



## The Study of the Effect of Thinking from Multidimensional Perspectives Training Program on the School Readiness of 5 and 6 Year-old Children

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### Abstract

The purpose of the present study is to examine the effects of the Thinking from Multidimensional Perspectives Program on 5 and 6 year-old preschoolers' school readiness. The study was conducted over a total of 153 children, 76 of them forming the control group and 77 of them forming the experiment group. There were 63 children in age group 5 and 90 children in age group 6. 73 of these children were girls and 80 of them are boys. The study format used was the experimental design and pre-test/ post-test control group model. In the experimental group, the Thinking from Multidimensional Perspectives Training Program was implemented. The Metropolitan School Readiness Test was used for pre-test and post-test. In order to determine whether there was a difference between the scores of experiment and control groups (pre-test, post-test), independent t-test was used. In addition, to record the progress of the experiment and control groups within themselves, and to test the differences (pre-test, post-test) dependent t-test was used. To test the differences, 0.05 significance level is taken. As a result of the study, it was found that the Thinking from Multidimensional Perspectives Training Program has a positive impact on school readiness of 5 and 6 year-old preschoolers. Additionally, the applied program increases 5 year-old children's school readiness scores much more than 6 year-olds.

### Keywords

Thinking practices  
Thinking in children  
School readiness  
Pre-school period  
Children

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### Introduction

The beginning of questioning in children at an early age can be explained in relation to the act of thinking. The most important goal of the modern education system is educating children who can think, who can learn by themselves, who can apply what they learned and transfer this knowledge by supporting this feature (Mutlu & Aktan, 2011). The speed of progress and learning in the first years of life and the effect of the experiences gained during these years on future learning makes the pre-school years that much more crucial. Scientific researches made in the field reveal that these early years of human life are of utmost importance in terms of individual and society (Dinç, 2002, p. 30; Oktay & Unutkan, 2003, p. 145).

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With the increase in a child's capacity, the things that the child is busy with also get more complicated. By teaching them how to think in early years of life, it will support their skills of questioning, criticizing and testing (Juuso, 2007). The studies conducted on teaching children how to think (Fields, 1995; Imbrosciano, 1997; Doherr, 2000; Institute for the Advancement of Philosophy for Children [IAPC], 2002; Trickey & Topping, 2004) shows that these kinds of programs support the development of the skills related to children's school readiness. Lipman, Sharp, and Oscanyan, (1980) states that skills related to school readiness can develop through thinking experiences.

Training of thinking is important for the development of problem solving skills (Goffin & Tull, 1985). Thinking skills which are considered essential for problem solving and learning are also fundamental in the process of preparation for pre-school. Starting school is one of the most important turning points for children in their lives (Oktay & Unutkan, 2003, p. 145) and the concept of school readiness is very important for the process of starting school. The concept of school readiness refers to being able to reach a certain developmental level so that children can achieve school success (Yazıcı, 2002, p. 1-2). A child with school readiness has reached a certain level in terms of physical, mental, social and emotional development and is ready to fulfill anything that is asked successfully at school (Ülkü, 2007). In other words, the pre-school period is the time when the child acquires learning skills and gains basic concepts effectively. Besides, it is the most rapid period of growth s/he needs to develop in order to acquire the necessary thinking methods and skills that s/he will use in the future (Kandır & Orçan, 2011). When children encounter with the right knowledge and experience at an early age it will affect his future success positively (Dinç, 2002).

Today's educational approaches put students in the center of all educational activities, and aim to develop their language and mental skills to a high degree. The heart of mental skills are thinking and questioning. Thinking and questioning activates mental operations and processes of the individual and develops problem solving, decision-making and conceptualization skills. It also supports a better processing and structuring of information in the mind. Therefore, the focus is on the development of thinking skills of students in recent years (Güneş, 2012). However, when the system of thinking training is examined, it is understood that the idea of dealing with systematic education in schools is still very new (Mutlu & Aktan, 2011).

