

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

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Abstract: There has been considerable debate during the last several decades regarding child and adult second language acquisition of morpho-syntax. This is a longitudinal case study of ten Farsi-speaking children learning English. 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 speech over a period of 9 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, suppliance of copula *be* are investigated and the conclusion is reached that functional categories are absent at their initial state and that they emerge without the learners' reliance on their L1, consistent with Minimal Trees/Structure Building.

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 studies. 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 ten 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 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.

Whereas numerous studies have been carried out on L1 and adult L2 acquisition, research on child L2 acquisition seems to be scarce.

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. 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.

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.

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. 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).

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.

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. 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).

There are many proposals regarding the acquisition of functional categories in child language. 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.

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.

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). According to 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).

Methodology

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 (Cox, 2005). This contradiction makes data collection a difficult task.

The English data in this study is based on oral production gathered longitudinally from ten Farsi-speaking children (range of their ages was 4-6) who at the start of data collection had not been exposed to English. At school there was a teacher responsible for working with elementary students. They had three-hour sessions per week for six months during which the teachers gave them some pictures to describe or ask questions.

Data collection started on 20 February 2010 which is about 50 days after the learners' exposure to English, 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) based on data being collected relatively long after initial exposure. The data were collected for 9 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.

Discussion

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. Sentences in Farsi are negated by attaching the negative prefix *næ-/ne-* to the left of a main verb or a copula or the beginning of the verbal part of the compound verbs.

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

- (1) It's a flower.
It is a duck.

Despite the high frequency of these two forms, 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. Although copula *is* is used in obligatory contexts, there are also many *is* used out of context.

