



**INVESTIGATING THE EFFECT OF PHILOSOPHICAL STORIES ON LOGICAL-
MATHEMATICAL INTELLIGENCE AND VISUAL-SPATIAL INTELLIGENCE
OF PRESCHOOL CHILDREN IN DISTRICT 1 OF SHIRAZ**

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ABSTRACT

The present study aimed at investigating the effect of philosophical stories on logical-mathematical intelligence and visual-spatial intelligence of preschool children in district 1 of Shiraz, Iran. A total number of 60 preschool boys and girls beginners (32 girls and 28 boys) participated in this study and they were selected through multistage cluster random sampling among preschool beginners. Semi-experimental methodology along with pretest, posttest, and control group were applied. Gary Hormoz and Daniel Douglass multiple intelligences questionnaire consisting of 20 items was administered to collect data. Through Cronbach alpha the reliability of visual-spatial intelligence was determined as equal to 0.72 and reliability of logical-mathematical intelligence as equal to 0.74 and experts confirmed the questionnaire validity. The results obtained by covariance analysis and t-test indicated a meaningful effect of philosophical stories education on logical-mathematical intelligence and visual-spatial intelligence of preschool children. Meanwhile, there was no significant difference between the impact of philosophical stories education on visual-spatial intelligence and logical-mathematical intelligence of boys and girls so that such education had an equal effect on preschool boys and girls intelligence.

Keywords: Philosophical Stories, On Visual-Spatial Intelligence, Logical-Mathematical Intelligence, Pre-Schooling

INTRODUCTION

Teachers, parents and all institutions involved in education is always looking for ways to improve and sustain the quality of teaching. Have been aimed at the development of talents and potential of children trying to improve and promote the increasing educational requirements. To provide the highest level of growth for all. Due to the growing intelligence and types of thinking are related to several factors, Education experts believe that children's understanding of the philosophy and teaching children in different ways can Tremendous impact on the intellectual development of the child's intelligence and social trends (Rahim Zadeh, 2008). In this context, many efforts have been made to improve the thinking and development. One of the most successful efforts to create a coherent program of teaching philosophy to children's program thinking that Matthew Lippman and colleagues at Montclair State University have produced it. The program is designed to provide an educational program for children from kindergarten on philosophical exploration the University has been prepared and is being implemented in many countries (Fisher, 2009). Philosophy for Children curriculum aims to increase students 'thinking skills' such that Prepared to deal with the problems of life, and can reasonably high level of intellectual skills to

use (Marashi, 2007). They must learn that at every stage of its life stages are appropriate challenges. And their control in certain situations, trying to choose the right solution and prudent manner so that their reactions In accordance with the plan of life and to achieve their goals (Ghaedi, 2004). Stories and storytelling best and most useful tool for the education of children and adolescents. Constituent elements of the story with the psychological needs of children are closely related. Children with a broad mind that there are various themes of social, moral and cultural events will mingle with and with his subtle insight into the implications of the argument, and gradually builds into its behavior. Template her story, and thus plays an important role in the development of the child's personality. Considering the typical story of the beginnings of philosophy for children and natural means to develop thinking, knowledge, skills and language. . Lippman believes that education should be to teach critical thinking, judgment of the child, the story is a perfect tool for the education of philosophical thought (Lipman, 1991). Therefore, the present study was to evaluate the effect of education on growth philosophical stories and visual-spatial intelligence, mathematical logic has been in preschool children. In this regard, in the late

1960s in America, Matthew Lipman's program entitled "Philosophy for Children program," stated that the children of preschool age can fit on the face of the questions are reasonable grounds to provide answers to questions (Marashi, 2009). Lippman to the conclusion that the best way to teach children to think of the story. (Fisher, 2001) and because of the philosophy for children, stories, special place. In addition, the philosophy for children to improve and develop creative and critical thinking is coherent and realistic fine. The Lippman in design philosophy education to children pursues several objectives the main goal is to help children learn how to think about the implementation of the "Philosophy for Children" to improve and develop critical thinking, creative, coherent and realistic is fine. Splitter and Sharp believe that such children can enjoy the story, In this way we can encourage them to think and ask questions, and provide incentives for them (Marashi, 2006). At this hearing the story makes it possible illustration for children. Children with hearing stories, scenes, actions and characters that were created by it. The ability to visualize and imagine the creative daydreaming and seems to have the ability to cognitive development and Social and child have a positive impact (Friday Poor, 1999, quoted by Jamalzadeh, heir, 2011).

