as verbs at the early stages and early copulas are either missing or used in a non-target-like form unless they are available in the chunks memorized by the learners and the learners do not fully analyze the verbs in these chunks.

To answer the fourth question raised in 1.4, it was found that in line with some of the studies mentioned in the domain of child L1 English (Radford, 1990) and adult L2 (structure building of V & Y-S, 1994, 1996a, b, and modulated structure building of Hawkins, 2001), the results of the present study show that child L2 acquisition is similar to child L1 and adult L2 at least with regard to the absence of functional categories in the initial stages.

While the route of learning process is the same for all learners as mentioned above, in line with Skehan (1989), who claims that the rate as well as the outcome of the learning process is highly variable for different learners, the present study came to the conclusion that some systematic individual differences exist between the two learners regarding the production of some morphemes. To explain the variability involved, the present study looked at the role of instructional factors as well as internal individual differences and concluded that verbalness and speed of processing were the two main factors affecting B's higher rate of morpheme production.

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Appendix A: Tables for Chapter Four

Appendix A-1: Sample 17 (22 August 2003)

Participants: B (Bernard) and M (Melissa) the learners; R (Researcher or Investigator)

Age: B: 8; 8, M: 7; 8

Sex: B: Male, M: Female

Context: The learners are at home and R reads them the story named Ferdinand (a young bull) and asks them some questions about what happened in the story.

R: Is his name Eric?

B: No, his name not Eric. His name is Ferdinand.

R: Is his name Sally?

M: No, his name is not Sally. His name is Ferdinand.

R: What is Ferdinand doing?

B: Ferdinand is looking at flower.

R: Is he looking at the tree?

M: No, he not looking at the tree. He looking at the flower.

R: Are there four bulls?

M: No, They are not four bulls. They are six bulls.

R: Who is this?

B: He is Ferdinand mother.

R: Who is this?

M: Is this a Ferdinand.

R: Is he a little bull now?

M: No, he doesn't little bull now. He's a big bull now.

R: What do you think Ferdinand wants to find?

M: # eh # +/

R: What does he like to do?

M: He like play with the flower.

R: Does he like to fight?

B: Yes, he like to fight.

R: Where is he?

B: He playing in the flower.

R: How many hats are there?

M: They are five hats.

R: How many men are there?

B: They are five man.

R: What are these bulls doing?

B: They are fighting.

R: Do the men like these bulls?

M: No, they are not like these bulls.

R: Do the men like these bulls?

B: Yes, the man like these bulls.

R: Why?

B: Because they are very strong.

R: What is Ferdinand doing?

B: The Ferdinand is walking.

R: What is Ferdinand doing?
M: He walking on the grass and looking at the butterfly.
R: Is he fighting?
B: No, he is not fighting. He smelling the flower.
R: What is Ferdinand going to do? Is he going to sit?
M: Yes, going to sit in the grass.
R: But what is the problem?
B: The bee is on the flower.
R: What is going to happen? What is the bee going to do?
B: He is flying.
R: What is he doing?
B: He jumping.
R: Why?
B: Because the bee # +/
R: Stung (gives him a clue)
B: Stung he. (completes the previous sentence)
R: Why is he jumping?
M: Because # #
R: Did the bee sting him?
M: Because the bee sting him and he running over there.
R: Is Ferdinand happy?
B: No, the Ferdinand not happy. The Ferdinand is sad.
R: Is Ferdinand happy?
M: No, he is not happy. He is sad # very sad.
R: What is he doing?
B: He jumping.
R: Why is he jumping?
M: He say, oh my foot.
R: What are the men doing?
B: The man is laughing at he.
R: How many legs does the horse have?
B: The horse have four legs.
R: Does the horse have three legs?
M: No, he's don't have three legs. He have two legs.
R: What did he do?
B: He is think # he is thinking.
R: Did he sit on a bee?
M: Yes, he sit on the bee.
B: No, he not # he doesn't sit on the bee.
R: Was he stung by the bee?
B: Yes, he stung on the bee.
R: What did he do?
M: The bee stung to his foot and he jumped over there.
R: This is the bull fight.
B: Yes, they are a bull fight. (He thinks that R is asking a question)
R: Where is Ferdinand?
B: The Ferdinand is not here.
R: Is Ferdinand here?
M: No the Ferdinand is not here.
R: Where is Ferdinand?

M: The Ferdinand in to castle.
R: Does he want to come out?
B: No, he don't # he doesn't want to come out.
R: Why doesn't he want to come out?
M: Because suddenly again bee bee # again he sting to his tummy.
R: Does he want to fight?
M: No, he doesn't fight.
B: No, he don't want # he doesn't want to fight.
R: What is he doing?
M: He sit on the floor.
R: Is he fighting?
B: No, he doesn't fighting.
R: What did they have to do?
B: They have Ferdinand to home.
R: Did they have to take Ferdinand home?
M: Yes, they # they go Ferdinand in to his home.
R: Did Ferdinand have to fight?
B: No, the Ferdinand doesn't have to fight.
R: Where is Ferdinand?
M: The Ferdinand sit on the ground.
R: Who is this?
M: Is this a bull.
R: What is this?
B: It is a Ferdinand.
R: Who is this?
M: It's a bull.
R: Who is this?
M: It's a Ferdinand.
R: Are there four bulls?
M: No, they are not four bulls, they are six bulls.
R: How many bulls are there?
B: They are one bulls # no, it's one bulls.
R: Who is this?
B: It's a mum Ferdinand # it is a Ferdinand mum.
M: It is a Ferdinand mum.
R: Is Ferdinand fighting?
M: No, he doesn't fighting, he is walking.
R: What does Ferdinand like to do?
B: Ferdinand like the smelling the flower.
R: Does he like to fight?
M: No, he doesn't like the fight, he like sit on the flower and smell on the flower.
R: What is he going to do?
B: He is going to do sit on the bee.
R: What is the bee going to do?
B: The bee is going to sting he.
R: How many tails does this horse have?
B: The horse have one tail.
R: How many legs does the horse have?
M: He have four leg.
R: Does he have six legs?

B: No, he don't have six legs, he have four legs.
R: How many ears does he have?
M: He have two ear.
R: Did you do this at school?
M: # #
R: Did you do this at school?
B: No, not # no, I doesn't +/
R: Did your daddy do this at school?
M: No, daddy didn't that at school.
R: How many windows did the castle have?
M: The castle have two window.
R: How many doors does the castle have?
B: The castle have one door.
R: Where is the door?
B: The door is on the castle.
R: Is there a king in the castle?
M: Yes, the king in the castle.
R: Is there a queen in the castle?
B: No, the queen is not here.
R: Is she at the shops?
B: No, the queen not # doesn't # not in the shop.
R: Where is the queen?
M: The queen into shop.
R: Where is the queen?
M: The queen at the shop.
R: Why is the horse coming to the castle?
B: Because he go to the toilet.
M: He wash his hand, he eat the water.⁴³
R: Do you drink water?
M: Yes, I drink the water.
R: Do you eat water?
B: Yes, I eat water.
R tries to explain the difference between eating and drinking by giving them some examples and then asks them some questions:
R: Do you drink banana?
M: No, I don't drink the banana.
B: No, I didn't drink banana.
R: I didn't or I don't?
B: I don't eat banana.
R: Do you drink milk?
M: Yes, I drink the milk.
R: Do you drink chocolate?
B: No, I don't drink chocolate, I eat chocolate.
R: What do you like to eat?
B: I like biscuit and chocolate....
R: What do you like to eat?
M: I like eat chocolate....

⁴³ Whereas in Farsi there are two different verbs for *eating* and *drinking*, the verb *eat* can generally stand for *drink* as well.

R: I don't like meat.
B: Why you don't eat it?
M: Why you don't like it?
R: Do you like to swim?
B: I like swim.
M: I like swim.

M asks **B** (in Farsi) what 'To swim' means and he answers that it means '2 swim'.

R: Do you like eating meat?
B: I like eating meat.
M: I like eating meat.
R: Do you like drinking banana?
B: No, I didn't drinking banana, I like eating banana.
B: Do you like eating banana?
M: Yes, I like eat the banana.
R: Do you like to read?
B: Yes, I like to read.
M: Yes, I like to read.
R: Which book do you like to read?
M: I likes 'Sleepy story' read (She meant sleeping beauty).

