

## Word Definitional Skills in School age Persian Speaking Children: A Developmental Study on Form

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**Objectives:** Word definitional skills (WDSs) were classified according to the quality of both semantic content and syntactic form. The aim of the present study was to investigate the syntactic development in WDSs in typically developing school- age children.

**Methods:** In this cross-sectional and descriptive- analytical study, 150 of typically developing school-age children participated by the multistage sampling method in the second to sixth grade from primary schools in 1, 7 and 17 municipal districts of Tehran. The definition skill was assessed with word definition task. The reliability was assessed by two independent values and the validity was determined by the content. The results were analyzed by the SPSS (22th version) statistical software and with the method of independent- samples T test, univariate analysis of variance and Tukey test.

**Results:** The form analysis revealed that all children use phrase/clause or simple sentence, transitional form and Aristotelian form frequently, but by increasing the age, definitions were developed from simple syntactic structure into Aristotelian form, in fact mean score of the form in word definition was significantly increased by age ( $p < 0.001$ ).

**Discussion:** Owing to the findings of this study, the development of word definitional skills in terms of form was developed from phrase/clause or simple sentence and transitional form responses into Aristotelian form. Also WDSs are closely related to academic success and the development of literacy.

**Key words:** word definition, development, student, syntax, form

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### Introduction

The most fundamental elements of language is a word (1). Language has three components, content, form and pragmatic. What arises in content is semantic components and what arises in form is the syntax (2). Semantic knowledge of word relationships requires awareness of relationships that every word has with other words in the same field and other fields (3). One of the main components of the semantic is the mental lexicon, that many of semantic communications, including the organization and semantic representations of words, takes shape in this network. According to the knowledge of syntax, the placement of words in phrases and sentences are formed. In fact, the knowledge of syntax determined the placement of words (4). Scientists are always trying to use the different tasks, to understand the activities and functions of the brain and the human mind. One of the important issues is how to organize

words in mind, linking the words together and their position in the semantic network. One of a task that helps to organize the meanings of the words in the mental lexicon is the word definition task. In this task, the person should define the words (5). But for an acceptable definition, a person needs that in addition to using appropriate vocabulary, put them in the correct format. As well as to define the term, the student need to both linguistic and meta-linguistic knowledge. The purpose of meta-linguistic ability is that, student can analyze the word and its class and define its properties (6). In the word definition, the person search the words that associate with the target words in his/her mental lexicon and finally define that, with more complex and more complete deals (7). As a result, this word definition task shows the process of word acquisition and checks a development of content and form, because for providing a good definition, the one needs all

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his/her linguistic abilities in both perception and production (6).

Many researchers have been conducted in the field of word definition which studied the form and syntax of sentences, language disorders and how to retrieve the definitions of words and complex sentences' construction. In 1995, Johnson and Anglin reviewed the quality of development of definition in both content and form. Results showed that for familiar words, definition was better. Previous experience of participants and organizing their words, were reported as the factors influencing this result (8). Marinellie and Johnson studied the word definition skill in children with Specific Language Impairment (SLI). The results showed that children with specific language impairment significantly obtained a lower score in both form and content task, than the control group. Due to lower grades of children with specific language impairment, has been disorder in the word acquisition or defect in knowledge of meta-linguistic (9). In another study, Marinellie and Johnson in 2004, review the definition of verbs and nouns in their elementary students. The results of this study, no significant differences were found in the definition of verbs and nouns in terms of content however, the way, the scores of name definitions, significantly were higher than the scores of verb definitions in the form. Overall, the scores of the definition were developed in the primary school (10). In Iran, limited research has been done on the definition. Mohammadi compared the word definition skill of Persian speaking children with specific language impairment with typically normal. The significant difference in the mean of form and content of the definitions were revealed. In children with specific language impairment, defined in terms of both, has been weak, because their linguistic problems had not allowing the full meaning representation (11). He compares the form growth in word definition of Persian speaking children with 5.5-7.5 years of age. The results showed that, with increasing age, the average scores of the form in definition of the word, has significantly increased (12).

