The Effectiveness of The Philosophy with Children Curriculum on Critical Thinking Skills of Pre-School Children

Filiz Karadağ ¹, Vesile Yıldız Demirtaş ²

Abstract
The construct that came into our lives with the term ‘philosophy for children’ (P4C) in 1970s is a method of developing critical thinking in children through philosophical dialogue created by the American philosopher Matthew Lipman. This approach is improved in cooperation with the enrichment of a group’s point of view. The approach of philosophy for children is also known as ‘philosophy with children’ (PwC) promoted by different philosophers who have worked in this field in addition to Lipman’s studies. The purpose of this study is to understand the effectiveness of philosophy with children curriculum on critical thinking. With this purpose, the following questions were asked: “What are the effects of the ‘philosophy with children’ curriculum on development of children’s critical thinking skills?” , “Does the effectiveness of the ‘philosophy with children’ curriculum vary based on the type of school they attend?”, “What are the opinions of the children who participated in the ‘philosophy with children’ curriculum regarding this program?” The study used a quasi-experimental design without a control group. The pre-test and post-test data of the groups were collected using the “Scale of Critical Thinking through Philosophical Inquiry” developed for pre-school children. Additionally, in order to achieve social validity for the research, semi-structured interviews were conducted with the study group and the 3 teachers who acted as observers along the study. According to the findings, it was seen that the ‘philosophy with children’ curriculum was effective on critical thinking skills. According to the pre-test data, there was no significant difference between the critical thinking scores of the children at state school and the children at private school before the start of the program. After the implemented program, in the light of the post-test outcomes, the critical thinking scores of both groups were observed to increase. In both experimental groups, the overall scores and sub-scale scores of critical thinking were found “medium” in the pre-test, and “high” in the post-test. The analysis on the opinions of the students and the teachers on the program revealed that they generally had positive impressions.

Keywords
Preschool
Philosophy with children
Philosophy for children
Critical thinking
Philosophical inquiry

Article Info
Received: 04.23.2017
Accepted: 03.27.2018
Online Published: 04.26.2018
DOI: 10.15390/EB.2018.7268

¹ Dokuz Eylül University, Buca Faculty of Education, Department of Special Education, Turkey, filiz.karadag@deu.edu.tr
² Dokuz Eylül University, Buca Faculty of Education, Department of Special Education, Turkey, vesile.yildiz@deu.edu.tr
Introduction

Philosophy with children is a widely used approach in recent years. This approach focuses on the thinking of children on a philosophical case as a group, and the aim is to develop thinking skills at the end of the child’s interrogation processes. Philosophy, with its general definition, is a discipline that has a tendency to describe concepts and relationships among these concepts in order to understand human nature and the world better (Brenifier, 2004, p. 3). The most important factor that gave rise to philosophy is curiosity and the desire to understand, which is the source of this curiosity (Gülenç, 2006, p. 60). One of the debates that has been ongoing for years is on whether philosophy is for children or not. The general approach of philosophers has been negative on this issue since the days of Plato. This negative thinking comes from the constant confusion between two concepts. Terminologically, the concepts ‘doing philosophy’, which means processing subjects of philosophy as a course, and ‘philosophizing’, which means thinking about a subject with the philosophical method, are not entirely independent but different concepts (Murris, 2000, p. 266). Matthew Lipman, the founder of the movement of philosophy for children, solved the confusion between these two concepts by explaining the relationship between them: he accepted the term ‘philosophizing’ as the transformation of the term ‘doing philosophy’ into practice. Thus, using the movement of philosophy for children, he showed that it is possible for children to think on a subject with the philosophical method (Lipman, 1988, 1991). Similarly, to this idea, Karen van der Leeuw emphasized that philosophical thinking may be suitable for all age group by stating that many philosophy students learn to think on a good level in addition to learning philosophy (van der Leeuw, 1993). Likewise, Cam (1995, p. 27) asserted that philosophy is a good subject for children to reshape and question their interests and skills, and although children cannot learn philosophy, they can philosophize.

The method that came into our lives with the term ‘philosophy for children’ (P4C) in 1970s is the method of developing critical thinking in children through philosophical dialogue created by the American philosopher Matthew Lipman. This approach is improved in cooperation with the enrichment of a group’s point of view. Here, individual goals and competition are not prominent (Lipman & Sharp, 1980; Lipman, 1993, 1995, 2003). The philosophy for children approach is being implemented in 50 different countries. The materials of the approach providing information about application and activities have been translated into 20 different languages (Daniel & Auriac, 2011). These materials aim to develop critical thinking skills in children and increase the skills of children to communicate with their peers. Lipman, while preparing the sections of this program, utilized the approach of critical thinking which is highly inspired by John Dewey’s pragmatic philosophy (Lipman, 1985,1996). In these programs, Lipman’s purpose is to help children become individuals who are able to present a judgement, and defend, justify and question this judgement (Vansielehgem & Kennedy, 2011).

The approach of philosophy for children is also known as ‘philosophy with children’ (PwC) with different philosophers who have worked in this field in addition to Lipman’s studies. There is a set of approaches to support thinking or philosophizing in the classroom (Cassidy & Christie, 2013; Kennedy, 1999; Kennedy & Kennedy, 2011; Vansielehgem & Kennedy, 2011; Vansielehgem, 2005). One of these, the ‘Community of Philosophical Inquiry’ (CoPI) by Catherine McCall is a product of her studies with Lipman in 1980s and her experiences as a philosophy student (Cassidy, 2007; McCall, 2009). This method, which was actively used in the implementation stage of this study, is used in the same format in children and adults. This method was constructed on the skills of reasoning, being fallible in a subject, inference from communication-interaction, creativity, and having capacity for inquiry (Cassidy & Christie, 2013; McCall, 2009). A CoPI practitioner must have a background in the subjects of philosophy and logic. As a practitioner, the session leader notices philosophical themes in a ‘philosophy with children’ session carried about with the CoPI method and ensures formation of a group dynamic to allow philosophical dialogue to progress in this structure (Cassidy, 2007; McCall, 2009).
F. Karadağ & V. Yıldız Demirtaş (2002) explained the stages of ‘philosophy with children’ sessions as: calming exercise, determining session rules, presenting a stimulant (story, object, picture, etc.), providing time for thinking on the stimulant, asking questions, forming connections among questions, choosing the question for philosophical inquiry, developing an understanding on the question, following each other’s thoughts and encouragement of opening the way for inquiry. Considering these stages, it may be argued that ‘philosophy with children’ sessions affect children’s thinking skills directly (Splitter & Sharp, 1995; Trickey & Topping, 2004).