R picks up a book called 'Mr. Tall' and starts asking some questions about the book by pointing to the pictures.

R: Where are they?
M: They are into home.
R: What time is it?
B: At eight o'clock.
R: Is it eight o'clock in the morning or eight o'clock at night?
B: At night, because is black.
R: What are these?
B: It's a balloon.
M: They are balloon.
R: Where is he looking?
B: He looking at mirror.
R: What are they making?
M: They making table.
R: What are they making?
B: They are making the table.
R: Are they making a chair?
M: They are not making chair, they are making table.
R: Is this a chair?
B: No, It's not a chair, it's a mirror.
R: Where is Mr. Tall?
M: Mr. Tall on the his bed.
R: Where is Mr. Tall?
B: Mr. Tall is on the bed.
R: Is your bed very big?

B: No, my bed is not very long.

Appendix B: Tables for Chapter Five

Appendix B-1: Number and percentage of VX vs. XV utterances

Sample	VX		XV		Total		% VX		% XV	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-	-	-
2(01.05.03)	0	0	0	0	0	0	-	-	-	-
3(09.05.03)	0	0	0	0	0	0	-	-	-	-
4(17.05.03)	1	1	12	9	13	10	7.70	10.00	92.30	90.00
5(22.05.03)	0	0	0	0	0	0	-	-	-	-
6(30.05.03)	22	5	0	2	22	7	100.00	71.43	0.00	28.57
7(07.06.03)	1	0	3	3	4	3	25.00	0.00	75.00	100.00
8(15.06.03)	3	5	8	6	11	11	27.28	45.45	72.72	54.55
9(23.06.03)	21	15	7	11	28	26	75.00	57.70	25.00	42.30
10(29.06.03)	7	4	3	1	10	5	70.00	80.00	30.00	20.00
11(06.07.03)	2	4	1	1	3	5	66.66	80.00	33.34	20.00
12(12.07.03)	16	15	0	3	16	18	100.00	83.33	0.00	16.66
13(23.07.03)	14	16	5	3	19	19	73.68	84.22	26.32	15.78
14(30.07.03)	41	34	0	0	41	34	100.00	100.00	0.00	0.00
15(08.08.03)	62	73	0	0	62	73	100.00	100.00	0.00	0.00
16(15.08.03)	18	17	0	0	18	17	100.00	100.00	0.00	0.00

Appendix B-2: Number and percentage of Lexical subjects with/without Copula or Auxiliary *be*

Sample	Lexical subjects having copula or auxiliary		Lexical subjects missing copula or auxiliary		Total		% Lexical subjects having copula or auxiliary		% Lexical subjects missing copula or auxiliary	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-	-	-
2(01.05.03)	0	0	0	0	0	0	-	-	-	-
3(09.05.03)	0	0	0	0	0	0	-	-	-	-
4(17.05.03)	0	0	4	4	4	4	0.00	0.00	100.00	100.00
5(22.05.03)	0	0	4	0	4	0	0.00	-	100.00	-
6(30.05.03)	0	1	7	8	7	9	0.00	11.11	100.00	88.88
7(07.06.03)	0	4	35	24	35	28	0.00	14.28	100.00	85.71
8(15.06.03)	2	5	28	14	30	19	6.66	26.31	93.33	73.68
9(23.06.03)	6	10	22	14	28	24	21.42	41.66	78.57	58.33
10(29.06.03)	21	9	10	12	31	21	67.74	42.85	32.25	57.14
11(06.07.03)	6	7	29	15	35	22	17.14	31.81	82.85	68.18
12(12.07.03)	18	20	19	14	37	34	48.64	58.82	51.35	41.17
13(23.07.03)	14	21	29	18	43	39	32.55	53.84	67.44	46.15
14(30.07.03)	10	17	15	14	25	31	40.00	54.83	60.00	45.16
15(08.08.03)	8	16	4	6	12	22	66.66	72.72	33.33	27.27
16(15.08.03)	10	4	2	4	12	8	83.33	50.00	16.66	50.00
17(22.08.03)	12	3	3	4	15	7	80.00	42.85	20.00	57.14
18(29.08.03)	25	21	0	3	25	24	100.00	87.50	0.00	12.50
19(05.09.03)	31	34	12	10	43	44	72.09	77.27	27.90	27.27
20(11.09.03)	8	1	0	1	8	2	100.00	50.00	0.00	50.00
21(20.09.03)	6	10	0	0	6	10	100.00	100.00	0.00	0.00
22(29.09.03)	7	0	1	0	8	0	87.50	-	12.50	-
23(18.10.03)	9	6	0	0	9	6	100.00	100.00	0.00	0.00
24(01.11.03)	23	13	0	0	23	13	100.00	100.00	0.00	0.00
25(16.11.03)	16	7	0	0	16	7	100.00	100.00	0.00	0.00

Appendix B-3: Number and percentage of Auxiliary *be*

Sample	Correct suppliance		Incorrect suppliance		Total		Percentage	
	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	-	-
3(09.05.03)	1	0	3	2	4	2	25.00	0.00
4(17.05.03)	2	3	7	5	9	8	22.22	37.50
5(22.05.03)	0	0	1	1	1	1	0.00	0.00
6(30.05.03)	1	0	7	3	8	3	12.50	0.00
7(07.06.03)	1	3	17	16	18	19	5.56	15.79
8(15.06.03)	7	15	37	28	44	43	15.91	34.88
9(23.06.03)	0	0	4	7	4	7	0.00	0.00
10(29.06.03)	9	6	8	12	17	18	52.94	33.33
11(06.07.03)	8	6	15	12	23	18	34.78	33.33
12(12.07.03)	8	2	3	10	11	12	72.73	16.67
13(23.07.03)	1	5	12	12	13	17	7.69	29.41
14(30.07.03)	9	6	8	14	17	20	52.94	30.00
15(08.08.03)	11	7	8	20	19	27	57.89	25.93
16(15.08.03)	2	0	3	4	5	4	40.00	0.00
17(22.08.03)	9	3	7	10	16	13	56.25	23.08
18(29.08.03)	22	23	6	14	28	37	78.57	62.16
19(05.09.03)	11	14	18	12	29	26	37.93	53.85
20(11.09.03)	2	3	6	7	8	10	25.00	30.00
21(20.09.03)	4	0	6	8	10	8	40.00	0.00
22(29.09.03)	0	0	4	1	4	1	0.00	0.00
23(18.10.03)	1	0	3	0	4	0	25.00	-
24(01.11.03)	0	0	0	0	0	0	-	-
25(16.11.03)	0	1	5	1	5	2	0.00	50.00
26(23.11.03)	3	9	7	1	10	10	30.00	90.00
27(29.11.03)	4	17	9	8	13	25	30.77	68.00
28(16.12.03)	4	7	2	1	6	8	66.67	87.50
29(30.01.04)	2	7	2	1	4	8	50.00	87.50
30(14.02.04)	2	1	6	1	8	2	25.00	50.00
31(06.03.04)	5	2	4	4	9	6	55.56	33.33
32(13.04.04)	1	4	1	2	2	6	50.00	66.67
33(08.05.04)	7	11	0	3	7	14	100.00	78.57
34(19.06.04)	3	3	1	1	4	4	75.00	75.00
35(16.07.04)	1	2	0	0	1	2	100.00	100.00
36(08.08.04)	1	5	0	0	1	5	100.00	100.00
37(20.09.04)	1	1	0	0	1	1	100.00	100.00
38(23.10.04)	2	1	1	0	3	1	66.67	100.00
39(11.11.04)	10	10	1	3	11	13	90.91	76.92
40(23.11.04)	5	8	0	1	5	9	100.00	88.89
41(06.12.04)	1	4	0	1	1	5	100.00	80.00