The skill of word defenition investigated in other language in both content and form. What is considered in this paper is the form of definitions. In fact, the purpose of the structural dimension is formulating a definition to transmit more accurate and complete information that exists in the mind (11). Following the recent research of Malekian, this question arises: how is the form growth in word

definition and does the same process occur in the Persian language as in other languages? In most research has been done on this issue, definitions were classified according to the quality syntactic form. The purpose of the this study is to evaluate the growth of syntactic form in children and by this way we earn more complete perspective about word definition, the assessment of syntactic form and its growth in different ages and grades.

### Methods

In this descriptive analytic, cross-sectional study, the aspect of syntactic form of word definition skill was investigated in typically normal school age children. The participants were 150 children of 7-12 years old that studied at primary school in Tehran (75 girls and 75 boys). All of them were monolingual native speakers of Persian and went school from 6 years old. Evaluation criteria for inclusion and exclusion of subjects were done through observation, interviewing with students and their parents and filling out an informal checklist of demographic information and student's health records. Any visual impairment, hearing loss, emotional and physical problems and neurological damage were examined through the information contained in the student's health records. The speech and language development was assessed through interviewing with subjects and asking some age-appropriate questions and talking with them about daily events. In this study, subjects were selected by multistage sampling method. As the current research was continuing the Malekian's study, so participants were chosen from the same locates where that study was done the locations of 1, 7 and 17 in Tehran (12). Then in every school of per region, a girls' school and a school for boys in grades of primary were selected randomly, 25 students were selected randomly from each school so that each of the second through sixth grades, 5 students were selected. Finally the number of students in each grade was 30 people and total numbers of student were 150.

"Word definition task" was made by Mohammadi et al (11). This task tested the students' skills in the definition of the seven categories of animals, jobs, fruits, place, body parts, vessel and transportation measures. Each of the seven categories, including two words which are usable for basic elementary school. These fourteen words are objective and useful and provide participants to define different ways, from simple to complex. The reliability and

content validity of the task was 0.8 and 0.91 respectively, (11). The ratings of the task was based on the study of Johnson and Marinllie (9). The validity of this task is obtained on the basis of Mohammadi's research in both content and form, by calculating the correlation between two independent values. The results were analyzed by the SPSS (22th

version) statistical software and with the method of independent- samples T test (to compare two groups), univariate analysis of variance (to compare more than two groups) and Post hoc Tukey test. Table (1) presents the categories and words that used in the Persian version of the task in this study for word definition.

**Table 1.** The words of definition task

category	place	fruit	job	body part	transportation measures	animal	vessel
words	school	apple	teacher	hand	train	crow	spoon
	mosque	pomegranate	doctor	Leg	airplane	horse	glass

Categories for form of noun definitions-The syntactic form of definition, helps the speaker to formulate definitions in a way that offer his/her information correctly (13). The form has both non-verbal and verbal structure in definitions. In response of non-verbal structure, one uses the sign to define a word. For example, for definition of the mug, the child is showing the manner of drinking. For the verbal responses, five-point scale was intended to represent the developmental continuum. At the lowest level were nonverbal responses, single words, and an article plus a word. At the mid-level, a phrase or clause, a simple sentence, or the word "thing" or "something" was modified by a clause (transitional form). At the highest levels words were modified by partial or full Aristotelian forms.

Single word or article+ word: The definition of a word with a single word. For example: Horse: "runs".

Phrase/clause or simple sentence: Define by using clause, phrase and sentence. For example: coat: "you wear".

Transitional form: Use of "something" or "thing" with attribute. For example: book: "a thing that you read".

Partial Aristotelian form: Use of class- specific and class-nonspecific. For example: horse: "a kind of animal".

Aristotelian form: class term plus additional attribute: For example: horse: "an animal that runs fast".

To begin the task, researcher chose a sample word and defined it in a high score. For example, to define banana were told, "it's a fruit that we eat and its color is yellow". When the student was ready, the words of task were told, and then the assessor asked the participant to define task's words. For each word, The investigator asked "what is a (n) X?" For scoring the definitions, the best and most complete definition was selected. Scoring was carried out, that based on scoring table of Marinellie and Johnson. Finally this right was given to parents if they do not want to participate in the study, from the beginning or continuation of the project, they withdrew.