Some studies emphasize that the thinking training should be programmed and also indicate that with the absence of this kind of education process students cannot develop their thinking skills sufficiently enough, and therefore they encounter various difficulties (Güneş, 2012; McMillan, 1987; Nickerson, 1988; Pascarella, 1989; Romano, 1992) Reid and Paradise (1989) emphasizes that students' thinking skills do not develop naturally in the general education process and education is absolutely necessary (as cited in Romano, 1992).

Considering that the preschool period is the fastest and most efficient growing time of children, (Sylvia & Lunt, 1982, p. 183) it can be said that it is important for a more successful future to initiate thinking training during the preschool period and integrate it within their education. It is very important to ensure that children express their own thoughts and that they are allowed to explore their own awareness and self-discipline so that they can check themselves. In our country, the studies conducted on this issue, especially regarding pre-school period are so few. Studies in this area should cover the early childhood period and the idea of children having this foundation at an early age should become popularized (Mutlu & Aktan, 2011).

Within the range of studies in the field related to thinking training, it is seen that thinking training programs that are developed to support pre-school children's school readiness (Doherr, 2000; Fields, 1995; Imbrosciano, 1997; IAPC, 2002) have been very few. In this regard, the Thinking from Multidimensional Perspectives Training Program for preschoolers has been developed by researchers (Gür, Koçak, & Demircan, 2016—in press). The present study was carried out to examine the effect of Thinking from Multidimensional Perspectives Training Program on 5 and 6 year-old children's school readiness.

## Method

The present study was conducted using experimental model with pre-test/post-test control group design. In pre-test/post-test control group models there are two groups created randomly. Measurements are made before and after the test experiments in both groups. The presence of pre-test model shines light on the degree of similarity of the groups before the experiment and corrects post-test results accordingly (Karasar, 1999). The dependent variable in the design is the 5-6 year-old preschooler's school readiness skills. The independent variable that has an effect on children's school readiness skills is the "Thinking from Multidimensional Perspectives Training Program".

### *Study Group*

The study group of the present research consists of children who are studying in pre-schools in the Yenimahalle district of Ankara, Turkey. The schools and the number of students from each school are as follows: 6 teachers and 92 students studying in their classrooms as experiment group-) from a private kindergarten, and 90 children from another private kindergarten (as control group).

The study began with 182 students but this number decreased to 153 by the end of the study. Since some children were absent on the day that school readiness test was applied, some were at school on the day that pre-tests were applied but missing during the post-tests, some had to leave the institution and some had so high or so low scores compared to the group so the data collected according to these children was ignored. Therefore, the study was conducted with 77 children forming the experiment group and 76 children forming the control group. There are 63 children in age group 5 and 90 children in age group 6. Of these, 73 of these children are girls and 80 of them are boys. According to the test of age and gender, the distribution of experiment and control groups in terms of age and gender is given in Table 1.

**Table 1.** The Distribution of Experimental and Control Groups In Terms of Children's Age and Gender

	Age 5			Age 6			General Total		
	Experiment	Control	Total	Experiment	Control	Total	Experiment	Control	Total
Girl	15	12	27	22	24	46	37	36	73
Boy	16	20	36	24	20	44	40	40	80
Total	31	32	63	44	46	90	77	76	153

### *Data Collection Tools*

In order to collect the data of the present study the Personal Information Form developed by the researchers and the Metropolitan School Readiness Test are used.