Appendix C: Tables for Chapter Six

Appendix C-1: Number and percentage of V+ Neg vs. Neg+ V utterances

Sample	V + Neg		Neg + V		Total		% V + Neg		% Neg + V	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-	-	-
2(01.05.03)	0	0	0	0	0	0	-	-	-	-
3(09.05.03)	0	0	0	0	0	0	-	-	-	-
4(17.05.03)	2	1	2	0	4	1	50.00	100.00	50.00	0.00
5(22.05.03)	0	0	0	0	0	0	-	-	-	-
6(30.05.03)	0	0	3	3	3	3	0.00	0.00	100.00	100.00
7(07.06.03)	0	1	3	0	3	1	0.00	100.00	100.00	0.00
8(15.06.03)	0	0	0	0	0	0	-	-	-	-
9(23.06.03)	0	0	0	0	0	0	-	-	-	-
10(29.06.03)	1	0	1	2	2	2	50.00	0.00	50.00	100.00
11(06.07.03)	0	0	3	0	3	0	0.00	-	100.00	-
12(12.07.03)	0	0	8	11	8	11	0.00	0.00	100.00	100.00
13(23.07.03)	0	0	7	7	7	7	0.00	0.00	100.00	100.00
14(30.07.03)	0	0	34	29	34	29	0.00	0.00	100.00	100.00

Appendix C-2: Number and percentage of N+ Neg vs. Neg+ N utterances

Sample	N + Neg		Neg + N		Total		% N + Neg		% Neg + N	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-	-	-
2(01.05.03)	0	0	0	0	0	0	-	-	-	-
3(09.05.03)	0	0	0	0	0	0	-	-	-	-
4(17.05.03)	1	0	1	0	2	0	50.00	-	50.00	-
5(22.05.03)	0	2	0	0	0	2	-	100.00	-	0.00
6(30.05.03)	2	6	34	15	36	21	5.55	28.57	94.44	71.42
7(07.06.03)	1	0	2	1	3	1	33.33	0.00	66.66	100.00
8(15.06.03)	2	3	17	14	19	17	10.52	17.64	89.47	82.35
9(23.06.03)	0	0	1	3	1	3	0.00	0.00	100.00	100.00
10(29.06.03)	0	1	8	4	8	5	0.00	20.00	100.00	80.00
11(06.07.03)	0	0	0	0	0	0	-	-	-	-
12(12.07.03)	0	0	23	23	23	23	0.00	0.00	100.00	100.00
13(23.07.03)	0	0	19	20	19	20	0.00	0.00	100.00	100.00
14(30.07.03)	0	0	11	18	11	18	0.00	0.00	100.00	100.00

Appendix C-3: Number and percentage of Copula *be*

Sample	Correct suppliance		Incorrect suppliance		Missing		Total		Percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	3	1	0	0	3	1	0.00	0.00
4(17.05.03)	2	0	3	1	2	0	7	1	28.57	0.00
5(22.05.03)	0	0	3	2	2	0	5	2	0.00	0.00
6(30.05.03)	15	7	4	11	7	3	26	21	57.69	33.33
7(07.06.03)	32	25	10	11	24	11	66	47	48.48	53.19
8(15.06.03)	21	20	25	25	20	12	66	57	31.82	35.09
9(23.06.03)	15	6	4	7	16	6	35	19	42.86	31.58
10(29.06.03)	18	3	22	18	4	2	44	23	40.91	13.04
11(06.07.03)	0	4	9	1	10	6	19	11	0.00	36.36
12(12.07.03)	29	40	8	9	16	4	53	53	54.72	75.47
13(23.07.03)	20	28	30	35	21	8	71	71	28.17	39.44
14(30.07.03)	18	36	21	11	12	8	51	55	35.29	65.45
15(08.08.03)	28	23	0	3	2	3	30	29	93.33	79.31
16(15.08.03)	14	12	5	11	4	4	23	27	60.87	44.44
17(22.08.03)	16	16	4	3	3	5	23	24	69.57	66.67
18(29.08.03)	36	40	0	0	1	3	37	43	97.30	93.02
19(05.09.03)	43	48	5	6	4	6	52	60	82.69	80.00
20(11.09.03)	10	13	2	0	0	0	12	13	83.33	100.00
21(20.09.03)	5	13	0	1	2	0	7	14	71.43	92.86
22(29.09.03)	4	4	0	0	3	0	7	4	57.14	100.00
23(18.10.03)	9	9	0	0	0	0	9	9	100.00	100.00
24(01.11.03)	36	26	0	0	1	0	37	26	97.30	100.00
25(16.11.03)	43	20	0	0	3	0	46	20	93.48	100.00
26(23.11.03)	36	37	0	0	0	0	36	37	100.00	100.00
27(29.11.03)	41	37	0	1	2	0	43	38	95.35	97.36
28(16.12.03)	70	47	0	0	0	0	70	47	100.00	100.00
29(30.01.04)	57	23	4	5	0	0	61	28	93.44	82.14
30(14.02.04)	34	19	2	5	1	0	37	24	91.89	79.17
31(06.03.04)	54	28	5	3	1	0	60	31	90.00	90.32
32(13.04.04)	25	17	7	10	0	0	32	27	78.13	62.96
33(08.05.04)	13	9	0	1	0	0	13	10	100.00	90.00
34(19.06.04)	19	11	0	4	0	0	19	15	100.00	73.33
35(16.07.04)	1	1	0	0	0	0	1	1	100.00	100.00
36(08.08.04)	17	41	0	1	0	0	17	42	100.00	97.62
37(20.09.04)	12	26	0	2	0	0	12	28	100.00	92.86
38(23.10.04)	6	8	0	2	0	0	6	10	100.00	80.00
39(11.11.04)	32	32	0	3	0	0	32	35	100.00	91.43
40(23.11.04)	30	59	0	3	0	0	30	62	100.00	95.16
41(06.12.04)	4	20	0	0	0	0	4	20	100.00	100.00

Appendix C-4: Unanalysed utterances with *It's/It is* from Samples 3-6

Sample 3 (9 May 2003)

Context: B, M, and R are painting and R asks them some questions about the objects around them and the colours they use in their paintings.

R: Who can tell me what colour these pencils are?

No answer is given. R points at a balloon:

R: What is this?

B: It's balloon.

R: What colour is this?

B: It's colour.

B: It's blue.

R points at a crying doll:

R: What is the doll doing?

B asks about the verb cry in Farsi and his dad tells him 'cry'.

B: It is a cry.

R is asking some questions about the pictures in the book:

R: What are these?

B: It is a car.

B: It is a cars.

R: What is this?

M: It is a alligator.

R: Where is my book?

B: ## It is a table.

R: What are these?

B: It is a pencil.

R: Who is she?

B: It is a girl.

R: What is the lion doing?

B: It is a lion food # it is a food.

R: What are these?

M: It is # it is a # mouses.

R: Who is she?

B: It is a Maisy.

R: What are these?

M: Trousers # it is a trouseres.

R: What are these in Maisy's trolley?

B: It is a banana.

R: Where is Maisy?

M: It is a garden.

R: B, where is the book?

B: It is a # # it is a book on the table.

Sample 4 (17 May 2003)

R: What is this?
M: It is a butter.
R: What time is it?
B: It is a # clock.
R: What is this?
B: It is a flour.
M: It is a panda.
R: Where is Maisy?
B: It is a bed.

Sample 5 (22 May 2003)

Context: R, B, and M are reading Humpty-Dumpty book and are doing the puzzles in the book.

R: What have you got in this picture?
M: Is a bee.
R: Do you know what this is?
M: It is a doll.
R: That one?
B: It is a flower.
B: It is a mushroom.
R: What about this one?
B: It is a castle.
M: It is a horse.
R: What was this?
B: It is a dog.
R: What was Humpty Dumpty sitting on?
B: The wall # it is a wall.
R: What is this?
M: It is a chicken.
B: It is a bike.
R: what about this?
M: It is a duck.
R: What kind of duck then?
R: It is a # # (clue)
M: It is a yellow duck.
R: What is that?
B: It is a octopus.
R: And what is that one?
M: It is a mouse.
M: It is a frog.
M: It is a eyebrow.
B: It is a eyebrow.
B: It is a teeth.
M: It is a lip.
B: It is a lip.
M: It is a jumper.

R: And what colour?
B: It is a yellow.
R: What is this?
B: It is a shoes.
R: What are these?
B: It's a bike, it's a bike.
R: What are these?
B: It is a cow.
B: It is a cat, it is a cat.
B: It is a dog, it is a dog.
R: Do you know what this is?
M: Butterfly.
R: What do you say?
M: It is a butterfly.
R: Which do you like better, pencil or pen?
M: Pencil, it is a pencil.
R: What is that?
B: It is a boat.
R: What is that one?
B: It is a horse.
R: What is this one?
B: It is a ice cream

R shows them some pictures and they name the objects.

