Modern Journal of Language Teaching Methods (MJLTM)
ISSN: 2251-6204

Universality of Language and Farsi-speaking Children: Verification Strategies

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ARTICLE INFORMATION

Original Research Paper
Received Apr. 2018
Accepted Jun. 2018

Keywords:
Universality
Verification
response order
Farsi
monolinguals

ABSTRACT

Greenberg and those inspired by his work have argued that in order to carry out research on LU it is necessary to have data from a wide range of languages. Having this on mind, attempts were made in the present study to collect data in terms of a verification of a statement in Farsi. Accordingly, 32 monolingual Farsi-speaking children with similar social and economical status were randomly selected. The results suggested that the subjects do not follow the universality hypothesis of language regarding verification strategies. However, the response order appears to be a tendency universal as predicted by the universal grammar.

1. Introduction

There have been a number of different approaches taken to the study of linguistic universals in second language research (Gass, 1984). Two major approaches in this respect are Greenbergian which is data driven and Chomskyan approach which is theory driven, as Mclaughlin (1989) points out.

Having the Greenbergian approach on mind, this study tries to see how a group of Farsi-speaking Iranian children manipulate a linguistic process which in this paper appears to be 'verification of a statement' as a paradigm.

Greenbergian and those inspired by his works such as Comrie (1992) argue that in order to carry out research on language universals (LU), it is necessary to have data from a wide range of languages. In line with this idea, attempt has been made in this paper to examine some children's performance in terms of a linguistic phenomenon i.e. verification of a statement.

An attempt is made to realize whether the order is absolute universal or tendency; implicational or non-implicational. However, if the study comes up with different response order, it will be discussed in terms of being absolute universal or tendency universal. According to Comrie, a different order in response to verification of a statement doesn't contradict the universality hypothesis, i.e. if there is an exception in terms of the response order of verification, it will be a tendency universal.

Literature Review

There are some studies introducing verification of a statement as a cognitive process. Much research has been carried out on the verification of statements, and a number of models have been developed to account for the data (Carpenter and Just, 1975; Akiyama, 1984; Akiyama, 1979; Akiyama, 1992; Clark and Chase, 1972;

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[DOI: 10.26655/mjltm.2018.6.2]

Trabasso, 1972).

Akiyama (1984; 1992) pointed out that verification of a statement involves four types, i.e. true affirmative, false affirmative, false negative and true negative. Akiyama (1984) states that the above order will be seen in the acquisition of verifying four types of statements and is supported by a universality hypothesis in terms of the order of acquisition of the four types of statements. In this study the order will be tested among Farsi-speaking children.

The present study provides evidence which may support the universality aspect regarding the response order of verification, i.e. the study is expected to show how well the subjects' performances are in terms of any of the four possible kinds of verification of a statement. Here, attempt has been made to study the response order of verifying a statement.

In the past two decades, linguists and psycholinguists have observed a shift in emphasis in dealing with LU. Previously researchers were interested only in those language universals that are common to all languages or in LU acquisition patterns that are common to all language groups. Akiyama (1984) adds that against this simplistic view, linguists are increasingly interested in more careful linguistic generalization across languages. These kinds of researches are directed at testing predictions concerning the ease of first language learning (Mclaughlin, 1989). Recent works on language universals have uncovered a number of areas where one property can be described as more marked than some other property.

Gass (1984) has proposed that the effect of particular LU on second language acquisition depends on the ontology of that universal. The potential influence of a universal depends on whether it has its basis in perceptual, cognitive, or physical factors (e.g. the shape of the human vocal tract), in which case its influence will be greater than if the universal has arisen out of historical change.

Meanwhile, some studies have tried to formulate how children speaking different languages handle universals as well as unique aspects in their acquisition of language. Among them, one may refer to Akiyama (1984). The paradigm used is statement verification. In an article, Akiyama examines whether the acquisition order for verification of different types of statements differs across two monolingual groups of children who speak English and Japanese. The English-speaking children followed this order in their responses; true affirmative, false affirmative, false negative and true negative statements, respectively. However, Japanese children found false negatives most difficult followed consecutively by the true negatives, false affirmative and true affirmatives.

Carpenter and Just (1976) agree that the sentence verification models explain how information from a sentence is compared to its referent. The verification models have shown that the representation of a sentence is sensitive to the context in which it occurs. Some properties of the representation and the processing, according to the models, are invariant across different contexts. Carpenter and Just believe an analysis of these invariants contributes substantially to our understanding of comprehension and cognitive process.

In another study, Akiyama tried to examine how children verify a statement (e,g, You are a child, right or wrong!) and answer a corresponding question (e.g. Are you a child? Yes or wrong!) in English, French, Japanese and Korean. He found out that people verify affirmative statements and answer affirmative questions similarly across the four languages (Akiyama, 1992, p. 67).