**Metropolitan School Readiness Test:** The Metropolitan School Readiness Test was originally developed by Hildreth, Griffiths, and McGauvran (1949) to measure the characteristics and accomplishments that will allow children to understand the class instructions when they begin to school as first graders. The test consists of a booklet with 16 pages including 6 sub-dimensions named as Word Comprehension, Sentence Comprehension, General Knowledge, Matching, Numbers and Replicate. The test consists of a total of 100 items are asked via verbal instructions given by the operator and marked or copied by the child. The duration of the test given to children who are 5-6 years old is about 24 minutes. The Metropolitan School Readiness Test is a standardized test which has been validated and rigorously tested via numerous validity and reliability studies. The validity and reliability studies of the test were originally carried out by Hildreth et al. (1949). Test reliability coefficients ranged between 0.53 and 0.83. To determine compliance validity, the Metropolitan School Readiness and Metropolitan Achievement Test were applied to 44 elementary school students. The correlative relationship between the two tests was between 0.34 and 0.53. The adaptation studies of the test are

done by Oktay (1983). This test measures the child's understanding and his practical skills in terms of instruction. According to the verbal instructions given by the researcher, the student marks or copies the image of and he is given 1 point for each correct answer, there is no point if the answer is wrong. General readiness level of the child is determined by combining all sub-tests. The present study was conducted on the total score. When the total score is high, it shows that the general readiness is at high level as well (Oktay, 1983; Çıkrıkçı, 1999; Öner, 2008; Cinkılıç, 2009).

For the present study, the validity and reliability studies have been conducted on 223 children who are 5-6 years-old. According to the statistical assessments the factor loads of Metropolitan School Readiness Scale ranges between .573 and .808. The KMO value was found as 0.724 and Barlett Test value was found as  $df=4950$   $\sigma = .000$ . The Cronbach Alpha reliability coefficient for General Total of Metropolitan School Readiness Scale was found as .94; for Word Comprehension dimension .66; for Understanding Sentences dimension .69, for General Knowledge dimension .76; for Matching dimension .79; for Numbers dimension .85 and for Replicate dimension .76. This situation demonstrates that the validity and the reliability is very high and the scale is appropriate to use.

**Personal Information Form:** The personal information form was developed by the researchers in order to get information about the participant's date of birth, age, gender and school.

**Thinking from Multidimensional Perspectives Training Program:** The Thinking from Multidimensional Perspectives Training Program is developed to support 5-6 year old children's thinking from different perspectives. Thinking from different perspectives indicates being able to understand the facts and situations from different perspectives (Kesicioğlu & Deniz, 2014). Thinking from different perspectives reveals a multi-dimensional thinking approach. In development of thinking from multi-dimensional perspectives it is necessary to have the support of: observations, comparisons, discovering, inference, communication and interaction, motivation, social acceptance, being independent, nature experiences, and a teacher/adult (Gür, 2016). On the basis of Thinking Training, the purpose is to help children explore by means of stimuli that are interesting and fun to them (such as stories and arts), and to acquire the thinking skills about the issues which are directly linked to their past, present and future. (Gür, 2011a, 2011b; Stanley & Bowkett, 2004). Discovering new thoughts, ideas and problems has a significant impact on children's lives (Stanley & Bowkett, 2004). In the literature, it is often emphasized that people's perception of themselves and others is formed with the experiences they had in family, school and social environment and the quality of the relationships experienced in this environment plays an important role in the development of academic skills (Akça & Taşçı, 2009). While developing the program, the opinions of Socrates, Rumi, Piaget, Vygotsky, Bruner and Lipman's views on education were all taken into consideration (Gür et al., 2016). Through the Thinking from Multidimensional Perspectives Training Program, the following dimensions are analyzed: self-recognition, recognizing the other, recognition of the third person/object or event, group perspective and social and universal perspective dimensions with situations/events are analyzed (Gür, 2016). In this context, the program consists of five different sizes (Gür 2016; Gür et al., 2016)

**1st Dimension (Self-Recognition Dimension or Me Step):** This dimension is related to person or child's self-recognition. It includes the effects of events and situations on people and evaluation of events from "I" point of view. Drawing a picture called 'My favorite toy' can be regarded as an activity of self-recognition.

**2nd Dimension: You Step (Recognizing the other, evaluating the event from his point of view, Empathic Perspective):** The main purpose of this dimension, child's recognition of another person or recognizing his characteristics, focuses on the similarities and differences while making comparisons. When the child imagine himself as a bee and acts like a bee and describes how the bee feels while flying, can be evaluated as a 2nd dimension activity.