B: It is a cat.
B: It is a tree.
B: It is a frog.
B: It is a clown.
B: It is a apple.
B: It is a airplane, it is a airplane.
B: It is a zebra, it is a zebra.
B: It is a shoes, it is a shoes.

Sample6 (30 May 2003)

Context: R points at some play cards and asks the learners about the pictures.

R: What is this?
M: It is a eye.
B: It is a sky.
B: It is a hand.
M: It is a tiger.
R: What is she?
M: Duck, It is a duck.
R: What is that?
B: It is a flower.
B: It is a table.
M: It is a hat.

M: It is a shoe # leg.

R: Do you know what this is?

M: It is a # # scarf.

R: Where is the cup?

M: It is a cup.

R: What is she holding? (M does not get the question and R translates the sentence into Farsi).

M: It is a bag.

R: What colour is the bag?

M: It is a yellow.

R: What colour are these things?

B: It is a brown.

B: It is a white penguin.

R: What colour are these ones?

M: It is a blue.

B: It is a red.

M: It is a red.

R: What colour is that one wearing?

M: It is a blue.

M: It is a pink.

M: It is a red.

M: It is a green.

R: Do you like that?

M: It is a star.

R: What is that one?

M: It is a one horse.

R: What is this?

B: It is a banana.

B: It is a orange.

B: It is a lemon.

B: It is a banana.

B: It is a orange.

B: It is a duck.

R: Is it a flower?

B: No, no, no it is a flower. It is a truck

Appendix C-5: Number and percentage of Auxiliary have

Sample	Correct suppliance		Incorrect suppliance		Total		Percentage	
	B	M	B	M	B	M	B	M
1-17 (20.04.03- 22.08.03)	0	0	0	0	0	0	-	-
18(29.08.03)	2	0	2	0	4	0	50.00	-
19(05.09.03)	0	0	1	0	1	0	0.00	-
20(11.09.03)	0	0	0	0	0	0	-	-
21(20.09.03)	0	0	0	0	0	0	-	-
22(29.09.03)	0	0	0	0	0	0	-	-
23(18.10.03)	0	0	0	0	0	0	-	-
24(01.11.03)	0	1	8	4	8	5	0.00	20.00
25(16.11.03)	0	2	1	5	1	7	0.00	28.57
26(23.11.03)	0	0	0	0	0	0	-	-
27(29.11.03)	1	3	6	7	7	10	14.29	30.00
28(16.12.03)	0	3	5	0	5	3	0.00	100.00
29(30.01.04)	0	0	7	9	7	9	0.00	0.00
30(14.02.04)	4	0	4	2	8	2	50.00	0.00
31(06.03.04)	0	0	13	3	13	3	0.00	0.00
32(13.04.04)	0	0	10	0	10	0	0.00	-
33(08.05.04)	1	0	1	0	2	0	50.00	-
34(19.06.04)	2	0	0	2	2	2	100.00	0.00
35(16.07.04)	0	0	0	0	0	0	-	-
36(08.08.04)	9	2	0	2	9	4	100.00	50.00
37(20.09.04)	7	3	1	5	8	8	87.50	37.50
38(23.10.04)	0	0	2	1	2	1	0.00	0.00
39(11.11.04)	1	0	5	1	6	1	16.67	0.00
40(23.11.04)	0	2	3	7	3	9	0.00	22.22
41(06.12.04)	0	0	0	0	0	0	-	-

Appendix C-6: Number and percentage of Auxiliary *do*

Sample	Correct suppliance		Incorrect suppliance		Total		Percentage	
	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	1	-	0.00
4(17.05.03)	0	0	0	1	0	1	-	0.00
5(22.05.03)	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	12	15	12	15	0.00	0.00
7(07.06.03)	0	0	1	1	1	1	0.00	0.00
8(15.06.03)	0	0	0	0	0	0	-	-
9(23.06.03)	0	0	0	0	0	0	-	-
10(29.06.03)	0	0	0	1	0	1	-	0.00
11(06.07.03)	0	0	0	0	0	0	-	-
12(12.07.03)	1	5	4	8	9	13	11.11	38.46
13(23.07.03)	2	1	28	24	30	25	6.67	4.00
14(30.07.03)	2	6	25	19	27	25	7.41	24.00
15(08.08.03)	3	16	19	13	22	29	13.64	55.17
16(15.08.03)	1	5	10	5	11	10	9.09	50.00
17(22.08.03)	5	2	7	5	12	7	41.67	28.57
18(29.08.03)	1	5	5	6	6	11	16.67	45.45
19(05.09.03)	10	6	6	7	16	13	62.50	46.15
20(11.09.03)	8	6	15	9	23	15	34.78	40.00
21(20.09.03)	5	1	9	8	14	9	35.71	11.11
22(29.09.03)	1	1	2	2	3	3	33.33	33.33
23(18.10.03)	3	3	6	6	9	9	33.33	33.33
24(01.11.03)	10	11	11	6	21	17	47.62	64.71
25(16.11.03)	11	3	7	4	18	7	61.11	42.86
26(23.11.03)	10	9	6	4	16	13	62.50	69.23
27(29.11.03)	12	7	11	9	23	16	52.17	43.75
28(16.12.03)	13	10	16	4	29	14	44.83	71.43
29(30.01.04)	36	19	15	17	51	36	70.59	52.78
30(14.02.04)	17	8	10	3	27	11	62.96	72.73
31(06.03.04)	37	19	6	20	43	39	86.05	48.72
32(13.04.04)	14	7	4	1	18	8	77.78	87.50
33(08.05.04)	7	8	7	5	14	13	50.00	61.54
34(19.06.04)	0	10	0	0	0	10	-	100.00
35(16.07.04)	0	0	0	0	0	0	-	-
36(08.08.04)	1	12	0	2	1	14	100.00	85.71
37(20.09.04)	0	15	0	3	0	18	-	83.33
38(23.10.04)	6	1	3	0	9	1	66.67	100.00
39(11.11.04)	2	10	0	1	2	11	100.00	90.91
40(23.11.04)	6	15	1	3	7	18	85.71	83.33
41(06.12.04)	0	4	1	1	1	5	0.00	80.00

Appendix C-7: Number and percentage of Modal verbs

Sample	Correct suppliance		Incorrect Suppliance		Missing modals		Total		Percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	0	0	0	-	-
4(17.05.03)	0	0	2	4	0	0	2	4	0.00	0.00
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	0	0	0	0	0	0	-	-
8(15.06.03)	0	0	0	0	0	0	0	0	-	-
9(23.06.03)	0	0	0	0	0	0	0	0	-	-
10(29.06.03)	0	0	0	0	0	0	0	0	-	-
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	0	0	0	0	0	0	-	-
13(23.07.03)	0	0	0	0	0	0	0	0	-	-
14(30.07.03)	0	0	0	0	0	0	0	0	-	-
15(08.08.03)	3	2	1	0	1	5	5	7	60.00	28.57
16(15.08.03)	5	1	2	0	0	3	7	4	71.42	25.00
17(22.08.03)	0	0	0	0	0	0	0	0	-	-
18(29.08.03)	2	0	0	0	0	0	2	0	100.00	-
19(05.09.03)	0	0	1	0	1	0	1	0	0.00	-
20(11.09.03)	3	1	0	0	3	1	6	2	50.00	50.00
21(20.09.03)	0	6	1	4	0	0	1	10	0.00	60.00
22(29.09.03)	5	9	0	0	0	8	5	17	100.00	52.94
23(18.10.03)	4	6	2	3	0	0	6	9	66.66	66.66
24(01.11.03)	17	9	1	0	0	0	18	9	94.44	100.00
25(16.11.03)	8	7	0	0	0	1	8	8	100.00	87.50
26(23.11.03)	3	6	3	0	0	0	6	6	50.00	100.00
27(29.11.03)	9	11	3	2	4	8	16	21	56.25	52.38
28(16.12.03)	6	7	0	0	1	2	7	9	85.71	77.77
29(30.01.04)	15	9	0	1	1	1	16	11	93.75	81.81
30(14.02.04)	10	12	0	3	1	9	11	24	90.90	50.00
31(06.03.04)	15	9	0	1	1	1	16	11	93.75	81.81
32(13.04.04)	4	3	1	1	0	0	5	4	80.00	75.00
33(08.05.04)	6	4	2	4	0	0	8	8	75.00	50.00
34(19.06.04)	3	3	0	0	0	0	3	3	100.00	100.00
35(16.07.04)	1	1	0	0	0	0	1	1	100.00	100.00
36(08.08.04)	1	7	0	2	0	1	1	10	100.00	70.00
37(20.09.04)	1	17	0	3	0	1	1	21	100.00	80.95
38(23.10.04)	5	5	0	0	0	0	5	5	100.00	100.00
39(11.11.04)	16	12	2	4	0	0	18	16	88.88	75.00
40(23.11.04)	12	17	0	5	0	0	12	22	100.00	77.27
41(06.12.04)	1	4	0	1	0	1	1	6	100.00	66.66