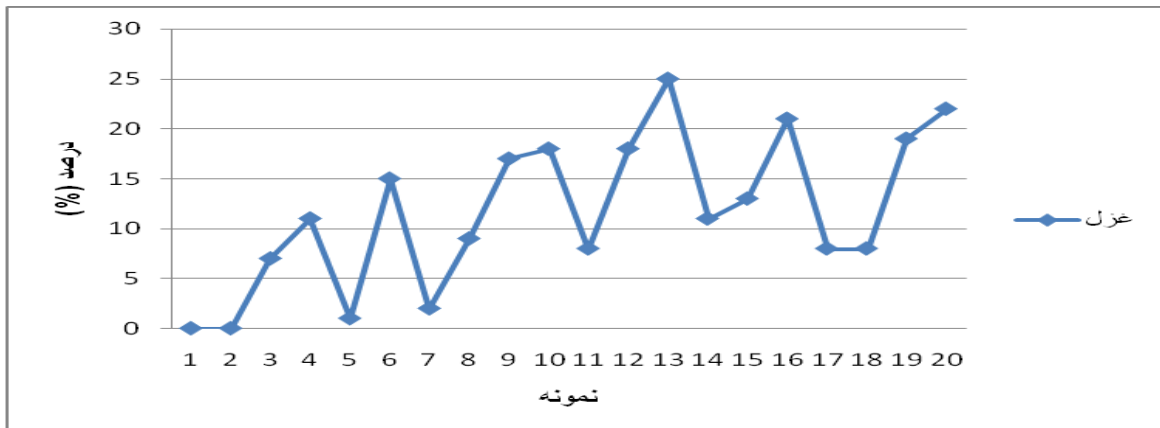
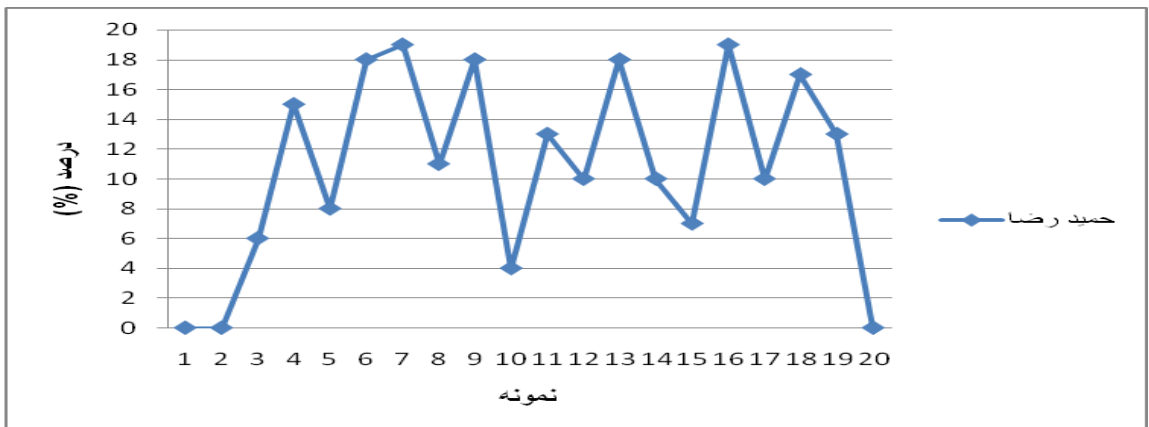
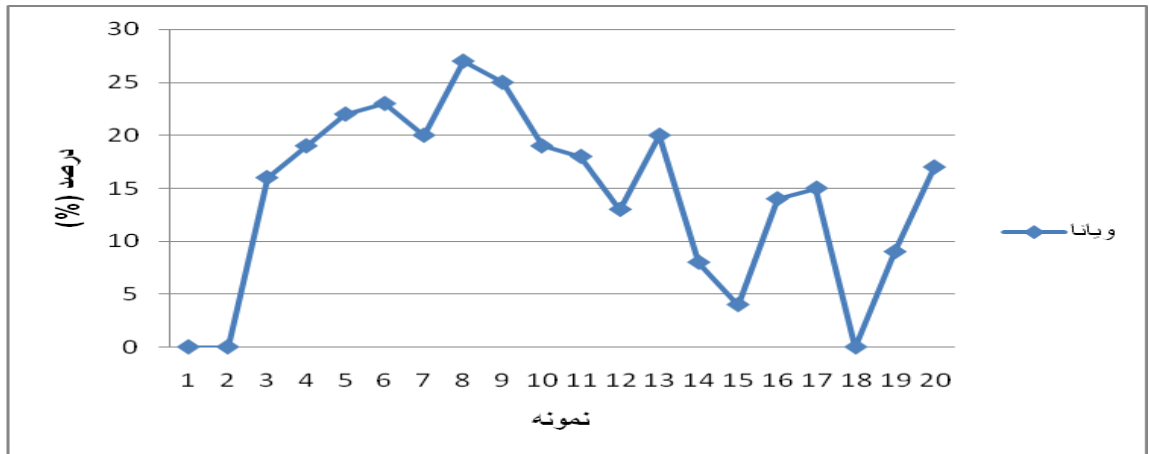
- (2) Where is the cup?
It is a cat.

