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THE EFFECT OF P4C APPLICATION IN THE PHILOSOPHY FOR CHILDREN EDUCATION PROGRAM ON THE METACOGNITIVE AWARENESS OF SECONDARY SCHOOL 5TH GRADE STUDENTS

Zehra BETÜL ŞİŞMAN[a], İhsan ÜNLÜ[b*], Alper KAŞKAYA[c]

[a,b,c] *Erzincan Binali Yıldırım Üniversitesi, Erzincan 24000, Türkiye*

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Abstract

Today's education aims to raise students who think at a higher level and have metacognitive awareness rather than acting with memorized knowledge. With metacognitive awareness, the individual has the ability to reflect and regulate his/her own thinking processes. In P4C, students carry out multidimensional thinking and reasoning activities through philosophical dialogue. Therefore, it is thought that students' metacognitive awareness will increase through Philosophy for Children Education. This study aims to investigate the effects of Philosophy for Children Education Program (P4C) on metacognitive awareness of fifth grade students. In line with this purpose, the study was conducted with a nested design within the scope of mixed method. In the quantitative dimension of the study, the pretest-posttest control group design, which is accepted as a quasi-experimental design, and in the qualitative dimension, the phenomenology (phenomenology) design was used. The study group of the research consists of 34 fifth grade students attending secondary school in Yeşilyurt district of Malatya province in the spring term of 2021-2022 academic year and the parents of 17 students in the experimental group. In order to collect data, Metacognitive Awareness Scale, student self-assessment form, student diary, researcher diary, audio recordings and parent semi-structured interview form were used. The quantitative data of the study were analyzed with SPSS 22 software and qualitative data were analyzed with content analysis. As a result of the findings obtained, it can be stated that the P4C Education Program had a positive effect on the level of metacognitive awareness of the students.

Keywords: Philosophy for Children, P4C, metacognitive awareness

* *Corresponding author: İhsan ÜNLÜ. ORCID ID:0000-0003-2769-8966
E-Mail: ihsan-27@hotmail.com

1. Introduction

Thinking is a mental action that is important in producing solutions to problems and is an indicator of human metacognitive structure. In the 1970s, developmental psychologist John Flavell defined metacognition as "the individual's planning, monitoring and organization of his/her own learning processes". After this definition, the relationship between the act of thinking and education started to be discussed more (Hotaman, 2020, p.278). The most important skill that a good education program will provide students with is the ability to think (Gelen, 2011). The key role in the development of thinking skills is questions. The most important competence that activates thinking skills is to know and apply the principles and rules about how to ask questions. Asking questions plays the most important role in all learning processes. For this reason, the individual who forms a question about any subject in his/her mind has become aware of the event and started to look for a solution (Büyükalan, 2007, p.2-3). Therefore, according to the cognitive approach, learners should develop awareness of their own learning and try various approaches and strategies to ensure effective thinking (Taş, 2017, p.36).

Philosophy involves the right thinking. Whereas psychology's relation to thinking is external and contingent, philosophy's relation to thinking is internal and recursive. Philosophy is self-correcting thinking. It is the constant questioning of thinking in order to transform itself into better thinking (Lipman, 1988, p.41). Philosophical thinking is a matter of thinking about thinking and therefore has both a cognitive and metacognitive content. The metacognitive content is concerned with the process of developing a better understanding of oneself as a thinker and the process of developing judgement about how to have better tools to examine each topic under enquiry. Cognitive content involves the exploration of the most basic ideas and problems of everyday life, such as the following (Fisher, 2013, p.126):

- Who am I?
- What is the world really like?
- What should I believe?
- What choices do I have?
- How should I live my life?