Appendix C-8: Number and percentage of 3sg –s

Sample	Correct suppliance		Incorrect suppliance		Missing		Total		Percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	0	0	0	-	-
4(17.05.03)	0	0	0	0	0	0	0	0	-	-
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	1	0	0	0	1	0	0.00	-
8(15.06.03)	0	0	0	0	0	0	0	0	-	-
9(23.06.03)	0	0	0	0	0	0	0	0	-	-
10(29.06.03)	0	0	2	2	1	0	3	2	0.00	0.00
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	5	3	2	4	7	6	0.00	0.00
13(23.07.03)	0	0	1	2	1	4	2	6	0.00	0.00
14(30.07.03)	0	0	0	0	1	1	1	1	0.00	0.00
15(08.08.03)	3	2	4	1	6	12	13	15	20.00	13.33
16(15.08.03)	1	0	1	0	7	6	9	6	7.69	0.00
17(22.08.03)	0	0	0	0	4	6	4	6	0.00	0.00
18(29.08.03)	0	0	0	0	1	3	1	3	0.00	0.00
19(05.09.03)	1	0	4	0	3	7	8	7	12.50	0.00
20(11.09.03)	1	0	5	1	0	12	6	13	16.66	0.00
21(20.09.03)	0	0	0	1	3	3	3	4	0.00	0.00
22(29.09.03)	0	0	2	2	5	12	7	14	0.00	0.00
23(18.10.03)	0	0	1	0	3	2	4	2	0.00	0.00
24(01.11.03)	1	0	0	1	7	2	8	3	12.50	0.00
25(16.11.03)	0	0	0	1	9	2	9	3	0.00	0.00
26(23.11.03)	0	0	3	2	1	2	4	4	0.00	0.00
27(29.11.03)	0	0	1	0	4	2	5	2	0.00	0.00
28(16.12.03)	1	0	1	1	3	1	5	2	20.00	0.00
29(30.01.04)	1	0	3	2	11	5	15	7	6.66	0.00
30(14.02.04)	0	1	1	1	6	10	7	12	0.00	8.33
31(06.03.04)	4	0	0	2	8	7	12	9	33.33	0.00
32(13.04.04)	2	0	0	1	15	1	17	2	11.76	0.00
33(08.05.04)	9	0	6	2	17	21	32	23	28.12	0.00
34(19.06.04)	0	0	0	0	0	0	0	0	-	-
35(16.07.04)	33	1	6	1	20	38	59	40	55.93	2.50
36(08.08.04)	12	1	2	0	17	33	31	34	38.70	2.94
37(20.09.04)	20	1	1	2	19	28	40	31	50.00	3.22
38(23.10.04)	9	1	1	1	17	19	27	21	33.33	4.76
39(11.11.04)	3	0	0	0	0	1	3	1	100.00	0.00
40(23.11.04)	0	1	0	2	0	1	0	4	-	25.00
41(06.12.04)	54	16	2	7	12	57	68	80	79.41	20.00

Appendix C-9: A breakdown of 3sg -s verbs

C-9.1: Inflected 3sg -s verbs

Sample	B	M
6	has(18)	has(2)
15	sees(3)	sees(2)
16	wants	has
18		has(2)
19	sees	
20	has, sees	
24	wants	
28	means	
29	says	
30		likes
31	likes(2), smells, thinks	
32	wakes up(2)	
33	comes, eats, goes, likes, says, tells, wakes up(2), wants	
35	comes(5), eats(4), goes(15), lines up, picks up, plays(4), reads(2), rings, says, takes(3), tells	wakes up
36	comes(2), eats, goes(7), sings, wakes up	wakes up
37	comes, gets, goes(11), wakes up, watches	wakes up
38	likes(2), needs, picks, says(5)	goes
39	goes, hits, keeps	
40		means
41	brings(2), comes(7), dresses up(2), drinks, eats(4), goes(16), kisses(2), likes, needs, pats, picks(2), says sleeps, takes(5), teaches(2) Wakes up(2), watches(2), wishes	buys, comes, drinks, eats, gets, goes(5), likes, means(2), plays, wakes up(2)

C-9.2: Uninflected 3sg –s verbs

Sample	Wrong inflected		Non-inflected	
	B	M	B	M
6		is (has)(20)	have	
8		is		
10		is(2), is like	get up	have
11		is eating		
12	said	is put	kick, like, pick up, rush, shout	bring, kick, like, put
13	is brush	is going, putting	put on	put(2), shout, want
14			go	go
15	is go, said, walking, washing	walking	cook, eat, get, have(2), like(2), see	go(3), like(2), see(5), wash(2),
16	said		ask(3), have(4), like, say(2), want	ask(2), give, have(5), like, say, see
17			go, have(4), like(2)	eat, have(4), like(2), say, sting, wash
18			see	eat, like(2)
19	is buy, is come, is eat, is go		go(2), like	buy, eat, go(3), like, say
20		found	eat, have, like(2), think, want	have, go, like(4), stay, want(6)
21		is raining	go, make, play	come, fly, make
22	is come(2)	tidying	come(2), hide, live	do(2), go(3), have, like(2), make, say, want
23	is throw	is belong	belong, have(3), want	have, read, watch
24	is have	found	bring, come, find, go, have(10), put, want	have(8), talk, think
25		is shouting	go(2), have(4), hit(1), like(3), say, want(2)	go, like
26	is eating, started, is water	is go, reading	buy	buy, start
27	is smell		go(2), have(2), like, marry	do, like(2)
28	is mean	is look	go, have(3), like(2)	have, like
29	is come, is fell, is working	come, is sitting, see, talking	do(2), give, go, have(6), hit, know, like(3), say, talk, went	copy, go, know(2), smell

30	is wake up		have(5), know(4), make(1), want(2)	come, give(2), go, have, say, speak, taste tickle, want, work
31		is chew, is have, is hurt	cry, have(3), like(4), sing, stick, want	have(3), say(4), sit, show, step
32		is goes, is have(2)	brush, come(2), count, do, eat, finish, go(4), have(4), learn(2), say, teach, wash	have, put
33	is running(2), is saying, washing, will come, will say	said(2)	dress, eat(2), fall, get, go(3), play, run, say(2), study, want, wash, watch	come, eat(4), go(6), like, play(3), stay, wake up(2), wash, watch, write
35	finished(6)	went	brush, do(6), get, go(4), line up, pick up, play(3), say, sing, teach, tell(5)	come(4), do(11), eat(3), get(2), go(20), play(5), read, say, wash, watch
36	ate, finished		come, do(4), dress up, eat(2), get, go(5), play(4), wash(2), watch	brush(2), come(3), do(4), eat(3), go(16), need, play(4), sing, wash, watch(2)
37	went	went(2)	come, do(5), dress up, eat(4), go(4), play(4), read, rush, sing, wash	come, do(3), dress up, eat(3), go(11), have(2), play(2), read, sing, sleep, take, wash(3), watch(2)
38	told	said, was finished	behave, do, dress up, go, have to(2), learn, pick, put, read, say, shout, teach(4), wear	come, do(2), eat, get, go(4), learn, make, need, put, say(3), speak, take, teach, wake, wash
39				want,
40		sleeping, wait		turn
41	ate, got	did, is going, is reading, is watching, listening, playing, reading	do(7), dress up, fix(2), go, make, play, read(2), wash(3), watch	ask(2), brush(3), buy(3), come, do, drink, eat(7), fix, go(9), have(5), kiss(3), learn, play(4), read(4), say(3), sleep(2), take(3), tell, type, want(2), wash(2), watch(2)