According to the literature review, it was seen that generally the effects of ‘philosophy with children’ programs on logical reasoning, critical thinking and creative thinking were investigated (Cassidy & Christie, 2013; Doherr, 2000; Ghaedi, Mahdian, & Fomani, 2015; Institute for the Advancement of Philosophy for Children [IAPC], 2002; Lipman, Sharp, & Oscanyan, 1980; Pourtagha, HosseiniB, & Hejazia, 2014; Sasseville, 1994; Williams, 1993)). However, in addition to these studies, some other experimental studies investigated the effects on other variables such as reading comprehension (Dyfed County Council, 1994; Fields, 1995; Haas, 1980; Imani, Ahghar, & Naraghi, 2016; Lipman & Bierman, 1970; Williams, 1993), mathematical skills (Fields, 1995), self-respect (Dyfed County Council, 1994; Sasseville, 1994), listening skills (Dyfed County Council, 1994), expressive language (Dyfed County Council, 1994), emotional intelligence (Doherr, 2000) and social growth (Jiménez-Dási, Quintanilla, & Daniel, 2013; Naraghi, Ghobadiyan, Naderi, & Shariatmadari, 2013). Cassidy and Christie (2013) used CoPl method in the study conducted with 6 different groups of 12-33 children aged 5-11 years. A total of 115 children participated and the study lasted 9 weeks. Video recordings of each work were analyzed and changes in the categories were recorded, such as children making analogies, using metaphors, making definitions, improving perspective, changing ideas in a critical direction, and developing a new idea. It has been stated that the working group has made progress in these skills as the method focuses on improving these skills according to the obtained data. In the study of Ghaedi et al. (2015), the effect of the philosophy approach with children on creative thinking ability of pre-school children was examined. The ability to think creatively at the beginning and end of the program, which took place in 16 sessions, was measured by the Torrance Test. According to the results of the study, it came to the conclusion that philosophy with children approach helped children to develop their creative thinking skills. Lipman (1988, 1995) suggested that critical thinking develops in relation to conceptualization, reasoning, generalization, and research skills in his work. Also, he argued that critical thinking was much easier to develop in relations with peers than to be taught in a technical way. He pointed out that philosophy with children approach is an approach that meets to all these criteria. Naraghi et al. (2013) examined the effect of philosophy on children on the social growth of children in fifth grade. Data were collected from the Vineland Social Maturity Scale from the experimental and control groups at the beginning and end of the 12-week program. It has been determined that the program applied in the obtained findings has significant effects on different dimensions of social growth of children such as socialization and self-direction. Based on these studies, it was seen that philosophy with children programs have been widely implemented in the world since 1970s with different age groups (3-12 years) and they became effective (Trickey & Topping, 2004). In line with studies by Lipman and his colleagues, Fisher (2008) listed the skills in children developed by the philosophy with children curriculum as structuring concepts, inquiry, reasoning, interpretation, inference, and establishing relationships among concepts. According to the literature, the skills of critical thinking, which is improved through philosophical inquiry, is the way of thinking which is logical, reflective, and oriented towards deciding on what to do and what to believe (Ennis, 1985). The characteristics of children that reflect this skill in them are being curious, being analytical, having intellectual maturity, being open minded, being systematic, searching for truth and being confident (Branch, 2000; as cited in Seferoğlu & Akbıyık, 2006).

‘Institute for the Advancement of Philosophy for Children’ stated that ‘philosophy with children’ programs may be implemented starting from early childhood. They explained the reasons for
this as children starting to ask philosophical questions and think constantly from this period. They also stated that philosophy provides children with the opportunities to learn about the world and themselves, receive information, use the information they received, discover simple but thought-provoking concepts. Sigurborsdottir (1998), as a result of a philosophy with children program they carried out for 2 years with children of 3-6 years of age, reported that children communicated better, understood themselves and their thoughts better, showed more respect for others’ thoughts, and their critical and creative thinking skills were improved. In Giménez-Dasi et al.’s (2013) study on the effects of philosophy with children curriculum on the emotion comprehension and social skills of preschool children (4-5 years old) and Okur’s (2008) study on the effects of philosophy education with children on boldness, cooperation and self-control social skills of pre-school children, significant effects were seen in the variables in question. In addition to experimental studies, many descriptive studies (Benade, 2011; Daniel & Auriac, 2011; Gazzard, 2000; Green, 1997; Murris, 2014; Topping & Trickey, 2007; UNESCO, 2006; Xiaodong, 2006; Zongjin, 2007) also stated that philosophy with children programs are effective for pre-school children. The studies on the issues of philosophy with children and education of thinking conducted in Turkey are limited to experimental studies by Okur (2008), Akkocaoglu Cayir (2015), and Gur, Koçak, and Sağlar (2017) and a descriptive study by Karakaya (2006). Thus, the purpose of this study is to determine the effectiveness of the philosophy with children curriculum on critical thinking of pre-school children. Therefore, answers were sought for the following questions.

1. What are the effects of the ‘philosophy with children’ curriculum on development of pre-school children’s critical thinking skills?

2. Does the effectiveness of the ‘philosophy with children’ curriculum vary based on the type of school pre-school children attend?

3. What are the opinions of the pre-school children who participated in the ‘philosophy with children’ curriculum regarding this program?

4. What are the opinions of the pre-school teachers who participated in the ‘philosophy with children’ curriculum regarding this program?

**Method**

This study employed a quasi-experimental design without a control group (Creswell, 2013) (the study design is provided in Table 1 in detail). As the schools where the program is implemented provided different activities to improve skills of children in critical thinking, questioning, asking questions, etc., a control group was not formed due to the expectation that it would change the course of the study. The pre-test and post-test data of the groups were collected using the “Scale of Critical Thinking through Philosophical Inquiry” developed for pre-school children. Additionally, in order to achieve social validity for the research, semi-structured interviews were conducted with the study group and the 3 teachers who acted as observers along the study. The method of inductive data analysis (Creswell, 2012) was used to analyze the data collected in the interviews. In order to collect the data, a “Semi-structured Interview Form for Children” and a “Semi-structured Interview Form for Teachers” were used.