Influenced by the philosophy of Plato and John Dewey, Matthew Lipman thought that his specially designed curriculum would increase children's original curiosity and desire for intellectual enquiry and develop their philosophical thinking. With Ann Margaret Sharp, he developed the "Institute for the Advancement of Philosophy for Children" (IAPC) at Montclair State University (USA) in the 1970s (Murris, 2008, p.668). The 4Cs in P4C (Philosophy for Children), pioneered by Lipman, include 4 different thinking skills starting with the English letter "C": Critical Thinking, Creative Thinking, Caring Thinking and Collaborative Thinking (Sormaz-Öğüt, 2019, p.71). According to Lipman, "Philosophy for Children" should be

perceived as a model that provides "strategies for self-management" and "thinking skills" (Vansieleghem, 2005, p.21). Through philosophy, children frame the relative ideas they develop and realize "thinking for oneself", which is the mark of a truly educated person (Lipman, Oscanyan & Sharp, 1977, p.11). When a child learns to think on his/her own and self-manage, he/she develops metacognitive skills through self-control and self-regulation.

Since Lipman perceived thinking as a process of enquiry, he created a community of enquiry that mediates good thinking and its development. A community of inquiry provides a group learning environment focused on dialogue and collaborative activity in which thinking can be shared, tested and developed. Students learn collaboratively by actively listening to each other, sharing each other's views, developing each other's ideas, evaluating various perspectives, paying attention to their own and others' thoughts, exploring disagreements (Burgh, 2005, p.28). Philosophy for children includes both thinking skills and inquiry-based learning. In this process, children form the basis of metacognition as a part of the foundation of philosophy by dealing with the nature of the mind, the nature of thinking, the problem of knowledge and what claims can be made to know something and the issues of truth. In this way, children's thinking expands and begins to develop (Haynes, 2008, p.55).

The activity process in "Philosophy for Children" education proceeds as follows (Fisher, 2007, p.623):

- Focusing exercise
- Sharing a stimulus
- Time to think
- Ask a question
- Discussion
- Evaluation

After discussing the stimulus text, each class critically reflects on their own thinking processes, behavior and classroom performance and tries to reach an evaluation. "Text" is used here in a very general sense. A text can be a painting, a poem, a narrative, etc., but such texts need to be carefully selected. Mostly purposeful texts are the most successful. The participants sit in a circle. After the introduction of a stimulus such as a poem, story or picture, the students generate questions. A democratic process is established, which questions are then discussed within the class community (Millet & Tapper, 2011, p. 2). It is preferable that participants can see each other (in a circle or online) and respond to each other. Participants take turns to express themselves by raising their hands, asking each other's permission or speaking randomly (Gregory, 2007, p.62). The facilitator should provide relevant questions to deepen and broaden students' enquiry (Gregory, 2017, p.213). At the end of the discussion process, integrating self- and peer-assessment into the inquiry process provides a transition to metacognitive practices as an ongoing part of the discussion. Self and peer assessment enables

students to measure their position between imbalance and balance. Incorporating self-, peer- and peer-assessment and self-direction into the enquiry gives students the opportunity to reflect on the topic again (Burgh, Thornton & Fynes-Clinton, 2018, p. 52). At the end of the lesson, there is an evaluation question list where the discussion is reviewed with the following questions (Fisher, 2007, p.622):

- Did we have a good debate today?
- What was good about our discussion?
- What could have been better? How?
- What do we need to remember next time?

Metacognition is the ability to decide what is more important in a given situation, self-accountability and evaluation (Gasparatau, 2017). Flavell (1979) classifies various cognitive attempts into four categories. These are: (a) metacognitive knowledge, (b) metacognitive experiences, (c) goals (or tasks), and (d) actions (or strategies). Metacognitive knowledge is part of an individual's (a child's, an adult's) stored world knowledge about people and their various cognitive tasks, goals, actions and experiences. Metacognitive experiences are any conscious cognitive or emotional experience of the situation while accompanying any intellectual endeavor. An example would be a sudden feeling that we don't understand something someone has just said. Goals (or tasks) are the point that a cognitive endeavor is expected to reach. Actions (or strategies) are the cognitions or other behaviors we use to achieve goals.

Metacognitive awareness is the "deep thinking" of an individual in the process of developing task and strategy awareness about what to do in a certain situation (Ridley, Schutz, Glanz & Weinstein, 1992, p.294). It is important for individuals to build their metacognitive theories for two reasons: (a) to organize their metacognitive knowledge and (b) to understand and plan their cognitive activities by drawing a specific framework (Schraw & Moshman, 1995, p. 352). For metacognition, children should not only be able to take logical actions, but also to think about the use, effectiveness and appropriateness of these tools. For example, not only to use a counterexample, but also to understand what a counterexample is, when it is effective, and what role it plays in the conversation as a whole (Worley & Worley, 2019, p.5). Thinking, questioning and experiencing through philosophy has a special importance in creating metacognitive awareness.