Appendix C-10: Number and percentage of Past Regular

Sample	Correct suppliance		Incorrect suppliance		Missing		Total		Percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	0	0	0	-	-
4(17.05.03)	0	0	0	0	0	0	0	0	-	-
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	0	0	0	0	0	0	-	-
8(15.06.03)	0	0	0	0	0	0	0	0	-	-
9(23.06.03)	0	0	2	1	0	1	2	2	0.00	0.00
10(29.06.03)	0	0	0	0	0	0	0	0	-	-
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	0	0	0	0	0	0	-	-
13(23.07.03)	0	0	0	0	0	0	0	0	-	-
14(30.07.03)	0	0	0	0	0	0	0	0	-	-
15(08.08.03)	0	0	0	1	0	1	0	2	-	0.00
16(15.08.03)	0	0	0	0	1	1	1	1	0.00	0.00
17(22.08.03)	0	1	0	0	0	0	0	1	-	100.00
18(29.08.03)	0	1	0	0	0	0	0	1	-	100.00
19(05.09.03)	3	0	0	0	8	3	11	3	27.27	0.00
20(11.09.03)	0	0	0	0	0	0	0	0	-	-
21(20.09.03)	0	0	0	0	0	0	0	0	-	-
22(29.09.03)	2	0	2	0	4	1	8	1	25.00	0.00
23(18.10.03)	0	0	1	1	0	0	1	1	0.00	0.00
24(01.11.03)	1	0	0	0	0	2	1	2	100.00	0.00
25(16.11.03)	0	0	0	0	5	3	5	3	0.00	0.00
26(23.11.03)	0	0	0	1	2	1	2	2	0.00	0.00
27(29.11.03)	0	2	1	3	15	8	16	13	0.00	15.38
28(16.12.03)	0	0	0	0	1	3	1	3	0.00	0.00
29(30.01.04)	0	0	1	1	3	5	4	6	0.00	0.00
30(14.02.04)	1	0	0	0	5	8	6	8	16.67	0.00
31(06.03.04)	6	0	0	4	1	9	7	13	85.71	0.00
32(13.04.04)	4	0	0	1	1	12	5	14	80.00	0.00
33(08.05.04)	15	1	0	0	1	11	16	13	93.75	7.69
34(19.06.04)	15	29	0	0	0	4	15	33	100.00	87.88
35(16.07.04)	5	6	0	0	0	1	5	9	100.00	66.67
36(08.08.04)	12	21	1	1	0	7	13	29	92.31	72.41
37(20.09.04)	5	28	0	1	0	2	5	31	100.00	90.32
38(23.10.04)	4	7	0	1	1	1	5	9	80.00	77.78
39(11.11.04)	20	38	0	1	0	1	20	40	100.00	95.00
40(23.11.04)	27	52	0	1	1	1	28	54	96.43	96.30
41(06.12.04)	1	6	0	0	0	1	1	7	100.00	85.71

Appendix C-11: A breakdown of Past Regular verbs

C-11.1: Inflected Past Regular verbs

Sample	B	M
17		jumped
18		swallowed
19	decided, landed, wanted	
22	picked(2)	
24	coloured	
27		coloured, played
30	worked	
31	asked, climbed(3), played(2)	
32	asked, played, scared, washed	
33	asked(2), finished, played(4), studied, talked(2), walked, washed(2), watched, worked	walked
34	answered, asked, bumped, called, cried, decided(2), died, knocked, lived(2), looked, opened, roared, tasted	asked(3), called(3), cooked, cracked, cried, died, kissed, knocked(2), lived(4), looked(2), opened, smiled, started, tried(4), turned, wanted(2)
35	brushed, finished, picked, swapped, walked, watched	reached, started(4), worked
36	bumped, lived, played(4), scored, tried(5)	answered, called, cuddled, died(3), killed, knocked(2), lied, liked, lived(2), looked, opened(2), played, started(4)
37	lived, tasted(2), tried(2)	coughed, cried, cuddled(2), died(4), kissed, knocked(5), lived(2), looked(2), opened(5), played, shouted, started, wanted (2)
38	marked, played, wanted, watched	helped, liked, played(4), wanted
39	cheered, climbed(2), died(2), killed(2), liked, lived(5), looked, marked, pulled, shared, slipped, tied, yawned	banged(2), called(3), climbed, cried, died(2), disappointed, killed(2), liked, lived(2), looked, married, moved, opened, played, prayed, pulled, pushed, reached, relaxed, shared, shouted, smiled, started, tied, thanked, tried, wanted(6)
40	brushed(2), cleaned, jumped, killed, laughed(7), prayed, rushed(8), scared(2), screamed, squeezed, toasted, watched	asked(2), brushed(2), cleaned(2), crossed, died, explained, ignored, jumped, knocked, laughed(8), liked(3), looked, milked(2), opened, posted, prayed, pulled, rushed(2), scared(3), shouted(2), turned(2), waited, walked, wanted(9), washed, wrapped
41		answered, happened, helped, liked, played, washed

C-11.2: Uninflected Past Regular verbs

Sample	Wrong inflected		Non-inflected	
	B	M	B	M
9			like	
15		are wash		wash
16			like	like(2)
19			bang(5), splash, try(2)	land, open, splash
22	is dead(2)		dance, dash, live, marry	paint
23	laughing	is started		
24			cuddle, like	
25			ask, watch	ask, play, work
26		did open	open, play	play
27	dead, is want	dead(2), was wanted	change, cry, follow, jump(2), live, marry, open, pick, turn, want(5)	cry, follow, knock, marry, open(2), play, push, want
28			ask	play(2), walk
29			colour, cry, roll	copy, shout, show, stay, watch
30			pick(3), watch, work	ask(4), want'2), watch, work
31			want	ask(2), brush, cry(2), happen(2), play, show
32			wash	call, jump, play, start(2), stop, turn(2), want(2), wash(2)
33			answer	ask(3), cry, laugh, play(2), stay, talk, wash(2)
34				call, try(2), turn
35				play
36		was dead		finish(2), half, knock, play, shout(2), stay
37				finish, shout
38			complete, finish	play
39		was wanted		pray
40			post	pray
41				borrow

Appendix C-12: Number and percentage of Past Irregular

Sample	Correct suppliance		Incorrect suppliance		Missing		Total		Percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	0	0	0	-	-
4(17.05.03)	0	0	0	0	0	0	0	0	-	-
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	0	0	0	0	0	0	-	-
8(15.06.03)	0	0	0	0	0	0	0	0	-	-
9(23.06.03)	3	14	13	6	13	1	29	21	10.34	66.67
10(29.06.03)	0	0	0	0	0	0	0	0	-	-
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	0	0	0	0	0	0	-	-
13(23.07.03)	0	0	0	0	0	0	0	0	-	-
14(30.07.03)	1	1	0	0	0	0	1	1	100.00	100.00
15(08.08.03)	1	0	3	0	0	2	4	2	25.00	0.00
16(15.08.03)	0	0	3	1	1	1	4	2	0.00	0.00
17(22.08.03)	0	1	2	1	0	3	2	5	0.00	20.00
18(29.08.03)	0	0	0	0	0	0	0	0	-	-
19(05.09.03)	12	4	0	0	10	4	22	8	54.55	50.00
20(11.09.03)	1	0	2	2	3	4	6	6	16.67	0.00
21(20.09.03)	0	0	0	0	2	0	2	0	0.00	-
22(29.09.03)	6	4	2	0	9	2	17	6	35.29	66.67
23(18.10.03)	3	1	0	0	9	3	12	4	25.00	25.00
24(01.11.03)	0	1	1	0	5	6	6	7	0.00	14.29
25(16.11.03)	6	2	0	3	15	8	21	13	28.57	15.38
26(23.11.03)	1	0	1	1	4	7	6	8	16.67	0.00
27(29.11.03)	22	19	3	7	27	47	52	73	42.31	26.03
28(16.12.03)	9	0	0	1	14	8	23	9	39.13	0.00
29(30.01.04)	22	2	3	2	27	18	52	22	42.31	9.09
30(14.02.04)	18	5	3	2	2	21	23	28	78.26	17.86
31(06.03.04)	24	14	5	2	7	25	36	41	66.67	34.15
32(13.04.04)	35	9	2	5	5	23	42	37	83.33	24.32
33(08.05.04)	15	8	5	4	5	18	25	30	60.00	26.67
34(19.06.04)	44	47	3	8	5	20	52	75	84.62	62.67
35(16.07.04)	19	23	1	0	0	2	20	25	95.00	92.00
36(08.08.04)	51	98	3	13	5	12	59	123	86.44	79.67
37(20.09.04)	25	100	1	16	1	9	27	125	92.59	80.00
38(23.10.04)	24	22	2	3	10	7	36	32	66.67	68.75
39(11.11.04)	75	54	1	8	3	18	79	80	94.94	67.50
40(23.11.04)	77	82	2	11	1	7	80	100	96.25	82.00
41(06.12.04)	1	8	0	2	0	2	1	12	100.00	66.67