Storytelling method by which indirectly affects children and adolescents in the depths of the soul. Besides telling stories to children that they are familiar with the story, the treasure of words adds and adds them to the IQ (Rahmandoust, 1987). The main goal is to help children learn how to think about the implementation of the "Philosophy for Children" to improve and develop critical thinking, creative, coherent and realistic is fine. Splitter and Sharp believe that such children can enjoy the story, In this way we can encourage them to think and ask questions, and provide incentives for them (Marashi., 2006). At this hearing the story makes it possible illustration for children. Children with hearing stories, scenes, actions and characters that were created by it. The ability to visualize and imagine the creative daydreaming And it seems that the ability to have a positive impact on children's cognitive and social development (Friday Poor, 1999, quoted by Jamalzadeh, heir, 2011). Storytelling method by which indirectly affects children and adolescents in the depths of the soul. Besides telling stories to children that they are familiar with the story, the treasure of words adds to their intelligence adds (Rahmandoust, 1987) .In the happiness and joy that comes from hearing different stories. Story development, it also causes mental listeners (slogan Race, 1993). In this regard Golsar believes that a

child is faced with the realities of life can increase his or her knowledge about herself. Children's fiction books may become acquainted with the facts of life and increase their understanding of themselves and the natural and social environment to create. (Ghezel Ayagh, 2004). In consequence of investigation:

Internal investigation

Guide (2012) in a study on the effectiveness of folk tales and philosophical development of verbal intelligence, intrapersonal and interpersonal outside the city of preschoolers. The findings suggest a positive effect of philosophical and Folk Tales of the verbal intelligence, interpersonal and inter-personal intelligence in children. The intra-individual and inter-individual intelligence in children who have philosophical tales of growth was more than folk tales, But verbal IQ than children who have philosophical tales folk tales have a group there was no significant difference. But verbal IQ than children who have philosophical tales folk tales have a group there was no significant difference. Zare (2011) in a study on the impact of the Iranian philosophical fiction, non-fiction and first-grade children's normal development of philosophical thought has been expressed Compared with ordinary Iranian philosophical fiction stories have significant impact on the development of

philosophical thought students. Keyani and Eskandari (2011), the story of an impact on students' inquiry skills and philosophizing did conclude that the skills of inquiry and its dimensions (change and uncertainty and complexity of change and motivation), the students are above average and the story of the raising of inquiry skills and motivation of effective questioning. Guidance (2011) in a study entitled stories intellectual development of social skills 40 preschooler Rasht title picks up the story of the intellectual development of social skills to children in pre-school is effective and the results of other tests, in and out of alignment it had Azympor (2008) studied philosophy and content of children's stories for this positive impacts on the issue of ethical skills of elementary school students pointed out (quoting zare, 2011).

External investigations:

In the study by Chan Yoke Keng (2007) which took place in Singapore. The results indicate that students participating in the curriculum philosophy for children performed better on thinking skills and creativity demonstrated. Mary & Delanoy in 1997 by the philosophical thought of as teaching children's literature: Creative uses for dialogue and story did. In sum, the study notes that Reasoning and judgment through training philosophy is the idea that in the modern world have been developed

recently. And this has been accepted as a child through logic and ethics use reasoning skills Life situations and have begun to think about themselves and gradually to become critical thinkers. Jakson & Devich (1980) who studied over 1,000 students in primary in the Hawaii did show that the performance of students in the classroom teaching philosophy have participated in training reasoning skills NJ higher than control subjects in such classes did not participate (According to the farmers, 2011). Vibeyrman and Lippman (1970) conducted a study with the assumption that children need help to improve their reasoning ability This thinking has fueled the recovery in other academic skills are performed. The results showed that 9-week training program could potentially affect the results of reasoning children. The results of this study showed significantly higher levels of the two and a half later. (Quoted from Barati 2009).