**3rd Dimension (Raising awareness of a third person/object or an event rather than himself or a second one):** This dimension suggests evaluating an event, a situation or a person by adding the point of view of a third person. For example, a 4 year old child talks about a carrot and says "a carrot looks like a leg, a snake also looks like a leg" and while doing this he is considering three different things, including leg, carrot and snake, compares them and evaluates. However, his descriptions are focused on physical characteristics. When the child thinks about an event that he experienced with his mom and thinking the effect of this event on his little brother can also be evaluated as 3rd dimension.

**4th Dimension: Pluralist perspective (they):** Together with I and you perspectives, the 4th perspective related to group evaluates events and situations considering more than three dimensions. The examples for the 4th dimension are as follows: not being able to finish the classroom activity when the limited number of scissors/ paint are not shared, when it is time for a field trip and children still not finishing their meal so they are late and the time for fun is less than they plan or the effect of Ali's behavior on his friends in the group when he doesn't share his toy, discussion of the impact on friends of saying thank you and sharing, evaluating the effect of the behavior/ situation on the group.

**5th Dimension: The analysis of the situation from five or more perspectives or thinking from social/ universal perspectives:** In this dimension the purpose is establishing the foundation of social and universal perspectives. Thus, it is thought that awareness can be raised for being sensitive regarding community, different cultures, ethics, disabled ones and environment. Discussion on the effects of throwing waste materials on the ground or the see on humans or animals can be regarded as an activity of 5<sup>th</sup> dimension.

In the program, there are totally 100 activities which is formed by 20 activities for each dimension. The program consists of activities such as art-science-nature, music, discussion and Turkish language. The average time spent for each activity is between 20-30 minutes. Activities are seen as a tool for training of thinking in children. For example, after playing with Legos or an ordinary game played outdoors the discussion setting with the open-ended questions constitutes the main objective of the program (Gür et al., 2016). Here, the activities that are carried out before the discussion are seen as a stimulus—in other words as a tool for thinking training. Having activities with complex or unique structures is not the most important thing here. On the contrary, it is preferable to introduce the topic with activities that are easy to apply. The important thing here is the discussion process that aims to improve thinking training. The teacher should not interfere with the child's ideas here. If necessary, s/he may seek to summarize the subject via open-ended questions. The main objective for the child in thinking activities is not to find the "right" in adult's brain, it is experiencing the thinking process. They learn how to think, not what to think (Gür, 2016; Gür et al., 2016). On preparing the program, at first thinking concept was examined and the ground of the and the limitations were determined. Then, outcomes and objectives and the activities and materials were decided. Secondly, the objectives explained thinking education found in 2013 Preschool Program were determined. Thirdly methods, activities and educational materials for reaching the objectives were determined. Forthly, for each dimension 20 activities totally 100 activity program was prepared for masters' view. Program development masters, child development masters and teachers presented their opinions for the program. By considering these opinions necessary differences were made. Then the teachers in the

survey group were educated about the program and activities and necessary materials were given to the teachers. Teachers applied 100 sessions in their classes. After application of each dimension in the classes, a meeting was arranged and in that meeting teachers share their thoughts on the application of the activities and difficulties that they live during applications.

**Research Process:** With regard to the scope of the study, the necessary information is sent to schools that are volunteer to participate and the permissions are obtained. Both children's and teachers' participation within the study process is based on volunteering. To conduct the study, ethical approval (Number: 003-04-2015) from the Ethics Committee is taken.