Appendix C-13: A breakdown of Past Irregular verbs

C-13.1: Inflected Past Irregular verbs

Sample	B	M
9	said(3)	ate(12), said(2)
14	said	said
15	came	
17		stung
19	found, got, said(10)	fund(3), said
20	found	
22	fell, said(4), threw	said(4)
23	fell, said, thought	said
24		said
25	forgot, read, got(3), said	got(2), said
26	broke	
27	blew (2), bought, broke(4), fell, found, said(10), saw, thought, threw	broke(3), fell(2), found, said(12), told
28	broke(2), fell, forgot, got(5)	
29	came, did(3), forgot, found, lost, said(5), saw, thought, told(2), went(6)	got, said
30	did, did say, lost, made, said(7), thought, told, went(4), won	said(5)
31	brought, came, did(2), fell, got(2), said(3), saw(2), threw(2), told(2), went(7), won	came(2), did, fell(4), said(7)
32	ate(2), came(2), did, got(9), ran, said, saw(2), shot, told, went(15)	bought, did(2), forgot, said(4), saw
33	ate(2), came(2), said(5), saw(2), went(3), won	fell, said(4), went(3)
34	ate(2), broke, came(6), did(2), gave, made, said(11), saw(8), took, went (10), woke up	ate, came(5), gave, ran, said(22), saw(2), went(14), won
35	ate(2), came(2), did(2), gave(3), made(2), read, said, went(5)	came(3), said(5), went(15)
36	ate, began(2), came(2), did, made(2), ran, said(11), sat, saw(2), went(28)	ate(2), came(4), said(54), saw(6), told, took(2), went(29)
37	began(5), came, said(8), saw(2), went(8), woke up	ate(2), bit, bought, came(5), fell(3), found, had, knew, ran, said(61), sang, saw, told(4), went(16), woke up
38	bought, came(3), did(6), gave(2), had to(2), made, said(3), went(6)	bought(3), came(3), did(5), found, had, said(2), went(7)
39	began(3), flew(2), gave(2), got(3), heard(2), hid, made, said(32), saw(9), thought, took(2), went(15), woke(2)	ate, came(5), did, found, got, made(2), ran, said(16), sat, saw(6), thought(4), told(2), went(13)

40	ate(3), came(4), gave, got(3), had to, made(2), ran, said(27), saw(10), threw, told, took, went(21), woke up	bought, came, drank, gave(4),got(4), had(7), heard(2), said(21), sat, saw(6), thought(4), threw, told, took, went (27)
41		bought, had, made, said, told(2), took(2)

C-13.2: Uninflected Past Irregular verbs

Sample	Wrong Inflected		Non-Inflected	
	B	M	B	M
9	food(eat)(3)	is ate, is run	eat(5), have	
15	are came, are go, are went			go(2)
16	am go(3)		go(2)	go(3)
17	is think			have, sit, sting
19			go(2), say(6), shoot(2)	go, make, put, say
20	am draw, am go	writing(2)	eat, get, go	eat, go, have, write
21			give(2)	
22	is come, getting		eat(2), give, go(5), have	buy, go
23			come, eat(3), fill, make, see, think(2)	eat(2), make
24	drawing		draw(2), go, see, write	eat, give, go(2), see, swim
25		does have, was have, am said	be(2), buy, get, go(6), have(2), have test, read(2), take, win	go(4), have, sleep, take
26	did go	is broke	buy(2), draw, write	buy(2), go(4), see
27	is broken, coming	are coming, was have(2)	catch(2), come(2), eat(3), give, go(9), have(2), make(4), say, see(2), wake up	come(5), eat, find, get(6), go(13), have(2), make(4), run, say, sing, sleep(3)
28		have got	eat, give(2), go(3), grow(3), have, win(2), write(2)	do, go, make(2), run, see(2), take
29	done(2),	do, done	buy(4), come, cry, do, eat(4), get(2), give, go(3), have to(2), make(3), know, see, sit, spend, wear(2)	come, give(2), go(10), say, take, write(3)
30		is say	get, make	come, do(2), eat, give(4), go(4), make(4), sit,

				stick, take(3)
31	was having(2), wins	done, happens, was wanted(2)	come, fight, get(2), give, make, swim	break(3), buy(2), do, give(6), go(3), have(2), make, say, see(2), stand, write(2)
32	wakes up	is go, was wanted	blood , come, get, go, have	buy, come(2), eat, go(10), get, have, have to(3), see, take, think, wake up
33		has, accident (crash)	come, speak(2), wake, write	come(2), eat(2), fall, get(2), go(3), have, say, see, stand, tell, wake, write
34		is ate	eat, fall, get(2), see	buy, drink, eat, fall, have(2), make, run(3), see(5), sing, sit(2), take, tell
35				come; go
36			eat(2), fly, go, ride	come, fall, get(2), give(4), make, run, sleep, take
37		was wanted	run	come(2), eat, fall, get, hide, sing, take, understand
38			eat, have to(7), teach	eat, have, keep, read(4)
39	hurts	was fallen, was see, would have	eat, fall(2)	catch, drink, fall(2), fly, get, give(4), have, hide, hold, run, send(2), think
40		says	fall	get(2), have(3), run, think
41				read, write

Appendix C-14: A breakdown of over-regularised and non-contextual past

Sample	Over-regularisation		Out of context	
	B	M	B	M
12			said	
15			said	
16			said	
17			stung	
20				found, watered
24			got(3)	found
26			started	
27			fell down, got	did say, did see
28			got(4)	
29			did cry, did go, fell, got(5)	did like, forgot, got(3)
30	maked		did eat(2), saw	came back, gave, did stick(2), did work
31	gived	goed	did have, got, won	did work, forgot, got
32	waked up		got(5)	did come, did found, did go, did hide, did walk
33	drinked, maked, speaked, waked up		did speak	did drink, did make, did play, did speak, said(2)
34	broked, waked up(2)	Waked up(3)		ate, did have, did know(2), did sit
35	sleeped		finished(6)	did pray(2), went
36	flyed, slepted, waked up	broked(2), camed, runned, singed, stucked, waked up(4)	ate, finished	did have(3), found, promised, said
37	maked	came, gaved(2), runned, sawed(10), stucked, waked up	went	went(2)
38	maked	buyed		did have(2), did watch
39		comed, flyed, maked, slepted, taked, waked up	got(3), made(2)	
40	drived, weared	good byed, sawed(3),		