## Results

The performance of the subjects for the form of word definition is presented in the table (2).

**Table 1.** Mean score and standard deviation of answers in form definition task

	grade	No	Mean	SD	f
Syntactic form	2	30	38.60	8.699	22.020
	3	30	45.733	11.812	
	4	30	51.267	13.276	
	5	30	56.300	12.086	
	6	30	63.133	7.664	
Total		150	51.01	13.790	

To compare the scores of form in different grades, the two-way ANOVA was used. After evaluating the oppositional effect (P value=0.39) the main effects were estimated (P value<0.001). The results showed significant difference between the grads. Based on the results in the table 2 by increasing the age and

grade of subjects and the mean score of the form in word definition was significantly increased (P< 0.001). The Post hoc Tukey test was done to compare pairs. Table (3), shows the results of the test.

**Table 3.** The results of Post Hock Tukey test

	group1	Group2	Sig	Lower bound	Upper bound
grade	2	3	0.095	-15	0.73
		4	0	-20.53	-4.80
		5	0	-25.56	-9.84
		6	0	-32.40	-16.67
	3	2	0.095	-0.73	15
		4	0.299	-13.40	2.33
		5	0.003	-18.43	-2.70
		6	0	-25.26	-9.54
	4	2	0	4.80	20.53
		3	0.299	-2.33	13.40
		5	0.396	-12.90	2.83
		6	0	-19.73	-4
	5	2	0	9.84	25.56
		3	0.003	2.70	18.43
		4	0.396	-2.83	12.90
		6	0.121	-14.70	1.03
	6	2	0	16.67	32.40
		3	0	9.54	25.26
4		0	4	19.73	
5		0.121	-1.03	14.70	

As the results in the third table are showing, there was no significant difference between the mean score of answers in second grades and third grades (p value=0.095). There was significant difference between the mean score of answers in second grades and fourth grades (p value<0.001). There was significant difference between the mean score of answers in second grades and fifth grades (p value<0.001). There was significant difference between the mean score of answers in second grades and sixth grades (p value<0.001). There was no significant difference between the mean score of answers in third grades and second grades (p value=0.095). There was no significant difference between the mean score of answers in third grades and fourth grades (p value=0.299). There was significant difference between the mean score of answers in third grades and fifth grades (p value=0.003). There was significant difference between the mean score of answers in third grades and sixth grades (p value<0.001). There was significant difference between the mean score of answers in fourth grades and second grades (p value<0.001). There was no significant difference between the mean score of answers in fourth grades and third grades (p value=0.299). There was no significant difference between the mean score of answers in fourth grades and fifth grades (p value=0.396). There was significant difference between the mean score of answers in fourth grades and sixth grades (p value<0.001). There was significant difference between the mean score of answers in fifth grades and second grades (p value<0.001). There was significant difference

between the mean score of answers in fifth grades and third grades (p value=0.003). There was no significant difference between the mean score of answers in fifth grades and fourth grades (p value=0.396). There was no significant difference between the mean score of answers in fifth grades and sixth grades (p value=0.121). There was significant difference between the mean score of answers in sixth grades and second grades (p value<0.001). There was significant difference between the mean score of answers in sixth grades and third grades (p value<0.001). There was significant difference between the mean score of answers in sixth grades and fourth grades (p value<0.001). There was no significant difference between the mean score of answers in sixth grades and fifth grades (p value=0.121).

### Discussion

The purpose of the present study was to investigate the syntactic growth in word definitional skills (WDSs) in typically developing school- age children. The result of the present study provided evidences for developing of word definition skill by increasing the age and all and meta-linguistic knowledge. The student of second grade, have used the Phrase/clause or simple sentence answer the most. Non-verbal response has been minimal response in both sexes. After that, the lowest answers were respectively, Single word and Partial Aristotelian form. The student of third grade, have used Aristotelian form the most and after that, they used the Phrase/clause or simple sentence and

Transitional form more than other answers. The least answer was non-verbal form. The student of fourth grade, have used Aristotelian form the most and after that, they used, the Phrase/clause or simple sentence and Transitional forms respectively more than other answers. The student of fifth grade, have used Aristotelian form the most and after that, they used the Phrase/clause or simple sentence more than other answers. The least answers were non-verbal form and Single word. The student of sixth grade, have used Aristotelian form the most and finally the single word answer was the least that used in this grade.