**Table 1. Experimental Design**

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Treatment</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 (Private School)</td>
<td>O₁</td>
<td>X</td>
<td>O₃</td>
</tr>
<tr>
<td>Group 2 (State School)</td>
<td>O₂</td>
<td>X</td>
<td>O₄</td>
</tr>
</tbody>
</table>

**Sample**

The participants of the study group were identified by purposeful sampling method. Objective sampling is preferred when studies are conducted to test the feasibility of a task, when individuals with specific knowledge and skills are needed, and when the task is very small for their work and the
universe is too small for random sampling (Tongco, 2007). For this reason, in determining which school and classroom to work in, the criteria of the institution managers and teachers being volunteers as well as the effective implementation of the practice and the different school types are taken into consideration. Once these criteria were met, information was provided to the administrators and teachers about the program's flow and content. Permission has been sought to allow children to participate in the program by sending detailed information about the program to the families of the children in the classes to be implemented. As a result of the positive feedbacks from the parents, the study group of the research was established. The sample of the study consisted of 30 children including 16 (53.3%) female and 14 (46.7%) male pre-school students in the academic year of 2015-2016. 7 of the children were 5 years old, while 23 were 6 years old. The sample consisted of 2 different classrooms, 1 at a private school and 1 at a state school. 14 children were at a private school and 16 were at a state school. At the end of the study, opinions were taken from 3 teachers (2 classroom teachers and 1 observer) on the level of knowledge about the approach to philosophy with children, the observations about the effect of this approach on children, and the views on the place of pre-school education programs. The professional experience levels of the teachers, all of whom were women, were 25, 21 and 11 years in order. And all of them graduated from the pre-school education department undergraduate programs of universities.

Data Collection Tools

"Scale of Critical Thinking through Philosophical Inquiry" was used in the study to determine the effects of the ‘philosophy with children’ curriculum on skills of critical thinking. Additionally, in order to achieve the social validity of the study, we used a “Semi-structured Interview Form for Children” and a “Semi-structured Interview Form for Teachers.” Social validity is used as a program strategy to develop socially acceptable programs and achieve significant impacts (Foster & Mash, 1999). An important criterion for the success of a study is the assessment of social acceptance or validity. Two approaches are adopted as subjective evaluation and social comparison to determine the social validity of an application (Kennedy, 2005; Wolf, 1978). For this purpose, the two interview forms were also asked questions that would allow the program to be evaluated as subjective.

Scale of Critical Thinking through Philosophical Inquiry: It was developed by Karadağ, Demirtaş, and Yıldız (2017) with the aim of analyzing the critical thinking skills of pre-school children (5-6 years old). This is a 5-point Likert-type scale consisting of 38 items. This scale that is filled out by teachers allows them to interpret their observations during the process of philosophical inquiry. The scale takes about 10-15 to fill out. Reliability and validity studies of the scale were performed on 509 children in the age group of 5-6. In order to ensure consistency in determining the expert consistency of the scope of the scale, opinions were received from 1 expert working in the field of philosophy with children, 1 expert working in the field of child development, and 1 expert working in the field of private education. As a result of the exploratory factor analysis to achieve construct validity, it was seen that the scale consisted of 3 sub-scales as “Philosophical Inquiry”, “Language and Cognitive Skills”, and “Question Formation”. The factors obtained with the EFA were tested by CFA, and as a result of the analysis, it was determined that the factor structure consisting of 38 items and 3 sub-factors had a significant chi-squared fitness value ($\chi^2=3171.882; p=.00$), and in terms of model fitness, the $\chi^2/df$ value was found as 4.933. This ratio is smaller than 3, so the perfect fit is less than 5, the moderate fit shows. The $\chi^2$ value indicates the fit of the entire model. According to this result, it can be said that the compliance value of 4.933 is moderate (Kline, 2005; Sümer, 2000). The fitness values were found as RMSEA: .088, NFI: .899, CFI: .917, RFI: .889, IFI: .918, TLI: .910. RMSEA (RootMean-Square Error Approximation) is proposed to find the fitness level of the covariance matrix obtained from the sample, from the model estimated covariance matrix. If this value is smaller than .05, it is perfect. If it is smaller than .08, it is good (Jöreskog & Sörborm, 1993). If it is smaller than .10, it shows poor fit (Tabachnick & Fidel, 2001). It is acceptable that CFI, NFI, IFI, RFI and TLI values are close to, equal to, or above .90 (Hu & Bentler, 1998). When these values were compared to the acceptable values in the literature, it was
found that the scale had acceptable and observable values. The “Philosophical Inquiry”, “Language and Cognitive Skills”, “Question Formation” sub-scales and “Overall” internal consistency coefficients were found as .974, .955, .983, and .986 respectively, and determined to be on a high level. As a result of the analyses and examinations, the Scale of Critical Thinking through Philosophical Inquiry was found to be a valid and reliable scale. Table 2 shows the levels of minimum, average and maximum scores that can be obtained from the scale, and the levels of these scores.

<table>
<thead>
<tr>
<th>Test/Sub test</th>
<th>Min., Max. and Avg. Scores Possible in the Test</th>
<th>Score Levels to Obtained in the Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Avg.</td>
</tr>
<tr>
<td>Philosophical Inquiry</td>
<td>18</td>
<td>54</td>
</tr>
<tr>
<td>Language and Cognitive Skills</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>Question Formation</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>General Total</td>
<td>38</td>
<td>114</td>
</tr>
</tbody>
</table>

Semi-structured Interview Form for Children: This form was prepared by two researchers that one of whom is in the field of child development and one of whom is a specialist pre-school teacher in a way suitable for the method of semi-structured interview. With the form, it was aimed to collect the thoughts and likes of the children regarding the program, and their opinions on the effects of the program on themselves. The age level of the children was taken into account when these questions were generated. For this reason, 7 short, clear and understandable questions were asked.

Semi-structured Interview Form for Teachers: This form was prepared by two researchers that one of whom is in the field of child development and one of whom is a specialist pre-school teacher in a way suitable for the method of semi-structured interview. With the form, it was aimed to collect information about the levels of knowledge of the teachers of the children on the approach, their observations about the effects of the approach on their students, and the place of the method in pre-school education curricula. With this purpose, 9 questions were asked.