Metacognitive skills are supported with P4C. P4C emphasizes metacognition as a virtue as it invites children to live philosophically. To live philosophically is to "feel, act and think about one's own thoughts, actions and feelings" (Gasparatau, 2017; Cloutier, 2021). A P4C practice enables children to think about their thoughts, so that children develop metacognitive awareness by engaging in a process of self-correction (Cloutier, 2021, p.40-41). During P4C, the child can evaluate his/her own thinking or the thinking of a friend from the group in his/her mind and decide whether it is correct and logical thinking or not. In the light of this

information, it is thought that P4C practices will develop metacognitive awareness in children. In this context, the aim of the study is to reveal the effect of Philosophy for Children Education on the metacognitive awareness of secondary school students. For this purpose, the following question will be answered: Does Philosophy Education for Children have an effect on students' metacognitive awareness levels?

2. Methodology

The research utilized a "nested design" within the scope of mixed method research in which quantitative and qualitative research methods are considered together. Mixed methods research helps to answer questions that cannot be answered by using qualitative or quantitative research methods alone (Creswell & Plano Clark, 2014, p. 15). When analyzing mixed methods research, qualitative data play a supporting role in verifying, interpreting, sampling and explaining quantitative findings (Miles & Huberman, 1994). In the quantitative dimension of the research, the pretest-posttest control group design, which is accepted as a half-experimental design, and in the qualitative dimension, the phenomenology design was used. In educational researches, it is generally not possible to select and equalize the study group unbiasedly because the existing classes in schools are directly included in the study group, so half-experimental models are preferred (Baştürk, 2012). Therefore, the half-experimental model was preferred in this study. In experimental models, "pretest-posttest control group design" is used for comparison. Phenomenology design deals with phenomena that we are aware of but do not have a deep and detailed view of a phenomenon (Yıldırım & Şimşek, 2018). In studies conducted with phenomenological design, it is aimed to evaluate the experiences (Miller, 2003) by trying to reveal how the individual perceptions of the participants are formed (Smith & Eatough, 2007).

2.1. Universe and sample/Study group

The study group of the research consists of fifth grade students attending secondary school in Yeşilyurt district of Malatya province in the spring term of 2021-2022 academic year. The sample of the study consisted of a total of 34 students attending the 5th grade and 17 parents using non-random convenience sampling (Büyüköztürk et al. 2020). There were 17 students in the control group and 17 students in the experimental group. The 17 parents consisted of the parents of the participant students in the experimental group. Of the 17 parents, 16 of them participated in the semi-structured interview, 1 of whom was the mother and 1 of whom was the father. The researcher collects data from a sample that he/she can easily reach with convenient sampling. The necessary permissions were obtained from Malatya Provincial Directorate of National Education and the research was carried out accordingly.

2.2. Data collection tools

Both quantitative and qualitative data collection tools were used in the study. Quantitative data were applied to both experimental and control group students as pre-test and post-test. Qualitative data were collected by the experimental group during the experimental process, by the researcher implementing the research, and at the end of the experimental process, by conducting semi-structured interviews with the parents of the experimental group.

As a quantitative data collection tool, "Metacognitive Awareness Scale for Children Form A" adapted into Turkish by Karakelle, S. and Saraç, S. (2007) was used.

2.2.1. Metacognitive Awareness Scale for Children Form A:

The scale developed by Sperling, Howard, Miller, and Murphy (2002) to measure metacognitive skills in 3rd-9th grade students was adapted into Turkish by Karakelle, S., and Saraç, S. (2007). Form A was applied to 3-5. Grade level and Form B was prepared in accordance with the 6th-9th grade level. Since the research covers 5th grade students, Form A was used in the study. Form A is a triple Likert type (always, sometimes, never) for each item. The test-retest correlation value for Form A was found to be .74 ($N = 356$, $p < .01$). The Cronbach's alpha value obtained from the research sample was .72.