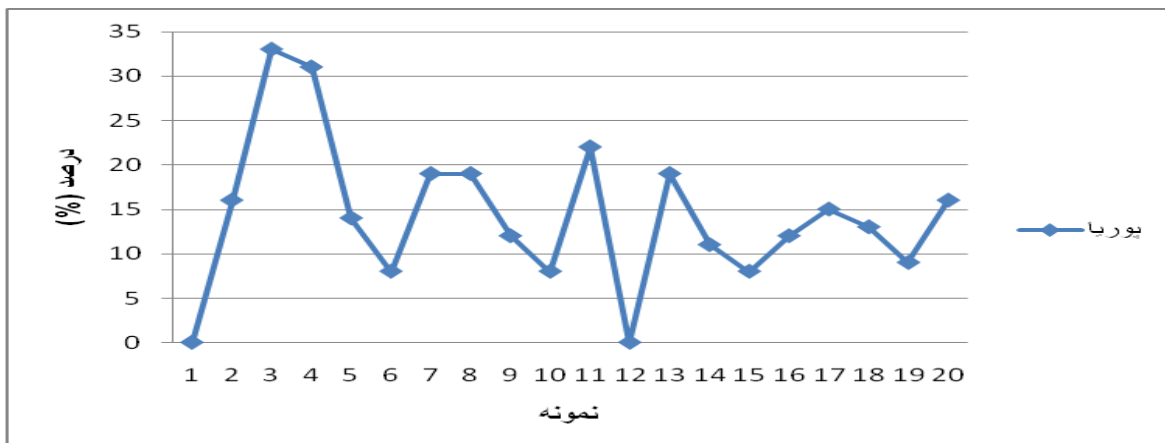
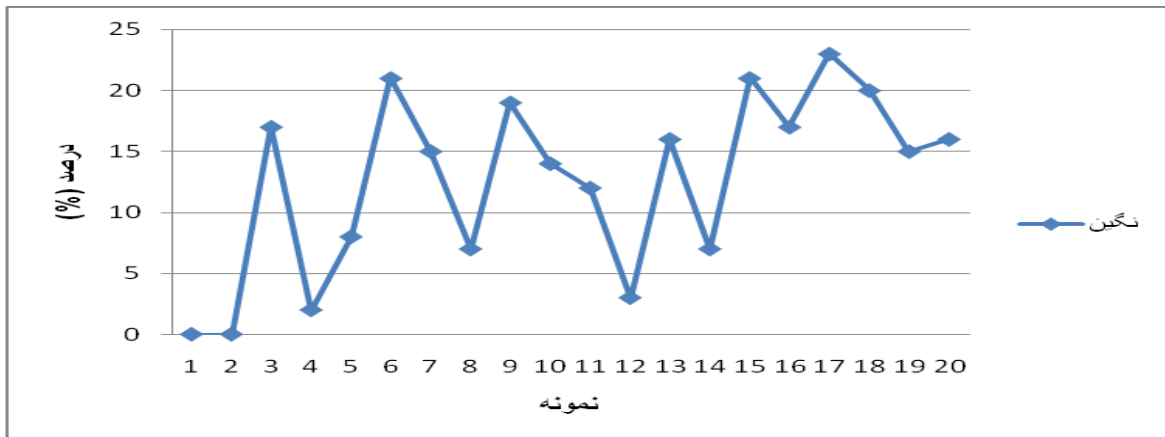
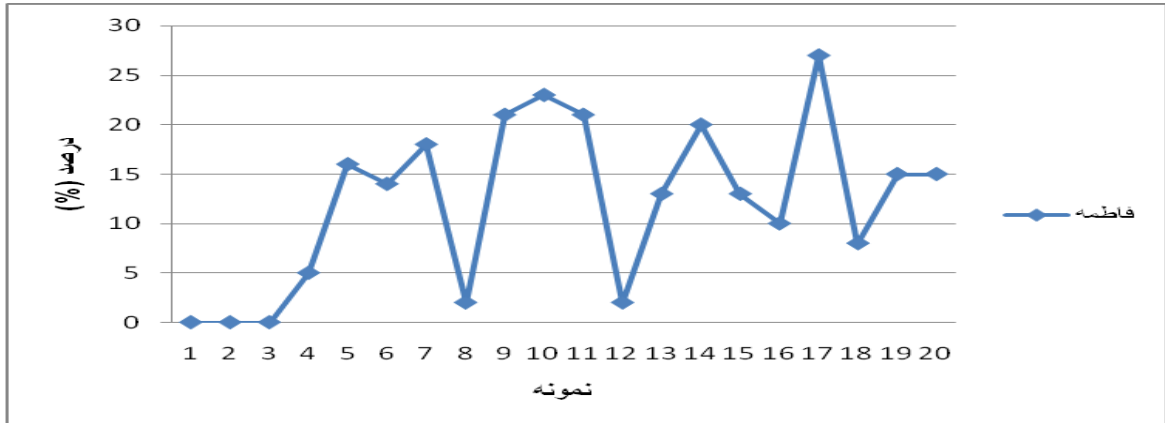
The researcher devised the following categorization for an accurate picture of the subjects' copula *be* acquisition. The produced copulas are divided into correct suppliance, incorrect suppliance, and missing. To clarify the categorization, an example is given for every category:

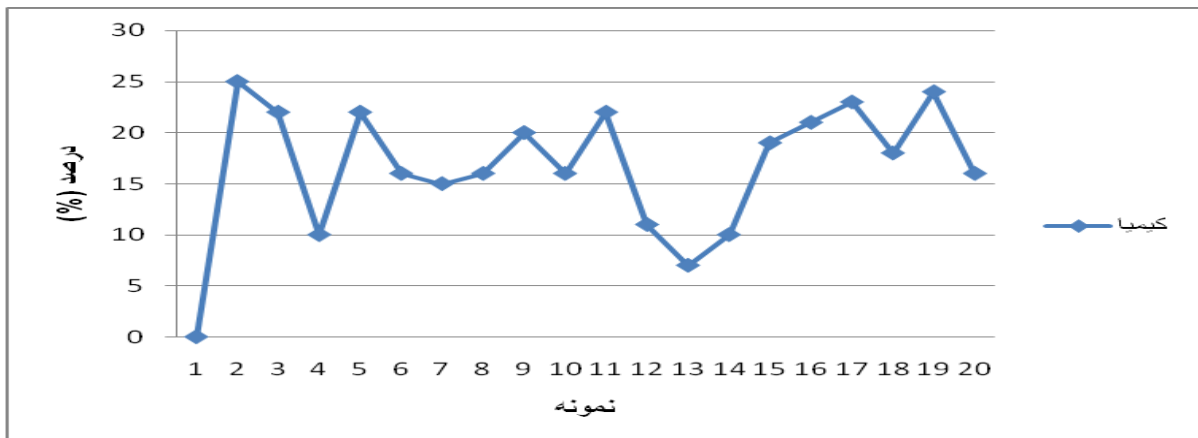
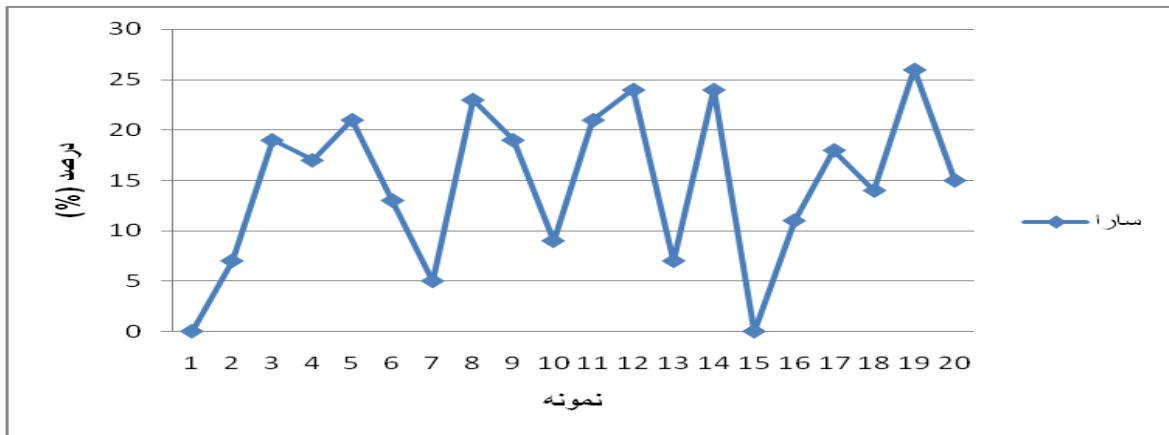
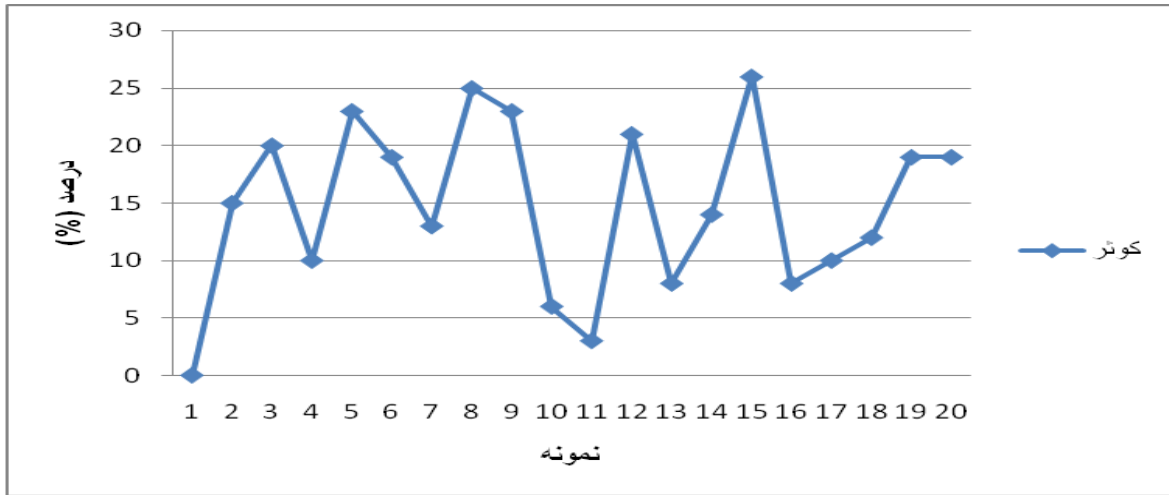
- Correct suppliance: How many are they? - They are two horses
Incorrect suppliance: What are they? - Its are animal.
Missing: Where is the monkey? The monkey on the lap.