Philosophy with Children Curriculum

The Philosophy with Children Curriculum was developed to support the critical thinking skills of pre-school children through the philosophy with children approach. The concept of critical thinking is defined as understanding the expressions of thoughts, analysis of expressions, awareness of unexpressed thoughts and awareness of prejudices (Seferoğlu & Akbıyık, 2006). In order to develop critical thinking skills in the classroom, activities such as increasing classroom communication and interaction, asking open-ended questions to children, giving ample time for questions to answer, and asking them to use acquired skills in different situations (Potts, 1994). In particular, it is stated that asking open-ended questions is an important tool in the development of critical thinking, because children tend to solve problems, interrogate them, compare their thoughts and beliefs with other people's thoughts and beliefs (Hirose, 1992). The main objective of the philosophy with children approach is to develop the ability of children to construct, reason, question, interpret, make sense of meaning, and make connections between meanings (Fisher, 2005). It is known that pre-school children's perceptions of attention, reasoning, empathy, active listening skills, logical reasoning, and discrimination of all parts relationships are positively affected by philosophical inquiry (McCall, 2009). The 'philosophy with children' curriculum, developed within the scope of this study, was also created on the basis of these aims. In this context, the program, which will be implemented with one event every week for 10 weeks, is planned considering the steps of CoPI method.
The CoPI Method in the Philosophy with Children Curriculum: The methods widely used in Europe for working with children and adults are Leonard Nelson’s Socratic method, Matthew Lipman’s Philosophy for Children (P4C) program and the CoPI method. Both methods have similarities and significant differences to the CoPI method. While the Socratic method is generally implemented with adults, Lipman’s Philosophy with Children program is usually for children and young people. CoPI is a method that may be implemented with both children and adults. The job of the session leader in CoPI sessions is to create different conditions for philosophical dialogues to arise. Therefore, it is necessary for the CoPI session leader to have the basic knowledge of philosophy and logic. The session leader has to learn and implement the skills of recognizing different types of philosophical theories and underlying philosophical assumptions in daily conversations. They have to practice these skills later while implementing CoPI under supervision of an expert educator. Through the experience of philosophical dialogue, children are transformed from a familiar or unfamiliar group into a “Community of Philosophical Inquiry.” Here, the job of the CoPI session leader is to ensure that the discussion is taking place in a philosophical manner by giving opportunity to participate for every member and use the CoPI way of thinking to ensure different views are presented. These sessions usually start by the presentation of a stimulant by the session leader. After giving the stimulant, members are ensured to form questions, and the philosophical inquiry process starts by a participant providing opinions on a question selected from among these questions. Following this, the participants who want to provide opinions join the process by saying “I agree with … because…” or “I do not agree with … because …” CoPI sessions are usually ended when the session leader decides that the session has been carried out for a sufficient duration and the participants are getting tired (McCall, 2009).

Program Development Process

In the first phase of this process, the literature on philosophy with children and critical thinking was examined. After review, the main objectives and gains of the approach have been identified. Then, objectives, gains and indicators of preschool education program in Turkey were compared with the aims of the approach. In the Pre-school Education Program published by the Ministry of National Education in 2013, it is seen that the use of the gains and indicators are used (Ministry of National Education, 2013). In this direction, 11 gains and 38 indicators were determined. From these earnings and indicators, 4 gains and 15 indicators were determined by researchers who were working on the 7 gains and 23 indicator approaches while directly participating in the pre-school education program. A program development specialist, a pre-school education specialist and a educator of philosophy with children have been consulted to determine the consistency of the approach and program objectives achievements and the appropriateness for the preschool period. An interview form consisting of 6 questions was prepared in order to get feedback from those who were selected from outside the researchers conducting the study. According to the feedbacks from these specialist, the gains and indicators are finalized. Then the content of the program was determined in line with these gains and indicators. 10 different event plans were prepared for this content. Measuring instruments to be used to determine whether the objectives of the program have been achieved or not. 4 randomly selected events for pilot implementation were implemented in the context of a teacher who was working as an educator and observer for 4 weeks and had information about feasibility (suitability of activities and stories to age group, duration and interest of children). The program is finalized in line with the feedback obtained from the pilot application. The stories and topics to be implemented in the program are as follows:

Week 1. “Kasper Does Not Forget Anything”
Week 2. “Does Kasper Want to Be Outside?”
Week 3. “Kasper Wants to Know Everything”
Week 4. “Pim is Talking to the Tree”
Week 5. “The Ant and the Cricket”
Week 6. “Growing Competition”
Week 7. “Beautiful and Ugly”
Week 8. “Goodness and Evil”
Week 9. “Happy Children”
Week 10. “Can I Express My Opinion?”

**Process**

The experimental operations were carried out by one of the researchers to achieve continuity in the group dynamic, establish an environment of trust, and achieve consistency in carrying out experimental procedures and implementing the plans.

The experimental procedures were carried out in the mornings, once every week and in the months of February, March, April. The implementations were carried out with an average duration of 45-60 minutes. The experimental procedures are given in order below. All procedures were carried out separately in two classrooms.

Before starting the work, considering the age group of the participants, the study was called “Philosophy Detectives” in order to increase their motivation. Each student was given an identification badge on which their names are written as “Philosophy Detective X”. Then a banner with a writing “Philosophy Detectives Are Investigating in This Classroom” was hung inside the classroom. Information was provided on what the philosophy detectives were expected to do and rules were established in compliance with the steps of the ‘CoPI’ method. The procedures were carried out based on session contents defined in the prepared schedule. The working environment was organized in a way to allow group members to work comfortably. Stimulants to be used in the study were prepared beforehand. The following order was followed in the development of the curriculum, usage of the data collection tools during the experiment and while carrying out the processes are given below:

1. Development of the Philosophy with Children Curriculum.
2. Preparation of the data collection tools.
3. Contacting the schools to determine the working groups.
4. Preparation of the lesson plans. Preparation of the ‘philosophy with children’ activities with all stages that aim for thinking and inquiry on philosophical concepts such as “beauty, goodness-evil, forgetting, knowing-learning, thinking, compassion, freedom, happiness, help and growing up – developing.” Appendix-1 provides a sample session.
5. Implementation of the preliminary analysis session for the working groups and data collection.
6. Analysis of the collected data.
7. ‘Philosophy with Children’ education sessions were implemented on the working groups using the ‘CoPI’ method (detailed information about the method is given above). These sessions were provided in two groups as 1 state and 1 private school classrooms for 10 weeks, and 1 hour every week. The sessions were provided by a pre-school teacher who is an educator of philosophy with children.
8. Final analyses on the working groups.
9. Interviews with the working groups and the teachers (interviews were conducted with 30 children and 3 teachers, as the state school demanded that a second teacher is present as an observer).
10. Analysis of the data.
Data Analysis

The quantitative data obtained from the study were analyzed by the SPSS 23.00 package software. First of all, the suitability of the data for normal distribution was determined by looking at the Kolmogorov-Smirnov Test results ($p = .200 > .05$) and skewness (.152) -kurtosis (.641) values. Then, “independent samples t-test” was carried out on the pre-test scores to determine whether there is a significant difference between the initial values for the groups (Pallant, 2001). Secondly, “independent samples t-test” was carried out on the post-test scores to determine the differences between the final values for the groups. Finally, in order to determine whether there is a difference between the pre-test and post-test scores of each group, “paired samples t-test” was used. The qualitative data obtained as a result of the interviews were analyzed using the method of inductive data analysis. As a result of the inductive data analysis, the data were converted into themes, and the contents of the statements of the children and teachers on the philosophy with children curriculum were analyzed by calculating frequencies and percentages based on categories. In order to calculate the reliability of the person performing the analysis in the examination of the qualitative data, the data coding reliability of the researchers who are conducting the study (intercoder reliability / convergence rate) was tested. For this, the formula “Reliability = (Agreement / [Agreement + Disagreement]) x 100” was used (Miles & Huberman, 1994). The reliability coefficient was found as .88. According to this result, reliability was achieved for data analysis (as 70% or higher intercoder reliability is found sufficient).