According to the results, Aristotelian form was the most answer that used in this research. After that, the Phrase/clause or simple sentence and Transitional form were the most responses that has been used in syntactic form of definition. By increasing the age definitions were developed from phrase/clause or simple sentence and transitional form responses into Aristotelian form. Generally, Aristotelian form, Phrase/clause or simple sentence and Transitional form have received the highest scores in all grades but mean score of each response was different in each grade. The results obtained in the present study are in consistency with the results of Marinellie and Johnson, Marinellie and Johnson, Gavriilidou, and Malekian. According to the research of Marinellie and Johnson and To, the use of Transitional response is growing until 9-10 years old and then, decreases. The study also achieved exactly the same result which would indicate that there is a unique principle for organizing the concepts that these principles are not dependent on language and culture (14). It seems that students approximately use a vague word of "nothing" or "a thing" up to the age of 9-10 years old and after that, due to the increasing a mean score of Partial Aristotelian and Aristotelian form responses, they use superordinate terms in their definitions. In fact, they create formal definitions more than past.

Defining words is a task in which children consciously use their linguistic resources. Therefore, by nature definition may help promote metalinguistic awareness. Recent research has emphasized the integral relation between meta linguistic skill and success in school. In fact there is a close link between definition, meta linguistic awareness, and academic success and it has important role in acquisition of linguistic superordinate. So the use of Aristotelian form answer has been increased (15). Also according to Table 3 and the results of Post hoc Tukey test, there was no significant difference between the mean

score of the answers of students in each grade and one grade of before and after it but it has significant difference between the answers of students in each grade and two grade of before and after it. For example, the mean score of the form in word definition in fourth grade does not have significant difference with the mean score of students in fifth grade but it has significant difference with the answers of student in sixth grade.

Another considerable subject was that it was two viewpoints about the categorizing and scoring of the form. At first view, as mentioned in previous studies, the concept of meaning and content of definitions were considered, that is, simultaneously, both content and form in word definition were considered, in the way that the definition that was used the class- specific, formed as Partial Aristotelian form and definitions which were used function or concrete feature of the word, received fewer points. For example, for defining the word "an apple", it was said: "It is red" and "It is fruit". Both two sentences have the same syntactic form, but their difference is in their content. The first sentence, used the concrete feature and the second, used super ordinate as a class- specific feature so, its score is more, despite of their syntactic form. In studies conducted in the field of definition, this view was accepted. In the second viewpoint, the form of definitions was scoring without regarding to the content. In fact, points were given just for structure of sentences. So, both sentences above, receive the same point. Since in this study, it was used the scoring table Marinellie and Johnson, the first perspective is agreed. In fact, according to previous studies, the first view is more acceptable in this field.

### **Conclusion**

This study was conducted to investigate the syntactic form of definitions in Persian school age children. All the words were concrete and they were in the name class. According to the results, by increasing the age and the grade of students, the mean score of the form in word definition was significantly increased. What are important in this result are three factors: age, formal education and meta linguistic knowledge. Definitional skill in school-age children improved by academic success and development of literacy, because their social skills, vocabulary acquisition, verbal and linguistic knowledge increase, and so they all have an influence on defining better (16). Also by increasing the age, their linguistic knowledge and cognition were more

complete, so they learned how to make complete sentence in structural form (7). And finally, defining words in this manner is a mark of linguistic and meta linguistic maturity. The meta linguistic knowledge helped the students to transfer the contents in a complex syntax form (7).

SLPs should take encouragement from the present finding that typically developing children had not reached ceiling for form of definition. This suggests that it is not too late in elementary school age children to help them catch up to their peers in defining words. Defining words is a task in which children consciously use their linguistic resources.

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Therefore, by nature, intervention for definition may help promote linguistic and verbal knowledge of children with linguistic disorders. So the findings of present study may help the researchers and therapists to make semantic test.

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