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Embodiment of Conceptual Metaphors and Comprehension of Abstract Concepts in 5 to 7 Year Old Persian Speaking Children

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Abstract

Given the significant role of conceptual metaphors in understanding abstract concepts in the children's development, the present study was conducted for designing and standardization a test of embodied conceptual metaphors in the Persian language. The test administrations will allow us to investigate the process of understanding abstract concepts in normal five-to-seven-year-old children. In the present study, 171 embodied conceptual metaphors were extracted from the Persian dictionaries. The metaphors were related to four sensory-motor organs i.e. ears, eyes, hands, and legs. The researchers attempted to investigate the understanding of abstract concepts by using conceptual metaphors in 30 five-to-seven-year-old children having a normal development. 39 metaphors having more than 30% of correct answers were selected. In the next phase, a test was designed that was composed of two parts (audio and visual) based on these 39 metaphors; the understanding of abstract concepts were investigated in 200 five-to-seven Persian speakers. Based on the mean score acquired from both age groups, given the development process of abstract concepts, it was indicated that in comparison to five-to-six-year-old children, six-to-seven-year-old children showed a better performance for understanding abstract concepts; the difference was significant. Moreover, the findings of the present study indicated that in comparison to the visual test, children had a better performance in responding to the audio test. Moreover, the boys and girls were not significantly different regarding understanding abstract concepts. The findings of the present study can be applied in rehabilitating and treating the disorders related to the understanding of abstract concepts.

***Keywords*:** Embodied Metaphors-Conceptual Metaphors –Abstract Concepts

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1. Introduction

Metaphor is the understanding of a conceptual domain in the form of another conceptual domain. The conceptual domain from which we derive metaphorical expressions to understand another conceptual domain is called the source domain, and the conceptual domain that is understood in this way is called the target domain.

The main purpose of this study is to design and standardize a test of embodied conceptual metaphors in Persian to examine the process of understanding the embodied abstract concepts of the four sensory-motor organs, eyes, ears, hands and feet in healthy children aged 5 to 7 years. Providing such a test is essential in diagnosing any impairments in the process of understanding metaphorical concepts in a variety of developmental speech and language disorders, including autism and hearing loss, as well as cognitive rehabilitation.

2. Research Hypotheses

Children aged 6 to 7 have a better understanding of embodied metaphors than Persian-speaking children aged 5 to 6.

There is no significant difference between 5 to 7 years old boys and girls in understanding the embodied metaphors.

Children perform better on the visual test than on the auditory test.

3. Literature Review

Christopher Johnson (1999) in his doctoral dissertation has studied metaphor learning in children. He suggested 3 steps for learning metaphor in children. In the first stage, the child learns only the source domain. In the second stage, the child is confronted with experiences in which both the source and target domains are simultaneously activated. In this stage, the child learns to apply

the source domain in accordance with the meaning of the target domain. In the third stage, the child uses the words metaphorically, while there is no trace of the source domain.

In her dissertation, Georgiona (2007) examines the understanding of metaphor in preschool children and concludes that 5-year-olds have a better understanding of metaphors than 3-year-olds.

Bialika-Pikal (2003) examined the understanding of embodied metaphors in preschool children based on five indicators including color, shape, movement, size and touch and concluded that motor metaphors in children are learned faster. Color metaphors are learned in the second place, however, size metaphors are the most difficult metaphors for children. In another study on 120 children aged 3.3 to 5.9, he reported that children's ability to perceive and understand metaphors changes with age. 5-year-olds understood more metaphors in this study.

Ranginkaman (2007) in his doctoral dissertation studied metaphor understanding in 10 Persian children, aged 4, 5 and 6 years old and concluded that children's ability to understand metaphors increases with age. He also reported that children first learn simpler and more tangible metaphors and then more abstract and complex metaphors.

In their research, Shoja Razavi et al. (2016) examined 60 Persian-speaking children aged 2 to 5 years. They used the Bialka-Pikal test in their research. The findings of this study show that children at the age of 2 years have some understanding of embodied metaphors.

As observed in the previous studies, there is no an standardized test to examine the understanding of embodied metaphors in Persian, and previous researchers have inevitably used tests in other languages. The present study attempts to fill the gap.

4. Methodology

The research was conducted in two phases: The first part involves creating the metaphors that are best understood by children ages 5 to 7. The second part involved conducting a test for understanding metaphors and examining its validity and reliability.

4-1 Part One

First, 171 embodied metaphors related to 4 body morgans (hands, feet, ears, eyes) were extracted from various texts such as: Folk Persian Culture (Najafi, 1999), other Persian books, and 30 children aged 5 to 7 Persian language were asked to express his / her interpretation of each metaphor. Finally, 39 embodied conceptual metaphors, with a frequency above 30%, were selected to be used in the construction of the test.

Part II

In the second part of the research, the 39 selected metaphors were used to construct a test for understanding metaphors. The test consisted of two parts: auditory and visual. In each section, 20 metaphors (5 metaphors related to each body organ) were used and 10 questions were added as fillers to prevent the subject from guessing the test process.

In the visual section, for each metaphor, 3 binary sets were depicted. One image represented the abstract concept of metaphor, one image was related to the literal understanding of metaphor, and one image was unrelated to metaphor.

In the auditory section, a short story was designed in which the metaphors were used. The participant was then presented three options. The subject had to choose the most appropriate option. Of the three options in each question, one option expressed the abstract meaning of the metaphor, one option expressed the literal meaning of the metaphor, and one option was completely unrelated to the metaphor.

The designed test was finally performed on 200 Persian-speaking children aged 5 to 7 years, and the subject's responses were recorded.

5. Results

Findings from the present study show that age range has an effect on participants' performance and subjects aged 6 to 7 years had significantly higher scores than subjects aged 5 to 6 years. Also, gender had no any significant effects on the test score.

However, the modularity of test has an effect on test scores and due to the higher average and total scores of the auditory test, it can be stated that participants outperformed in the auditory test compared to the visual test. This is true about participants in both age groups.

6.Discussion

We compared the performances of the two age groups of participants in the test, and after the elimination of the filler questions, the average score of the age group 5 to 6 years was 22.68. However, in the age group of 6 to 7 years, the average score was 26.34. The results indicates that the subjects of 6 to 7 years outperformed in the test. The results confirm the first hypothesis of the study that Persian-speaking 6- to 7-year-old children have a better understanding of embodied metaphors than 5- to 6-year-old children. Moreover, we did not find significant differences between boys and girls. In other words, female subjects did not perform better than male subjects. Accordingly, the second hypothesis of the research is confirmed.

The results also revealed that subjects obtained better scores in the auditory test than the visual test, which is in contradiction with the third hypothesis of the research, and accordingly, the third hypothesis of the research is rejected. What can be deduced from this research finding is that children understand

metaphorical concepts much better when it is presented auditory. The reason for this difference seems to be that because abstract concepts are not visible on their own, people understand abstract concepts by hearing and communicating between the source domain of the metaphor and its target domain.

7. Conclusion

The results of the present study show that children gain a better understanding of metaphorical concepts with age. Consistent with Johnson's theory, we found that children's literal interpretations of the metaphorical concepts are decreased with age and abstract perceptions of the metaphorical concepts increases, instead.

In the present study, in addition to constructing a test for understanding metaphors, the mean score in the two age groups was determined so that it can be used in rehabilitation and diagnosis of the disorder. Based on the average score, the impaired perception of abstract concepts can be diagnosed in people with obvious disorders such as hearing loss, autism, or even in children with suspected language and metalinguistic disorders.