Results

1. The Results Obtained from the Scale of Critical Thinking through Philosophical Inquiry

In this section, presents pre and post Statistical data on the scores they receive from the Scale of Critical Thinking through Philosophical Inquiry of the working group.

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>Sd</th>
<th>t</th>
<th>p</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophical Inquiry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private School</td>
<td>14</td>
<td>38.85</td>
<td>10.81</td>
<td>1.045</td>
<td>.305</td>
<td></td>
</tr>
<tr>
<td>State School</td>
<td>16</td>
<td>43.50</td>
<td>13.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language and Cognitive Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private School</td>
<td>14</td>
<td>35.71</td>
<td>10.14</td>
<td>1.941</td>
<td>.062</td>
<td></td>
</tr>
<tr>
<td>State School</td>
<td>16</td>
<td>42.75</td>
<td>9.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question Formation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private School</td>
<td>14</td>
<td>10.85</td>
<td>2.87</td>
<td>.171</td>
<td>.865</td>
<td></td>
</tr>
<tr>
<td>State School</td>
<td>16</td>
<td>11.12</td>
<td>5.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private School</td>
<td>14</td>
<td>91.07</td>
<td>19.49</td>
<td>1.150</td>
<td>.260</td>
<td></td>
</tr>
<tr>
<td>State School</td>
<td>16</td>
<td>101.56</td>
<td>28.80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No significant differences were found between the private school and state school participants in terms of the scores they received from the “Philosophical Inquiry”, “Language and Cognitive Skills”, “Question Formation” sub-scales of the “Scale of Critical Thinking through Philosophical Inquiry,” and the “General Total”. Considering the scores in terms of levels, the scores received by the children in all the sub-tests and the general test itself were on a “medium level.”
When the post-test scores of the children in the working groups were analyzed, it was found that the scores they received in the “Philosophical Inquiry” did not differ significantly, while there were significant differences between the groups in terms of the scores they received in “Language and Cognitive Skills” (t=4.910, p<.05), “Question Formation” (t=4.136, p<.05) sub-scales and the “General Total” (t=2.885, p<.05). In terms of the levels of the scores, the students of both types of schools performed on a “high level” in all sub-tests and the general total. However, the mean scores of the children of the state school in the “Question Formation” sub-scale were at the lower boundary of the high level. When the results were analyzed, it was found that the children of the private school performed better than the children of the state school in the lower levels of critical thinking skills through philosophical inquiry.

Table 5. The “paired samples t-Test” Results of the Scores Obtained by the Working Group from the “Scale of Critical Thinking through Philosophical Inquiry” in Pre-Test and Post-Test

<table>
<thead>
<tr>
<th>Sub test/test</th>
<th>Group</th>
<th>Pre-Test / Post-Test</th>
<th>N</th>
<th>Mean</th>
<th>Sd</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophical Inquiry</td>
<td>Private School</td>
<td>Pre-Test</td>
<td>14</td>
<td>38.85</td>
<td>10.81</td>
<td>-14.381</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>76.92</td>
<td>16.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State School</td>
<td>Pre-Test</td>
<td>16</td>
<td>43.50</td>
<td>13.19</td>
<td>-8.606</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>72.37</td>
<td>3.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language and Cognitive Skills</td>
<td>Private School</td>
<td>Pre-Test</td>
<td>14</td>
<td>35.71</td>
<td>10.14</td>
<td>-8.838</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>71.07</td>
<td>5.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State School</td>
<td>Pre-Test</td>
<td>16</td>
<td>42.75</td>
<td>9.69</td>
<td>-10.290</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>63.56</td>
<td>2.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question Formation</td>
<td>Private School</td>
<td>Pre-Test</td>
<td>14</td>
<td>10.85</td>
<td>2.87</td>
<td>-14.400</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>22.85</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State School</td>
<td>Pre-Test</td>
<td>16</td>
<td>11.12</td>
<td>5.18</td>
<td>-6.950</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>20.31</td>
<td>1.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Total</td>
<td>Private School</td>
<td>Pre-Test</td>
<td>14</td>
<td>91.07</td>
<td>19.49</td>
<td>-21.633</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>170.85</td>
<td>19.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State School</td>
<td>Pre-Test</td>
<td>16</td>
<td>101.56</td>
<td>28.80</td>
<td>-7.982</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-Test</td>
<td></td>
<td>156.25</td>
<td>5.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05
Considering the scores in the “Scale of Critical Thinking through Philosophical Inquiry” received by private school children, there was a significant difference between the pre-test and post-test results in “Philosophical Inquiry” ($t=14.381$, $p<.05$), “Language and Cognitive Skills” ($t=8.838$, $p<.05$), “Question Formation” ($t=14.400$, $p<.05$) sub-scales, and the “General Total” ($t=21.633$, $p<.05$) in favor of the post-test scores.

Considering the scores in the “Scale of Critical Thinking through Philosophical Inquiry” received by state school students, there was a significant difference between the pre-test and post-test results in “Philosophical Inquiry” ($t=8.606$, $p<.05$), “Language and Cognitive Skills” ($t=10.290$, $p<.05$), “Question Formation” ($t=6.950$, $p<.05$) sub-scales and the “General Total” ($t=7.982$, $p<.05$) in favor of the post-test scores. Based on the result, it was determined that the children in both groups performed better after the “Philosophy with Children” implementation in terms of sub-steps of critical thinking through philosophical inquiry and the general total.

2. Findings Obtained from the Opinions of the Children on the Philosophy with Children Curriculum

After the responses to the semi-structured interview conducted with the children were transcribed, the responses were examined by the two researchers and the responses to the 2nd, 3rd, 6th and 7th questions were given as frequency and percentage under the titles of ‘yes’, ‘sometimes’ and ‘no’. As the responses to these questions were not explanatory, they could not be thematically investigated. As the responses to the 1st, 4th and 5th questions were more descriptive, they were converted into themes and their frequencies and percentages were calculated. Table 6 shows the detailed information on the results.