The pre-school teachers who volunteered to participate in the experiment group were trained once a month and applied their monthly activities in their own classrooms. Necessary educational content and special materials were given on a monthly basis to kindergarten teachers. The teachers applied the activities taught and described how to be applied in the education process. Each teacher studied with 14-16 children found in her class. For some activities the class was divided into two and the activity applied at first the half of the group and then another. The activities were done in the forenoon. There were six teachers participating in this group and the children in their classes formed the experimental group that the program is applied to. The kindergarten teachers who volunteered to participate in the study and had similar features with pilot group had also six teachers. However, they did not receive any training, and teachers hadn't done any activities in terms of Thinking from Multidimensional Perspectives Training Program in their classes. The children in these classes of these teachers formed the control group. Before applying the Thinking from Multidimensional Perspectives Training Program the researchers applied pre-test and post-tests to children in both groups before and after the applications. At the end of the program an evaluation meeting is organized with the teachers who attended the training program. At the meeting, teachers evaluated the activities they applied in the program both orally and in written forms. Teachers have written their opinions about each activity given in the form. They evaluated the childrens' active participation and the teacher's application of the activity in the class. All the teachers have reported a positive opinion for all the activities applied.

**Data Analysis:** The data collected and encoded within the frame of general objective and its sub-objectives of the study is evaluated by using SPSS 21 (The Statistical Packet for The Social Sciences) package program. The independent t test is used in determining whether there is a difference or not between the scores of experiment and control groups (pre-test and post-test). In addition, to record the progress of experiment and control groups within themselves and test the differences, dependent t-test (pre-test/post-test) is used. The significance level is taken as 0.05 in testing the differences.

## Findings

In this part the findings are presented in terms of the purposes discussed in the study and interpretations are made based on these findings. The findings of the study are arranged separately for age 5 and 6 and examined in Table 2 and Table 3.

**Table 2.** The Comparison of 5 Year-Old Children's "Metropolitan School Readiness Test (General Readiness)" Pre-Test and Post-Test Scores (Experiment and Control Groups)

Ages	Groups		n	$\bar{x}$	Ss	$\bar{x} 1 - \bar{x} 2$	sd	t	p
Age 5*	Pre-Test	Experiment	31	50,03	2,016	3,88	61	-,166	,096*
		Control	32	53,91	1,121				
Age 5*	Post-Test	Experiment	31	70,87	2,068	2,87	61	1,693	,248*
		Control	32	68,00	1,363				
Age 5**	Experiment	Pre-Test	31	50,03	2,016	20,84	30	-12,307	,000**
		Post-Test	31	50,03	2,016				
Age 5**	Control	Pre-Test	32	70,87	2,068	14,09	31	-0,751	,000**
		Post-Test	32	53,91	1,121				

\*Independent t test is applied.

\*\*Dependent t test is applied.

As it can be understood from Table 2, there is no significant difference between pre-test and post-test scores of 5 year-olds experimental and control groups in terms of *general readiness* level ( $t = -,166$   $p > 0.05$ ). It is also seen that there is no significant difference ( $t = 1.693$   $p > 0.05$ ) between the post-test scores of 5 year-old children. However, the difference between the average pretest scores is in favor of control group, the average post-test scores are in favor of experimental group. While the difference in experimental group children's pre-test—post-test arithmetic mean is 20.84, the difference in control group children's pre-test – post-test arithmetic mean is 14.09. Between the control group children, pretest - posttest differences in arithmetic means are 14 stop 09. The difference between these two arithmetic means is 6.75. It can be said that this difference emerges because of thinking from multi-dimensional perspectives training program that is applied to experimental group. The difference between the pre-test and post-test scores of experiment and control groups was statistically significant for both groups. Experiment ( $t = -12,307$   $p < 0.05$ ); Control ( $t -0.751$   $p < 0.05$ ).