RESEARCH METHODOLOGY:

Since the aim of the present study on the impact of philosophical narrative and visual-spatial intelligence, mathematical logic preschool children in Shiraz. The method of quasi-experimental pretest-posttest control group is testing projects.

RESULTS

The population

The study population consisted of children aged 6-5 years, the city had an education In the 2013-2014 school year are enrolled in the preschool period constituted approximately 58 preschoolers (3380) takes novice in this area.

Sample and sampling:

In this study, a multi-stage cluster sampling method was used, so that the list of pre-school education is one area, two preschool studying which constituted approximately 58 preschoolers (3380) takes novice in this area.

Sample and sampling:

In this study, a multi-stage cluster sampling method was used, so that the entire list of the Preschool Education, Two pre-school and pre-school between the two classes were randomly divided into control and experimental groups. Methods of data analysis:

In this study, descriptive statistics, provides tables and graphs of frequency, percentage, mean subjects were used. Assumption of ANCOVA for the first and second and third and fourth independent t-test to verify the assumptions used The data using SPSS version 17 and 18 were analyzed.

Table 1: Frequency and percentage of gender

Witness		Analysis		Gender
Percent	Frequency	Percent	Frequency	
63/3	19	43/3	13	The girl

36/7	11	56/7	17	The boy
100	30	100	30	The total

Table 2: Mean and standard deviation of two mathematical intelligence - logical and visual - spatial pretest and posttest

Witness		Analysis		The group	Variable
Posttest	Pretest	Posttest	Pretest	Phase	
8/43	8/63	8/50	6/57	The mean	Intelligence, logical - mathematical
1/30	1/94	1/91	2/40	Standard deviation	
7/81	7/73	8/33	6/23	The mean	Intelligence, visual - spatial
1/71	1/76	1/84	2/30	Standard deviation	

The first hypothesis

Tales of philosophical training on intelligence, logical - mathematical influence preschool children (Table 3-8).

Table 3: Mean and standard deviation of two mathematical intelligence - logical pretest and posttest

Witness		Analysis		The group	Variable
Posttest	Pretest	Posttest	Pretest	Phase	
8/43	8/63	8/50	6/57	The mean	Intelligence, logical - mathematical
1/30	1/94	1/91	2/40	Standard deviation	

Table 4: Table of homogeneity of regression testing using analysis of covariance (logical intelligence)

Significance level	F	Mean square	Degree of freedom	Sum of squares	The source
NS	3/12	8/68	1	8/68	Group (test -Gvah)
NS	1/64	4/57	1	4/57	Pretest
NS	1/43	3/99	1	3/99	Group* pretest

Table 5: ANCOVA to determine the effect on intelligence logical philosophical stories for children

Chi Eta	Significance level	F	Mean square	Degree of freedom	Sum of squares	Sources of change
0/02	NS	1/01	2/82	1	2/82	Pretest
0/12	0/03	4/91	13/74	1	13/74	The group

The second hypothesis

Tales of philosophical training on intelligence, visual - spatial influence preschool children.

Table 6: Mean and standard deviation of two visual intelligence - Space pretest and posttest

Witness		Analysis		The group	Variable
Posttest	Pretest	Posttest	Pretest	Phase	
7/81	7/73	8/33	6/23	The mean	Intelligence, visual - spatial
1/71	1/76	1/84	2/30	Standard deviation	

Table 7: Table of homogeneity of regression testing using analysis of covariance (visual intelligence)

Significance level	F	Mean square	Degree of freedom	Sum of squares	The source
NS	2/98	8/15	1	8/15	Groups (control and experimental)
0/002	11/07	30/31	1	30/31	Pre-test (control and experimental)
NS	1/07	2/92	1	2/92	Group *pretest

Table 8: ANCOVA to determine the effect of visual intelligence philosophical stories for children

Chi Eta	Significance level	F	Mean square	Degree of freedom	Sum of squares	Sources of change
0/21	0/002	10/02	27/46	1	27/46	Pretest
0/14	0/01	6/97	19/10	1	19/10	(Experimental and control)

The third hypothesis

Tales of philosophical intelligence logical - mathematical preschool girls and boys are affected differently (**Table 9**).