Table 6. Analysis of the Data Obtained from the 2nd, 3rd, 6th and 7th Questions in the Semi-Structured Interviews with the Children

<table>
<thead>
<tr>
<th>Questions</th>
<th>Private School</th>
<th>State School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Sometimes</td>
</tr>
<tr>
<td>2: Do you think you were able to express yourself in the philosophy detectives activity?</td>
<td>f 10</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% 71,42</td>
<td>21,43</td>
</tr>
<tr>
<td>3: Would you like to keep taking part in the philosophy detectives activity?</td>
<td>f 11</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>% 78,58</td>
<td>14,28</td>
</tr>
<tr>
<td>6: Do you think you became able to ask better questions after the start of the philosophy detectives activity?</td>
<td>f 12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% 85,72</td>
<td>7,14</td>
</tr>
<tr>
<td>7: Do you think you became better at expressing the reasons for your answers after the start of the philosophy detectives activity?</td>
<td>f 12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% 85,72</td>
<td>7,14</td>
</tr>
</tbody>
</table>
In the 1st group, in response to the 2nd question, 71.42% of the children stated that they were able to express themselves in the performed activity, 21.43% responded as ‘sometimes’ and 7.15% did not think they were able to express themselves. According to the data obtained in the 2nd group, 93.75% stated they were able to express themselves, while 6.25% responded as ‘sometimes’. It was seen that children who stated that they express themselves well, expressed these thoughts by “Asking questions and searching for answers.”, “Commenting on the conversations of my friends.”, “Saying I participate or not.”, “Telling what is in the story.” and “Responding to my friend’s question.”. These thoughts of the children who said that they did not express themselves well “Because sometimes I could not speak. They did not come up with the order”, and “I’m afraid to say it because I do not understand it”.

In the 1st group, in response to the 3rd question, 78.58% of the children stated they that would like to keep taking part in the activity, 14.28% responded as ‘sometimes’, and 7.14% responded that they would not. In the second group 87.50% stated that they would like to keep taking part, while 12.50% responded as ‘sometimes’. The children who want to continue this activity said “We have spent more time to reasoning.”, “We had a lot of fun and we learned to ask good questions.”, “We asked different questions. We’ve been looking for answers. So, I had a lot of fun.”, and “Every day I think more and more.”, while a student who does not want to continue the activity said “I am a bit bored.” to express their selves.

In response to the 6th question, 85.72% of the students in the 1st group said they started to ask better questions after these activities, 7.14% responded as ‘sometimes’, and 7.14% said they did no start to ask better questions. In the 2nd group, these ratios were 56.25%, 18.75% and 25% respectively. The children who think that they can ask better questions said, “I am sure you will not find better questions when I grow up.”, “Because you remind us when we cannot ask questions.”, “I did not realize that I asked questions in the past.”, and “I say ask more beautiful questions.” while the children who think that they cannot ask better question say, “I am still confused when asking questions.”, “I still do not think how to ask.”, “I do not ask because I do not care”, and “We did not answer any questions that I asked.” to express their selves.

In response to the 7th question, 85.72% of the students in the 1st group said they became able to express the reasons for their answers better after these activities, 7.14% responded as ‘sometimes’, and 7.14 said they did not become better in this. In the 2nd group, these ratios were 62.50%, 12.50% and 25% respectively. The children who answered positively to this question expressed their thoughts as “I earn something. I feel more confident when I answer.”, “I do not mean just agree.”, “We have to explain why we have our thoughts “, and ”We have to explain our friends to understand.”. Children who respond negatively to the question expressed their thoughts “I forget why.”, “I think I agree or disagree.”, “Because sometimes I just agree”, and “Because we think the same thing as my favorite friend. He is already saying.”
As all children responded to the 1st, 4th and 5th questions positively, the responses were divided into themes and their frequency and percentages were calculated. As some children provided more than one option in the 4th and 5th questions, the total frequency is higher than the number of participants.

The responses to the 1st question were divided into themes of ‘learning’, ‘fun-happiness’ and ‘communication’. Accordingly, in the 1st group, 57.15% of the students found the performed activity useful in terms of ‘learning’, 35.71% found it useful in terms of ‘fun-happiness’ and 7.14% found it useful in terms of ‘communication’. In the 2nd group, these ratios were 56.25%, 12.5% and 31.25% respectively. It is seen that children express their thoughts in this matter with: “Because I learned new things.”, “It was useful. It was nice and fun. I had a little fun, sometimes I learned.”, “Because it strengthened my memory.”, “I had a lot of fun. I thought it was a lot of questions. I learned to think.”, “I was very happy in this activity.”, “I spoke more with my friends.”, and “Because we are reasoning in this activity.”

The responses to the 4th question were divided into themes of ‘question formation’, ‘seeking answers’ and ‘reading stories’. 61.11% of the children in the 1st group liked ‘question formation’, 22.22% liked ‘seeking answers’ and 16.7% liked ‘reading stories’. In the 2nd group, 70.59% of the children liked ‘question formation’, while 29.41% liked ‘seeking answers’. It is seen that children express their thoughts in this matter with: “I like to think about questions and find answers.”, “When I look for answers, I find it very fun.”, “I like to think about questions and love to learn. I love to think.”, and “I like to listen to my friends.”

The responses to the 5th question were divided into themes of ‘thinking more’, ‘answering faster’ and ‘asking more questions’. In the 1st group, 35.71% of the students responded with ‘thinking more’, 35.71% responded as ‘answering faster’, and 28.58% responded as ‘asking more questions’. In the 2nd group, these ratios were 30%, 30% and 40% respectively. It is seen that children express their thoughts in this matter with: “We started to think more.”, “My speed changed. I am a person who responds more quickly.”, “It’s great to find better questions, seek better answers, and vote for everyone.”, “I did not know philosophy at first. Now I both know and love.”, “I began to ask more questions.”, “I began to ask better questions.”, “My memory grew stronger.”, and “I started to ask questions now.”.
3. Findings Obtained from the Opinions of the Teachers on the Philosophy with Children Curriculum

After transcribing the responses to the semi-structured interview questions asked to the teachers, the responses were examined by the two researchers, and as all responses were positive, the responses were categorized under themes and their frequencies and percentages were calculated. The responses to the 1st, 2nd, 3rd, 4th, 5th, 6th and 7th questions posed to the teachers were divided into 13 themes under the title of ‘positive changes the teachers saw in the students’. The responses to the 8th and 9th questions were categorized in 3 themes under the title of ‘continuing the philosophy with children activity and its inclusion in the curriculum’. Table 8 provides the details.