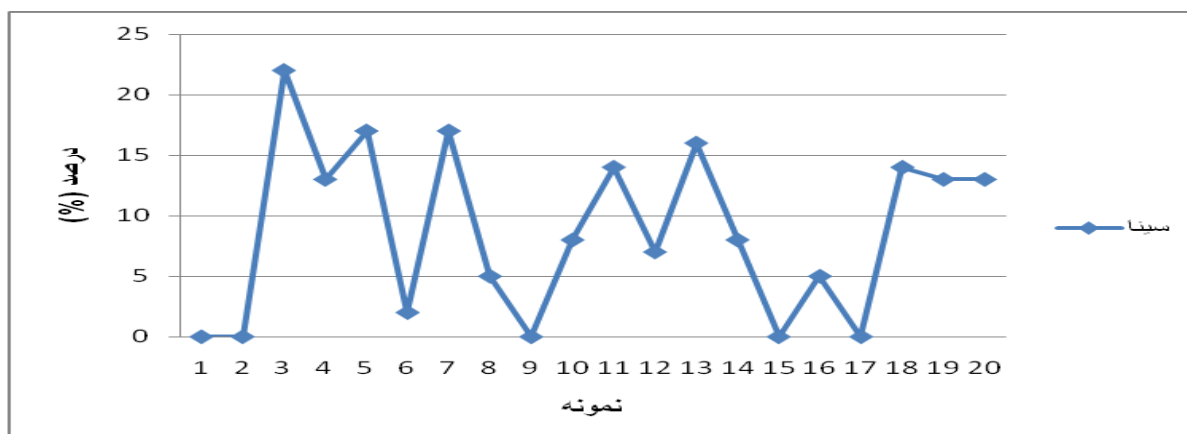
The counting procedure for copula adopted in this study is to divide the number of correct suppliance copulas by the total production for it.

For convenience the number and percentage of the production of copula *be* is represented in form of graphs.









Conclusion

In this study the acquisition of English morpho-syntax by ten 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.

The first issue addressed in this study to provide an answer for is the acquisition of functional categories. 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 an INFL-related element is found in 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. 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 & Liceras (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.

The degree of L1 transfer is the second question raised in the abstract. 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 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 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.

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