Soonja Choi (1991) conducted a cross-linguistic study of the development of answering systems to only yes-no questions not to the statements. Longitudinal and cross-sectional studies of children between 1 year 7

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[DOI: 10.26655/mjltm.2018.6.2]

month and 3 years 3 months show that across the three languages, children go through similar developmental stages before they acquire the adult system. The result suggests that universal cognitive development, pragmatic factors, and language-specific input interact in the development of the question-answering system.

The tree edit models described by Heilman and Smith (2010) led to competitive performance for three tasks: paraphrase identification, recognizing textual entailment, and answer selection for question answering.

Verification Strategies

Carpenter and Just (1975) introduced a universal model concerning verification of a statement. According to their model, the response order of statement verification would be: true affirmative; false affirmative; false negative and true negative. Akiyama (1984) tested the model presented by Carpenter and Just. He got the same result in the response order of a statement with English-speaking and Korean-speaking children. However, the Japanese-speaking children performed differently. In 1992 Akiyama used the same paradigm in another study; he added "answering questions" to his study. Regarding verification of a statement he got the same results as he had achieved before.

Compared to the abundance of research on the sentence- verification process in adults, very few studies have used the sentence verification paradigm to study the development of negation concept in young children (Kim, 1985).

The present study, making use of the above paradigm, provides knowledge about the response order of the four sentence types in Farsi. The children's task is to verify a statement. So, they have to answer four sentence-types.

Carpenter & Just's model (1975) predict that the response order of verifying four types of statements should be true affirmative; false affirmative; false negative ; true negative. According to Akiyama (1984) if language acquisition strategies are universal, children all over the world speaking different languages should acquire the ability to verify the four types of statements in the above order. According to the universality hypothesis, the way in which children compare information should be identical across different language groups, and therefore, the acquisition order should be the same.

Hixon et al. (2015) are the first to acquire knowledge for question-answering from open, natural language dialogs without a fixed ontology or domain model that predetermines what users can say. Their QA task consists of 107 science questions from the 4th grade New York Regents exam. Each question has four possible answers. They convert each of the four question-answer pairs into a true/false question-answer statement using a small number of pattern-based transformation rules.

Koenig et al. (2004) point out that one method children could use to evaluate another person’s testimony is to determine whether the claim is consistent with their own past experience. Recent evidence suggests that such caution is present in infancy, at early stages of language acquisition. Koenig and Echols (2003) reported that 16-month-olds directed more attention toward human speakers who falsely labeled objects (e.g., “That’s a dog” in reference to a cup) than toward those who truthfully labeled objects. In fact, many infants attempted to correct speakers’ false labels through their own pointing and labeling.

Meanwhile, the order of acquisition of this paradigm "verification of a statement" was examined in English, French, Korean and Japanese by Akiyama in 1992. He tried to examine how children verify a statement and answer a corresponding question. His study showed that while English-speaking and Korean-speaking children find true negative statement more difficult to verify than false negative statements, as has been predicted by the

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[DOI: 10.26655/mjltm.2018.6.2]

universality hypothesis, Japanese-speaking children find them less difficult.

Purpose of the Study

The main question addressed in this study is to to test a universality hypothesis of language in terms of the response order of verification, in Farsi. The hypothesis states that the response order of verifying four types of statements is true affirmative; false affirmative; false negative and true negative (Akiyama, 1984; Carpenter & Just, 1975).

Methodology

Participants

A total of 32 children aged 5 to 6 participated in this study. They included Farsi monolinguals from Mobarakabad, a village located in northwest of Toyserkan. The subjects matched in terms of sex and social-economic status. None of them had already received any kind of formal education.

Materials

A total of 128 statements were made in Farsi, covering the following four types with equal number: TA; FN; FA; TN. The statements contained common concrete nouns to which the subjects were familiar. For instance, it should be noted that attempt was made to be assured that the subjects know the meaning of items, such as asking a few questions about the items. Also, the items were considered to be appropriate by the advisors of this study.

Procedures

To verify a statement, the subjects were required to say 'right' or 'wrong' in the language they spoke during the study. The Farsi word for 'right' and 'wrong' were [doroste] and [ghalate] respectively. While pointing to an apple, the researcher asked if a TA statement is right or wrong. A TA statement would be [in sib ast] etc. A FN statement would be [in sib nist] 'This is not an apple'; a FA statement would be [in Nan ast] 'This is bread' and finally a TN statement would be [in Nan nist] 'This is not bread'.

Before the main task, each subject was given a few practice items which were found to be easier than the main-task items. The items were [esme to hamide, doroste ya ghalate?] meaning 'Your name is Hamid, right or wrong?' and the second item was [esme to (the subjects'name), doroste ya ghalate?] meaning 'your name is (the subjects'name), right or wrong? Those who failed to answer correctly were excluded.

These two practice items were used by Akiyama (1984); Akiyama (1992); Choi (1991). The subjects who answered correctly the two practice items, were asked to verify 32 statements. The presentation of eight statements in each sentence type was in a fixed randomized order for each subject.