Table 8. Analysis of the Data Obtained from the Responses to the Semi-Structured Interviews with Teachers

<table>
<thead>
<tr>
<th>Theme</th>
<th>Category</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Changes the Teachers Saw in the Children</td>
<td>Expressing thoughts better</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Presenting opinions and defending them</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Style of responding</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Developing different points of view</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Asking different questions</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Improvement in inquiry skills</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Multi-dimensional thinking</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Improvement in communication</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Justifying thoughts</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Making comparisons among thoughts</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Thinking about someone else’s thoughts</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Language skills</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>

| Opinions on Continuing the Philosophy with Children Activity and Its Inclusion in the Curriculum | Finding it highly suitable for the age group | 3  | 33,33 |
|                                                                                     | Including similar activities in weekly plans | 3  | 33,33 |
|                                                                                     | Willingness to make the activity permanent | 3  | 33,33 |
| Total                                                                             |                                                                   | 9  | 100   |

Among the teachers sharing opinions on the ‘expressing thoughts better’ theme in the first title, A explained this response as “I observed many changes especially in children who previously found it difficult to express their thoughts. They started to claim their rights and defend their opinions.”

B, who shared an opinion on the ‘presenting opinion and defending it’ category, explain this response as “We are observing many changes in comparison to the previous situation in presentation and defense of the opinions.”

B, who shared an opinion on the ‘style of responding’ category: “I observed that very different styles of response started in X, Y, Z and T. They also started to expect such responses from the other side. They do not accept simple answers.”

A, who share an opinion on the ‘developing different points of view’ category, explained this observation as “They managed to solve the problems in the discussions easier as they approached situations from different point of view.”
Among the teachers who provided opinions on ‘asking different questions’, A said “… I hear that my students started to ask different questions not only in the classroom but also at home. Too. I started hearing things from students like ‘this question is too simple, anyone can think that. Try to ask something different’,” while B said “I started receiving feedback from parents such as ‘my child started to ask very different questions, did you change anything in the education program?’”

B, who shared an opinion on the ‘improvement of inquiry skills’ category: “They started to question a lot. They expect me to keep my promises, and question as ‘why’ when I have a tendency not to.” C said “They question others’ thoughts, and I started to hear things such as ‘my friend, did you mean this?’.”

C, on the ‘multi-dimensional thinking’ category, stated that “they started to think in a multidimensional way and their way of thinking is improved.”

A, on the ‘improvement in communication’ category, stated that “What happens in the classroom does not stay in the classroom. I see this conversational style when they encounter other things, too. I think this is useful especially for their relationships.” B stated that “we are now speaking as ‘I agree, because…’ and ‘I do not agree, because…” in even normal conversations,” while C said “I observed that shy children started to express themselves a lot.”

A, on the category ‘justifying thoughts’, stated that “I noticed that most of my students started to provide explanations by stating the reason for their opinions.”

In terms of the ‘making comparisons among thoughts’ category, B said “The issue that took my attention the most is, they are now responding by comparing a few things. They also analyze each other’s responses. The most frequent case in these ages is trying to answer right away without thinking. However, they are now more careful in expressing their thoughts.”

C, who commented on the ‘empathy’ category: “They clearly empathize and consider someone else’s thought. We have a disabled student in our classroom and I think even he is affected by this. They started to think more about him and treat him more carefully.”

A, who provided an opinion on the ‘thinking about someone else’s thoughts’ category: “While children in these ages normally focus on egocentric thinking, they start to leave their thoughts aside and analyze another thought by your smallest intervention. They can give up their thought by comparing the two. This is not a case we frequently encounter.”

B, on the ‘language skills’ category: “They started to use words and phrases like ‘I think…’, ‘I agree…’, ‘because’, etc. I started to notice that they are politer while speaking.”

The teacher A, who shared opinions on the ‘finding the program highly suitable for the age group’ category under the 2nd title, said that “Yes, pre-school is a period where they ask too many questions and their perceptions are higher, and the style of thinking they gain in this period is crucially important. This is because it may take much more time to provide this in later periods.” C stated that “I think it should be kept absolutely. Pre-school is a highly suitable period to start this at early ages. It may be much harder to implement this in later periods of life.”

C, who shared comments on the ‘including similar activities in weekly plans’ category: “I tried something about compassion. They formed incredibly beautiful questions. We started to seek answers for these questions. It was a very beautiful and fast-paced conversation.”

On ‘willingness to make the activity permanent’, A said: “I would like to use these activities for my entire life,” while B said “I am now thinking of implementing story times in a similar way to this program. This is because we actually restrict children with questions that give clues to the answers.”
Discussion, Conclusion and Suggestions

The findings show that the ‘Philosophy with Children’ curriculum had a positive effect on the children’s skills for Philosophical Inquiry, Question Formation, and Language and Cognitive Skills development in the light of critical thinking. The information collected by taking the opinions of the teachers and the children is an evidence for this effectiveness. In the interviews, the teachers stated that, after the ‘Philosophy with Children’ curriculum, they observed improvements in skills such as “presenting and defending opinions, developing different points of view, asking different questions, improvement of inquiry skills, making comparisons among thoughts, thinking about someone else’s thoughts,” which are significant behavioral indicators of critical thinking as Ennis (1985) stated. The opinions of the children on the program were observed to be generally positive. This situation supports the effectiveness of the program.

According to the literature, ‘philosophy with children’ curriculums have been implemented with pre-school and school children in order to achieve improvements in critical thinking, cognitive development, reading, social skills, language and communication skills, and they have become successful (Doherr, 2000; Dyfed County Council, 1994; Fields, 1995; Haas, 1980; Lipman & Bierman, 1970; Sasseville, 1994; Trickey & Topping, 2004; Williams, 1993). Dyfed County Council (1994) conducted a study including the experimental and control groups in 18 different schools with 5-year-olds. At the end of the study, data were collected from 229 children by a teacher interview form, reading comprehension, British Abilities Scales-the Word Recognition Test (reading) and Matrices Test (nonverbal reasoning). According to the results obtained, the children in the experimental group showed better performance in the areas of thinking, listening, language skills and self-confidence. In the study of Lipman and Bierman (1970), after the philosophical sessions with children Lipman practiced, the experimental group’s logical reasoning and reading skills were found to differ positively and significantly from the control group. Similarly, another study by Haas (1980) found that the students in the experimental group differed significantly in their creative thinking, reading and social skills compared to the control group. However, there was no significant difference between the two groups at the level of curiosity, reasoning, and using the questions. In the Williams (1993) study, the skills of study group such as creative causality, reading, and suggesting alternative ideas assessed with standardized and non-standardized scales, and according to the results the experimental group was significantly better on these skills. Fields (1995) reported an increase in self-reported self-esteem behaviors while reducing negative social communication behaviors of children in the experimental group following a study conducted with 123 children aged 7-8.