		shutted, taked, waked up(5)		
41		keeped, writed	ate, came back, got	

Appendix D: Tables for Chapter Seven

Appendix D-1: Number and percentage of Yes-No Questions

Sample	Correct suppliance		Wrong- raised		Incorrect suppliance		Total		percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	1	0	1	-	0.00
4(17.05.03)	0	0	0	0	0	1	0	1	-	0.00
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	0	0	0	0	0	0	-	-
8(15.06.03)	0	0	0	0	0	0	0	0	-	-
9(23.06.03)	2	1	0	1	0	0	2	2	100.00	50.00
10(29.06.03)	0	0	0	0	2	6	2	6	0.00	0.00
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	0	0	0	0	0	0	-	-
13(23.07.03)	0	0	0	0	15	15	15	15	0.00	0.00
14(30.07.03)	0	0	0	0	3	2	3	2	0.00	0.00
15(08.08.03)	0	0	0	0	0	0	0	0	-	-
16(15.08.03)	2	1	0	0	0	1	2	2	100.00	50.00
17(22.08.03)	1	0	0	0	0	0	1	0	100.00	-
18(29.08.03)	2	3	1	0	0	4	3	7	66.67	42.85
19(05.09.03)	6	11	1	0	13	12	20	23	30.00	47.82
20(11.09.03)	3	3	3	3	3	6	9	12	33.33	25.00
21(20.09.03)	1	0	0	0	0	1	1	1	100.00	0.00
22(29.09.03)	0	1	1	0	0	0	1	1	0.00	100.00
23(18.10.03)	0	1	0	0	0	0	0	1	-	100.00
24(01.11.03)	3	4	2	4	3	0	8	8	37.50	50.00
25(16.11.03)	4	2	0	0	4	1	8	3	50.00	66.66
26(23.11.03)	6	9	11	2	1	4	18	15	33.33	60.00
27(29.11.03)	4	9	3	1	4	1	11	11	36.36	81.81
28(16.12.03)	11	12	3	3	5	1	19	16	57.89	62.50
29(30.01.04)	14	11	1	0	4	1	19	12	73.68	91.66
30(14.02.04)	7	5	0	1	4	2	11	8	63.64	62.50
31(06.03.04)	9	4	0	0	3	3	12	7	75.00	57.14
32(13.04.04)	8	3	0	0	3	0	11	3	72.73	100.00
33(08.05.04)	4	3	0	0	0	2	4	5	100.00	60.00
34(19.06.04)	1	1	0	0	0	0	1	1	100.00	100.00
35(16.07.04)	1	1	0	0	0	0	1	1	100.00	100.00
36(08.08.04)	1	5	0	0	0	0	1	5	100.00	100.00
37(20.09.04)	1	3	0	0	0	0	1	3	100.00	100.00
38(23.10.04)	1	1	0	0	0	0	1	1	100.00	100.00
39(11.11.04)	1	1	0	0	0	0	1	1	100.00	100.00
40(23.11.04)	1	1	1	0	0	0	1	1	100.00	100.00
41(06.12.04)	1	1	0	0	0	0	1	1	100.00	100.00

Appendix D-2: Number and percentage of Wh-Questions

Sample	Correct suppliance		Incorrect suppliance		Wh-in-situ		Total		percentage	
	B	M	B	M	B	M	B	M	B	M
1(20.04.03)	0	0	0	0	0	0	0	0	-	-
2(01.05.03)	0	0	0	0	0	0	0	0	-	-
3(09.05.03)	0	0	0	0	0	0	0	0	-	-
4(17.05.03)	0	0	0	0	0	0	0	0	-	-
5(22.05.03)	0	0	0	0	0	0	0	0	-	-
6(30.05.03)	0	0	0	0	0	0	0	0	-	-
7(07.06.03)	0	0	0	0	0	0	0	0	-	-
8(15.06.03)	0	0	1	0	0	0	1	0	0.00	-
9(23.06.03)	2	0	0	0	0	1	2	1	100.00	0.00
10(29.06.03)	6	2	0	3	0	1	6	6	100.00	33.33
11(06.07.03)	0	0	0	0	0	0	0	0	-	-
12(12.07.03)	0	0	0	0	0	0	0	0	-	-
13(23.07.03)	10	12	21	13	8	10	39	35	25.64	34.28
14(30.07.03)	1	2	4	3	3	1	8	6	12.50	33.33
15(08.08.03)	0	0	0	0	0	0	0	0	-	-
16(15.08.03)	1	1	0	0	0	0	1	1	100.00	100.00
17(22.08.03)	0	0	1	1	0	0	1	1	0.00	0.00
18(29.08.03)	4	5	0	2	0	0	4	7	100.00	71.42
19(05.09.03)	16	25	25	19	1	1	42	45	38.09	55.55
20(11.09.03)	1	2	7	4	0	0	8	6	12.50	33.33
21(20.09.03)	6	3	10	12	0	0	16	15	37.50	20.00
22(29.09.03)	1	0	0	0	0	0	1	0	100.00	-
23(18.10.03)	0	0	0	0	0	0	0	0	-	-
24(01.11.03)	5	5	4	3	0	0	9	8	55.55	62.50
25(16.11.03)	1	3	0	3	0	0	1	6	100.00	50.00
26(23.11.03)	14	13	9	13	0	0	23	26	60.86	50.00
27(29.11.03)	1	6	2	1	0	0	3	7	33.33	85.71
28(16.12.03)	3	3	3	1	0	0	6	4	50.00	75.00
29(30.01.04)	0	2	4	2	0	0	4	4	0.00	50.00
30(14.02.04)	1	3	3	0	0	0	4	3	25.00	100.00
31(06.03.04)	4	2	0	1	0	0	4	3	100.00	66.66
32(13.04.04)	3	0	0	0	0	0	3	0	100.00	100.00
33(08.05.04)	1	2	0	0	0	0	1	2	100.00	100.00
34(19.06.04)	1	0	0	2	0	0	1	2	100.00	100.00
35(16.07.04)	1	1	0	0	0	0	1	1	100.00	100.00
36(08.08.04)	1	9	0	2	0	0	1	11	100.00	81.81
37(20.09.04)	6	9	0	0	0	0	6	9	100.00	100.00
38(23.10.04)	1	1	0	0	0	0	1	1	100.00	100.00
39(11.11.04)	7	2	0	0	0	0	7	2	100.00	100.00
40(23.11.04)	10	8	0	0	0	0	10	8	100.00	100.00
41(06.12.04)	1	1	0	0	0	0	1	1	100.00	100.00

Appendix E: Tables for Chapter Eight

Appendix E-1: The result of the WASI (Wechsler Abbreviated Scale of Intelligence) test

WASI	B		M		T	
	R.	ST.	R.	ST.	R.	ST.
Vocabulary	30	41	22	36	20	29
Block design	14	45	20	54	24	53
Similarities	28	59	20	49	29	60
Matrix Reasoning	22	52	22	56	26	59
Verbal IQ		99		88		91
Performance IQ		97		107		109
Overall IQ		99		98		100

R. = Raw score obtained in test

ST. = Standardised score calculated from norms according to age

Average standard score = 100

Standard deviation = 15

Appendix E-2: The result of WORD (Wechsler Objective Reading Dimensions) Test

WORD	B				M				T			
	R	St.	Av.	Per.	R	St.	Av.	Per.	R	St.	Av.	Per.
Basic reading	48	115	15	84th	45	119	12,9	70th	38	95	9,6	25th
Spelling	39	120	14,9		31	105	10,3		24	88	8,3	
Reading Comp.	25	103	10,6		20	96	9		21	92	9,3	
Composite		115				108				90		

R = raw score obtained in test

St. = standardised score calculated from norms according to age

Av. = Average age of child who obtains the same raw score as obtained by individual

Per. = Percentage of population (of children of same age) who score the same as or worse than individual

Average standard score = 100

Standard deviation = 15

Appendix E-3: The result of Automated Working Memory Assessment Test

Test		Score			Percentiles		
		B	M	T	B	M	T
Verbal short-term memory	Digit recall	123	96	95	93	45	47
	Word recall	115	120	90	82	92	23
	Non-word recall	97	108	101	39	73	53
	Composite recall	114	110	95	82	78	38
Verbal working memory	Counting recall	132	126	120	100	94	93
	Backward digit recall	132	126	132	97	92	97
	Composite score	132	126	126	98	93	95
Visuo-spatial short-term memory	Dot matrix	117	127	144	92	97	100
	Mazes memory	87	114	131	18	86	90
	Block recall	120	121	112	95	93	79
	Composite score	110	126	129	76	96	90
Visuo-spatial working memory	Odd-one-out	135	109	115	97	79	85
	Mr X	127	122	101	96	92	47
	Spatial span	131	116	132	96	96	100
	Composite score	131	115	120	96	93	93

Appendix E-4: The result of PhAB (Phonological Assessment Battery) Test

PhAB Test		B		M		T	
		R	St.	R	St.	R	St.
Ph.A	Alliteration Test	10	100	8	88	9	90
	Rhyme Test	19	105	19	106	19	106
	Spoonerisms Test	17	100	18	106	17	100
	Non-Word Reading Test	19	112	17	108	18	110
Speed	Naming Speed Test (Pictures)	77	114	98	100	105	96
	Naming Speed Test (Digits)	43	112	52	106	66	97
Fl.	Fluency Test (Alliteration)	16	112	17	118	16	112
	Fluency Test (Rhyme)	7	96	6	96	7	96

R = raw score obtained in test (time to the nearest second)

St. = standardised score calculated from norms according to age