Table 9: independent t-test to determine the effect on intelligence logical philosophical stories of girls and boys

Significance level	Degree of freedom	t	Standard deviation	The mean	number	Gender	Phase
NS	28	0/06	1/98	6/54	13	The boy	Pretest
			2/74	6/59	17	The girl	
NS	28	0/28	2/22	8/62	13	The boy	Posttest
			1/70	8/41	17	The girl	
NS	28	0/23	2/75	2/08	13	The boy	Difference
			3/34	1/82	17	The girl	

The fourth hypothesis

Tales of philosophical training on visual intelligence - Space preschool boys and girls are affected differently (**Table 10**).

Table 10: Independent t-test to determine the effect of visual intelligence philosophical stories of girls and boys

Significance level	Degree of freedom	t	Standard deviation	The mean	number	Gender	Phase
NS	28	0/96	2/29	6/69	13	The girl	Pretest
			2/31	5/88	17	The boy	
NS	28	1/12	1/96	8/77	13	The girl	Posttest
			1/73	8/00	17	The boy	
NS	28	0/05	1/66	2/07	13	The girl	Difference
			2/98	2/12	17	The boy	

CONCLUSION**The first hypothesis**

Tales of philosophical training on intelligence, logical - mathematical influence preschool children.

To investigate this hypothesis, we used analysis of covariance. According to the results, the logical intelligence test for children with type of group was significant.

Thus, the experimental group than the control group had a greater increase in the

number of children logical intelligence. This research Rahnama (2012), Zare (2011), Keyani and Eskandari (2011), Mahmodi (2009), Jahani (2006), Naji and Gazi Zadeh (2007), Chan Yuk Gong et al (2007), Teriki (2006), Tapyng and Teriki (2004), Tapyng (2003), Carlson (1997), Jackson and Devyj (1980) and Lippman and Bearman (1970) is coordinated. This finding is consistent with research Marashi (2006), the results indicate the success of the research community in

the curriculum of philosophy for children in foster students' reasoning skills is the savior and judge's research (2007), is consistent. According to the results of research, curriculum philosophy for children to promote and further strengthen intellectual skills expected of children is effective. The explanation for this finding may be that as a storytelling approach to educating children, rather than direct instruction. Due to their penchant for stories and storytelling more interesting and more enjoyable and thus more child-focused and better offers, the stress and worry of how the educational environment is not looking. And the fact that the child's story to explore the problem and solutions, and generalization of infection. The natural environment provides the best way. Tales of philosophical training to improve and develop critical thinking, creative, coherent and realistic is fine. Children who participate in this course learn thinking skills and are able. If necessary, change attitudes and skills, as well as evaluating the arguments and relationships, explore and analyze concepts, conclusions and inferences, identify underlying assumptions and guesses, discriminative power, Discovery Communications, illusions and errors are detected, the test generalizations, bright ideas, making inferences, recognition applications. Theory and practice, finding examples and

examples of the opposite, finding similarities and contrasts to the prospect of any matter, consistent and firm, collaboration skills, an open mind and a clear, confident in expressing their joy and happiness in accepting criticism and respond to criticism and children grow. And the outcome of the program and the skills, improved features such as higher-level thinking skills, independent thinking, motivation and emotion, increase comprehension, science and math success, collaboration skills, improve communication with classmates and parents, personal growth and self-esteem. Logical mathematical intelligence, it can be argued that the learner is conceptually logical and numerical patterns and think. And thereby build relationships between pieces of information. They are always curious about the world around them, ask lots of questions and like to do experiments. Their skills will include:

The second hypothesis

Tales of philosophical training on spatial intelligence influence preschool children.