**Table 3.** The Comparison of 6 Year-Old Children's "Metropolitan School Readiness Test (General Readiness)" Pre-Test and Post-Test Scores (Experiment and Control Groups)

Ages	Groups		n	$\bar{x}$	Ss	$\bar{x} 1 - \bar{x} 2$	sd	t	p
Age 6*	Pre-Test	Experiment	46	67,35	1,153	2,21	88	-1,129	,262
		Control	44	65,14	1,600				
Age 6*	Post-Test	Experiment	46	82,39	,946	4,62	88	-2,978	,004
		Control	33	77,77	1,240				
Age 6**	Experiment	Pre-Test	46	67,35	1,153	-15,04	45	-7,026	,000
		Post-Test	46	82,39	,946				
Age 6**	Control	Pre-Test	44	65,14	1,600	-12,64	43	-1,707	,000
		Post-Test	44	77,77	1,240				

\*Independent t test is applied.

\*\*Dependent t test is applied.

As it can be understood from Table 3, there is no significant difference between pre-test and post-test scores of 6 year-olds who are in the experimental and control groups in terms of *general readiness* level ( $t = -1,129$   $p > 0.05$ ). When 6 year-old children's post-test scores are analyzed there is no significant difference ( $t = -2.987$   $p < 0.05$ ). While the difference between experiment group children's pre-test and post-test arithmetic mean is found as 15.04, the difference between control group children's pre-test and post-test arithmetic mean is found as 12, 64. It can be said that this difference emerges because of thinking from multi-dimensional perspectives training program that is applied to experimental group. The difference between the pre-test and post-test scores of experiment and control groups were statistically significant for both groups (Experiment ( $t = -7.026$   $p < 0.05$ ); Control ( $t = -1,707$   $p < 0.05$ )).

In light of the information given in Table 2 and Table 3 it can be said that Thinking from Perspectives Program increases school readiness scores and contributes even more in 5 year-old children.

### Discussion

The purpose of the present study is to examine the effects of the Thinking from Multidimensional Perspectives Training Program on 5 and 6 year-old preschoolers' school readiness. Data for the study were obtained from 153 children. While 77 of these children formed the experiment group, 76 of them formed the control group. There are 63 students in age 5 group, while and 90 children in age 6 group.

Considering the effect of Thinking from Multidimensional Perspectives Training Program on school readiness of 5 year-olds, no significant difference was found between pre-test and post-test scores of experimental and control groups in terms of general readiness level ( $t = -, 166$   $p > 0.05$ ). It is also seen that there is no significant difference ( $t = 1.693$   $p > 0.05$ ) between the post-test scores of 5 year-old children. However, the difference between the average pre-test scores (though it is statistically not meaningful) is in favor of control group, the average post-test scores are in favor of experimental group. While the difference in experimental group children's pre-test – post-test arithmetic mean is 20.84, the same difference in control group children's pre-test – post-test arithmetic mean is found as 14.09. Between the control group children pre-test - post-test differences in arithmetic means are 14 stop 09. The difference between these two arithmetic means is 6.75. The difference between the pre-test and post-test scores of experiment and control groups was statistically significant for both groups. Experiment ( $t = -12,307$   $p < 0.05$ ); Control ( $t -0.751$   $p < 0.05$ ). So it can be said that there was an increase in general school readiness scores of children who are in experiment and control groups.

During the study process the children were attending pre-school and this can be expressed as pre-school education having a positive influence on children's school readiness. In the study of Pirpir (2011) the effect of a maternal education program of preparation for basic education (MEPPBE) on 5-6 years old children's school readiness and in which Metropolitan Scale is also used, the pre-test and post-test results of the study were found significant in a similar way with the present research.

Considering the effect of Thinking from Multidimensional Perspectives Training Program on school readiness of 6 year-olds, no significant difference is found between the pre-test scores of experimental and control groups in terms of *general readiness level* ( $t = -1,129$   $p > 0.05$ ). When the difference between 6 year-old children's post-test scores are examined the difference was found statistically meaningful ( $t = -2.987$   $p < 0.05$ ). While the difference between experiment group children's pre-test and arithmetic mean is found as 15.04, the difference between control group children's pre-test and post-test arithmetic mean is found as 12, 64. It can be said that this difference emerges because of the Thinking from Multidimensional Perspectives Training Program that is applied to experimental group. The