According to Lipman, critical thinking is a complex act that is integrated into a pragmatic process in order to improve personal and societal experience. As in philosophy, critical thinking facilitates the improvement of critical thinkers who are motivated in issues such as inquiry, conceptualization, and analysis (Daniel & Auriac, 2011). The development of this thinking takes place through philosophical dialogues in an inquiry group via peer relations (Lipman et al., 1980). The results of our study suggest that this opinion of Lipman also works in practice.

Sigurborsdottir (1998) applied a ‘philosophy with children’ program on 3-6 years old children in the pre-school period for 2 years. As a result of this program, they found that children were better communicators, understood themselves and their opinions better, showed more respect for other opinions, and had improved critical and creative thinking skills. Similarly, in an action study in New Zealand by Benade (2011), the difference in the critical thinking levels of 5th grade students was significant after the ‘philosophy with children’ trainings. In another study with elementary school children by Topping and Trickey (2007), a ‘philosophy with children’ curriculum was implemented for 16 weeks. Based on the results of the ‘Cognitive Skill Test’ before and after the program on the experiment and control group, a significant difference was found in favor of the experimental group. It may be seen that these results are in line with the general results of our study, and as in our study, they investigated critical thinking and language and cognitive skills in the process. In the study by Giménez-Dasi et al. (2013), the researchers investigate the improvements of social skills and communication in 4-
5 years old children with a ‘philosophy with children’ program. According to their findings, there was a significant difference in the experimental group in terms of both these skills. This agrees with the finding in our study that, among the titles focused on by the teachers in the qualitative findings, they stated that “children became better communicators and expressed themselves better.” A project that has a unifying quality for the purposes of these different studies was implemented in the Clackmannanshire region of Scotland. In the “Learning to Succeed in Clackmannanshire” project, the changes in the cognitive skills, in-class critical reasoning skills and dialogue, emotional and social development areas were investigated in a ‘philosophy with children’ program with elementary school children. According to the results of the project, there were significant changes in a positive way in all 3 areas (Trickey, 2007).

When the significance of the type of school was investigated in terms of the effectiveness of the program, it was found that the children at the private school showed a higher performance than the state school students after the ‘Philosophy with Children’ curriculum in terms of “Language and Cognitive Skills”, “Question Formation” and “General Total” scores. However, an important detail that draws attention here is that children in both institutions perform better in the indicated areas than they did before the application. This may be explained by the higher socioeconomic statuses, educational levels of the families of children who attend private schools and the difference of the educational environment, materials and training programs offered at the schools. According to the researches, families with higher education (Pena, 2000) and socio-economic level (Gürşimek, 2003) are more involved in the education of their children (Hill & Craft, 2003; Jeynes, 2007; Keçeli Kaysılı, 2008; Sucuoğlu, Özkal, Demirtaş, & Güzeller, 2015). In addition, the level of education of the family has been found to predict family involvement and expectations from children. As a result of the researches, it was determined that families with higher education levels are more likely to contribute to the education of their children, enter higher expectations than their children and provide more support for their children’s problem-solving skills (Englund, Luckner, Whaley, & Egeland, 2004; McNeal Jr., 2001; Okpala, Okpala, & Smith, 2001; Salıcı Ahioğlu, 2006). The two groups showed similar performances in terms of the sub-scale “Philosophical Inquiry”. Considering that the general purpose of the study was to improve critical thinking through philosophical inquiry, similar improvements of this skill in both groups are the indicators that the program was successful.

With this study, it was demonstrated that improvement of children’s critical thinking skills was achieved through this curriculum in the pre-school stage in Turkey. Additionally, considering the observations and opinions of the teachers, in-class interaction and expression skills were also affected positively. Thinking about the influence of the program, it is recommended for future studies that;

- Children who take part in the ‘Philosophy with Children’ curriculum should be examined longitudinally and the long-term effectiveness of the program should be investigated,
- The ‘Philosophy with Children’ curriculum should be implemented for longer periods and its long-term effects on thinking skills should be determined,
- The effects of the ‘Philosophy with Children’ curriculum on other thinking skills should be determined,
- The effects of the ‘Philosophy with Children’ curriculum on development of skills such as asking questions, explaining reasons, questioning, logical reasoning, reading comprehension should be examined,
- The ‘Philosophy with Children’ program should be implemented with varying age groups and the effects of the program on thinking skills should be investigated in terms of age.

For the widespread use of the philosophy with children approach it is recommended that;

- The development of in-service programs for the pre-school teachers working on the field for the widespread approach of ‘philosophy with children’ in the preschool period,
- Courses in this field take place at the undergraduate level in preschool and classroom education departments.
References


Appendix 1. Sample ‘Philosophy with Children” Education Session

Age Group: 5-6 YEARS

Duration: 45-60 min.

Name of the Activity: The Ant and the Cricket

Outcomes:

The student,

1. Focuses on a stimulant (story, picture, etc.) presented for a philosophical discussion.
2. Creates solutions towards philosophical problem situations.
3. Forms questions regarding a philosophical phenomenon.
4. Thinks about own and friends’ opinions in a philosophical discussion.
5. Shares opinions on a philosophical phenomenon with critical point of view.
6. Makes a judgement about a philosophical phenomenon.
7. Expresses self in creative ways.
8. Pays attention to the object/situation/case.
9. Remembers the things perceived.
10. Uses language with the purpose of communication.

Activity:

A- Warm-Up: The children are asked the question “what do Philosophy Detectives do?” Children respond as “they question, ask questions, look for answers, think about the answers given, etc.” If there is no response, they are reminded. Then, the question “how do Philosophy Detectives express their opinion on a subject?” is asked. Children respond as “I agree with … because…” or “I do not agree with … because…” If there is no response, they are reminded.

B- Implementation of the Activity: The tale of the Ant and the Cricket is read. Children are asked about what happened in the story. After making sure that the story was understood based on the responses, the children are divided into groups of two. Each group is asked to discuss within the group for 3 min. regarding what happened in the story and why it happened so. They are then asked to share what they discussed within the group with the rest of the classroom. In the sharing that takes place at this moment, a common theme (helping each other, compassion, etc.) is determined for discussion. In the light of this theme, children are then asked to go back to their groups of two and form one question about the theme each. They are then asked to share these questions with the classroom, and all questions are written on the board. The question to be discussed is selected democratically by the class. The children are then asked to think about this question for 3-4 min. in groups of two. They are then asked to share their opinions in this matter. During this sharing, they are expected to express the same and the different opinions by using the statement “I agree with … because…” or “I do not agree with … because…” The goal here is to lead children to notice the same-different opinions in the process of inquiry and think about these opinions.

C- Ending the Activity: The session is ended in a way to allow continuity of inquiry, usually when the session leader decides that it has been going on for a sufficient amount of time and the participants are getting tired.