Reliability of the Test

To make the test more reliable, for half of the subjects, the statements were in one fixed randomized order (TA, FN, FA, TN). For the other half, the order was reversed (TN, FA, FN, TA).

Meanwhile, to eastimate the reliability of the test, split-half procedures were applied. Dividing the scores into halves (separating odd-and even-numbered items), 2 scores for each subject were obtained. Then the reliability for each group of subjects was computed. Throughout the study, at least one of the subjects' parents or relatives was present.

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Validity of the Test

After establishing rapport, the researcher gave every subject two practice items. Those who answered the two items correctly participated in the study. The subjects' responses were scored as either correct or incorrect. They obtained 0 for an incorrect response. The appropriateness of items was examined and confirmed by some linguists.

Results and Data Analysis

The responses of each group of subjects to the four types of statements are shown in four tables. The data were collected and computed by an analysis of variance. The ANOVA showed whether the difference, if any, among the performances of subjects was significant. A post-hoc Scheffe test was used to show between which pairs of means the difference was significant. The ANOVA used allowed us to see how the response order of a statement verification would occur. Also, it revealed whether or not the difference, if any, between the means obtained by the subjects approaches significance.

The Subjects' Response Order a Statement Verification

The results of ANOVA (tables 3.1-3.4) showed that differences among the means of these four sentence types TA, FN, FA and TN were significant. ($F(3, 124) = 143.5956$, $p < 0.0001$).

To find out between which pairs of means the difference was significant, the data were subjected to a series of post-hoc Scheffe tests. The subjects followed this order in response to verification of a statement: TA and FA, FN, TN, with no significant difference between TA and FA.

Table 3.1: ANOVA and Scheffe test for the Subjects' Performance

Source	D.F.		F. Ratio	F. Prob.	Type of Statement	Statement				Mean	S.D.
						TN	FN	FA	TA		
Between groups	3				TN					1.593	0.984
			143.59	0.0001	FN	*				3.3438	1.46
Within groups	124				FA	*	*			6.4375	1.32
					TA	*	*			7.1563	0.932

- Indicates significant difference between two means

The reliability for this group was R. = .83

The findings of this study indicated that Farsi monolinguals' performance showed the following response order of verification of a statement: TA and FA; FN; TN. Although Farsi monolinguals obtained a higher mean score for TA compared to FA, the difference between them was not significant. They obtained the lowest mean scores for TN statements. The findings are not consistent with the model of verification of a statement offered by Carpenter & Just (1975); Akiyama (1984). For Farsi monolingual subjects the difference between the means of TA and FA statement was not significant.

Conclusion and implications

The present study investigated the universal aspect of response order about verification of a statement in Farsi. In a study by Akiyama (1984) this order, TA, FA, FN, TN was obtained by the English, Korean and French

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children. According to Akiyama, the response order is universal except for Japanese children. However, the order for Farsi-speaking subjects was different, i. e. TA and FA with equal rate followed by FN and TN respectively. Comrie (1992) justifies it. According to Comrie (1992), such a universality to which there seems to be exceptions is called tendency universal.

It can also be inferred from the tables that the mean of the scores obtained by the subjects to negative statements was lower compared to affirmative statements. However, the difference between the means obtained by the responses of Farsi-speaking subjects to TA and FA was not significantly different. The finding of this study is in line with that part of Kim's claim that reads a majority of English-speaking children had problems with negative sentences, particularly true negative statements Kim (1979). She obtained similar results with Korean-speaking children.

The results of this study provide another important piece of information. All the subjects of this research match in age, sex and also in social-economic status.

Furthermore, the response order of verification of a statement was manipulated similarly by Farsi monolingual subjects. These findings might shed light on language universals, which determine the extent to which the language learner is influenced by the internal factors such as cognition and universality of language.

It should be mentioned here that Japanese children in Akiyama's study showed a different response order to verification of a statement. In a nutshell, the universality of language in terms of the response order of verification was not confirmed the subjects.

Thus, if future studies provide us with the same response order as that of the hypothesis, one might conclude that the response order of verification is going to be a tendency universal.

As far as the theoretical side of the present study is concerned, there are a few points to be mentioned about LUs and how monolingual children handle them. Greenberg and those inspired by his work have argued that in order to carry out research on LU it is necessary to have data from a wide range of languages. Having this on mind, attempts were made in the present study to collect data in terms of a verification of a statement in Farsi, with the following word order i.e. Farsi followed the SOV (subject-object –verb) basic word order.

The findings of the present research indicted quite clearly that children in Farsi language had more problems with negative statements particularly true negative ones.

Determining to what extent the language learner is influenced by cognitive and linguistic universals is one of the persistent problems in research on second language acquisition (McLaughlin, 1989). The writers in general, textbook writers in particular, test designers and translators can benefit from the results of this study. Besides, the test designers might examine the children's cognitive ability through the above four sentence type.

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[DOI: 10.26655/mjltm.2018.6.2]