difference between the pre-test and post-test scores of experiment and control groups were statistically significant for both groups (Experiment ( $t = -7.026$   $p < 0.05$ ); Control ( $t = -1,707$   $p < 0.05$ )). In other words, it can be said that children's school readiness scores both in experiment and control group had an increase. During the study process the children were attending pre-school and this can be expressed as preschool education has a positive influence on children's school readiness. In the study that Yazıcı (2002) conducted it is found that pre-school education has a positive impact on school readiness levels of children. The same finding is also supported by the studies of Unutkan (2003), Gonca (2004), Esaspehlivan (2006) and Umek, Kranjc, Fekonja, and Bajc (2008). This finding is in line with research findings. The findings are parallel to the findings of the present study.

As a result of the findings obtained from the study it can be stated that Thinking from Multidimensional Perspectives Training Program increases the school readiness scores and contributes more to 5 year-old children's school readiness. In their study Daniel et al. (2005) stated that the processes of creative-focused thinking, logic-focused thinking and metacognitive-focused thinking are all activated in the end of the thinking practices. Cassidy and Christie (2013) conducted a study with 115 children who were 5-11 year-olds and found that the process of thinking practices supports children in giving examples, recognizing terminology and words. Gregory (2008: 55) and Kennedy (1994) indicate in their study that children find similarities-differences, make comparisons and inferences in terms of making connections during thinking activities. Gür (2010) states that when children have thinking practices in pre-schools they will be mindful while starting elementary school, have critical thinking and be good listeners. The studies conducted with regard to the effectiveness of thinking practices in children show that these practices help children establish cause and effect relation, and support language and math skills (Dyfed County Council, 1994; Educational Testing Service, 1978; Haas, 1976; Sasseville, 1994; Trickey & Topping, 2004). When all these results are taken into consideration it can be said that an education process that is intended to give thinking practices supports children's school readiness.

The training process pointed to a higher difference in 5-year-olds regarding children's pre-test and post-test score averages than 6 year-olds, so it can be said that Thinking from Multidimensional Perspectives Training Program contributed more in terms of school readiness to 5 year-old children. It is thought that the difference between 5 and 6 year-olds can be caused because of the pre-school education that 6 year-olds have and they have reach a certain level of maturity in terms of school readiness. However, 5 year-olds are just in the beginning of this education process compared to 6 year-olds and they have more to cover so they show more progress than 6 year-olds. Connel and Prinz (2002) conducted a study and stated that the support given to young children's learning experiences has a positive influence on their school readiness levels. Kawaguchi (2011) indicates that age factor should be taken as a factor that affects school readiness process. Cinkılıç (2009) emphasizes that process of having pre-school education has an impact on school readiness scores. In this case, it is considered that the educational process can lead to differences in scores of school readiness in terms of age groups.

### **Conclusions and Recommendations**

In the present study it is found that applying the Thinking from Multidimensional Perspective Training Program in pre-school education institutions has a positive effect on (the sample group of the survey) 5 and 6 year-old children's school readiness. After all, it should be considered that the data was obtained from only 153 children. So, it can be suggested application and examination of Multidimensional Perspective Training Program to a wide number of children. This study can be seen as a step for thinking education in preschool.

In line with the present study, it can be said that, educational programs applied in pre-school education institutions that are intended to improve children's thinking skills contribute to pre-school children's school readiness and support them in preparation for elementary school. In this context, it is thought to be important that thinking practices should be popularized in pre-school education. In this sense, qualified education programs that are thinking-oriented can be developed. However, while educational programs or activities and practices are being developed, teachers should get enough support and the issue about qualified applications should be considered to get effective results. As well as these activity pools formed for thinking training created by experts who are preparing the programs, they should make it easy for teachers to reach these activity pools easily (booklets or web contents can be developed) and in-service trainings can be organized all around Turkey for these preschool teachers regarding thinking training.

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