To investigate this hypothesis, we used analysis of covariance. Based on visual intelligence test for children with type of group was significant. Thus, the experimental group than the control group had a greater increase in the number of children with visual intelligence. The effect

of the independent variable (the story of philosophy) is 0/14, the findings of the study Rahnama (12012), Mahmodi (2009), Naji and Ghazi Zadeh (2007), Teriki (2006) and Tapyng (2003) can coincide. Visual intelligence - Space is one of multiple intelligences. This type of intelligence is the ability to perceive the visual, learners have the intelligence tend to think in pictures and get the information they need to make a clear mental picture. They enjoy looking at maps, charts, pictures And movies comes from. On the other hand, the use of storytelling and story books with pictures, and showing scenes from the story or the story of a burst Continuous in front of children makes them different images at the same time to connect themselves to talk about pictures Or explain them. And it's very important step towards increasing the child's visual and spatial intelligence.

The philosophical tales for children, they learn recall on issues that are separate issues and distributed in connection with the review. In fact, this program teaches the child learns to see what the real conditions of life and work. The goal of this program is to improve the ability of reasoning in which an attempt is Including a detailed review of human intellectual weakness is corrected. Watching a component makes a person unable to see an overview of the issues and linking them to other issues And to

strengthen the visual intelligence - is the atmosphere. On the other hand, in terms of design and color with age-appropriate stories for children, This allowed the audience that the story in your mind, develop and Child mental imagery to drive.

The third hypothesis

Tales of philosophical intelligence logical - mathematical preschool boys and girls are affected differently. For this purpose, the experimental group and the pre-test and post-test score differences chosen and calculated (the difference), then the two groups were compared using independent t-test, The results show that in three stages between boys and girls in the logical intelligence - there is no mathematical children, meaning that training Philosophical tale similar effects on intelligence and logical - mathematical preschool boys and girls has increased and logical intelligence of children. In this line of research Alipur (2010) found that the total of a series of verbal and nonverbal intelligence obtained and numerical ability, verbal memory, reasoning, understanding the relationship Space and speed perception is that it's not about gender differences in the effectiveness of Sex on teaching philosophy can be aligned. The research also Moniri (2012) corresponded to the research Zare (2011) does not match. People with intelligence and logical - mathematical

pm argument, identify patterns and logical analysis are powerful things, enjoy thinking about abstract ideas and problem solving skills. The curriculum for children to learn the philosophy of integrity issues that are separate issues and spread examine the relationship together. The goal of this training is to improve the ability to reason, which tries to make some Rational human weaknesses, including part orientation is correct.

The fourth hypothesis

Tales of philosophical training on visual intelligence - Space preschool girls and boys are affected differently. For this purpose, the experimental group and the pre-test and post-test score differences chosen and calculated (the difference), then the two groups were compared using independent t-test. The results show that in three stages between boys and girls in the intelligence children there is no space, meaning that education stories Philosophical similar effects on visual intelligence - preschool boys and girls have the space, and the rate of visual intelligence of children. This finding is consistent with findings from studies of Ali Pur (2009) and Mounir (2012) coordinated the research farm (2011) is Countercurrent. According to the characteristics of visual intelligence - a space that contains enjoy reading and writing skills in order, to communicate

issues and objects, skill in interpreting photographs and diagrams, etc., comfortable pattern recognition, the ability to change the mental framework of the implementation of this training is desired. See beyond the boundaries and limitations of the relationship and coordination among them. Children learn how to deal with any issue and its attitude can be different. Children participate in such a program are discovering that adopting healthier attitudes and credible and logical solutions Not only based on their increasing knowledge and awareness, it is a symbol of growth.

On the other hand, beyond gender differences in children's intelligence and biological aspects are primarily the issue of intelligence. The training is the same for both boys and girls considering the age of the subjects, it seems that at this age, gender segregation has not been done yet in today's one-child families and children make the same attention to the performance and behavior of children.

ACKNOWLEDGMENT

This article is extracted from my thesis under the title of "Investigating the Effect of Philosophical Stories on Logical-Mathematical Intelligence and Visual-Spatial Intelligence of Preschool Children in District 1 of Shiraz". Hereby, I extend my sincere appreciation to Islamic Azad

university of Arsanjan for the efforts and supports they provided to me.

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