2.2.2. *Qualitative Data Collection Tools*

Audio recordings, student diaries, student self-evaluation forms, semi-structured interview forms with parents and researcher diary were used as qualitative data collection tools. Student diaries were filled in by the students at the end of the application. In the student self-evaluation form, students filled in evaluation statements such as forming questions during the discussion process, expressing themselves, listening to others, and expressing new ideas on the opinions of their friends. In the study, by using the student diary and student self-assessment form, it was tried to determine whether there was a change and development in the children themselves and whether they gained metacognitive awareness. Student diaries are an evaluation tool that provides information not only about whether students have knowledge on a certain subject, but also about the quality of the teaching applied (Ayyıldız & Altun, 2013). With self-assessment, students will educate themselves by focusing on the metacognitive dimensions of their own learning and monitoring their behaviors (Yurdabakan, 2011). Considering that the parents who participated in the study would better notice the change or development in their children, it was preferred to take the opinions of the parents. As a result of the study with the parents, data were collected with a semi-structured interview form. The researcher diary was kept by the researcher who carried out the implementation at the end of each lesson, and when necessary, she took notes of important statements during the lesson in order not to lose data. At the same time, the entire implementation process was audio recorded.

In the process of obtaining the qualitative data of the research, it was aimed to provide data diversity through data obtained from different data sources such as audio recordings, student diaries, student self-evaluation forms, semi-structured interview forms with parents and researcher diary. In this process, the researcher bracketed herself by leaving her own experiences aside and tried to record her observations of the phenomenon with a researcher diary. Through the evaluations carried out through this diary, it was aimed that the researcher brackets himself/herself. How the data were obtained and analyzed during the research process was explained in detail, and at the same time, it was tried to ensure the transferability of the data obtained by quoting from different data sources. The codes created by the researchers were opened to expert opinion and reorganized as a result of the evaluations. According to expert opinions, codes such as classification, ordering and grouping that did not define metacognitive activities were excluded from the findings. The researchers tried to ensure the confirmability of the research by including direct quotations of the data obtained from the interviews with students and parents.

2.3. Implementation process

The application was not associated with any curriculum, and it was carried out once a week for 8 weeks after 14.40 at the end of the school lesson (since the school administration allowed it after the end of the lesson) in a 40+40-minute time period. The following stories and animated films (text) were used in the application with the experimental group students. Care has been taken to ensure that the preferred texts and animations are suitable for the P4C technique. Texts and animations should contain illustrated children's literature content and should not contain didactic elements. In addition, it has been seen that some of the texts are used in different P4C studies.

Week 1: Book title: The Confused Chameleon-Eric Carle-Theme (Being oneself, being at peace with oneself)

Week 2: Book Title: Emptiness- Anna Llenas-Theme (Emptiness, meaning of life, inner world, individual)

Week 3: Book Title: What Do You Do with a Problem -Kobi Yamada- Theme (Problem and solving it)

Week 4: Book Title: Learning to Think with Nasreddin Hodja - Oscar Brenifier & Isabelle Millon Preacher joke - Theme (Teaching and learning)

Week 5: Book Title: Trying- Kobi Yamada-Theme (Not giving up, not giving up, success)

Week 6: Book Title: Philosophy Machine- Sibi Stories- Lie Story- Theme (Dilemmas, decision making, friendship, lying)

Week 7: Book Title: Philosophy Machine - Peter Worley-Happy Prisoner Story-Theme (Freedom, freedom of the will, moral responsibility)

Week 8: Animation Film Name: Zero (13 min.) - Theme (Discrimination, inequality)

The storybooks are read each week by the researcher (the animated film will be used only in the last week) and then the students are asked to formulate one text/movie related question and one philosophical question about the story and the animated film (at the end of the stimulus used). The questions are then separated and the researcher assists where necessary. A vote is held for the children to choose which of the appropriate questions they would like to discuss. Questions are also asked by the researcher. The storybook or animated film creates an idea about which topic the student should form a question about and what will be discussed. The researcher states that the students are free and free to agree or disagree with each other's ideas while expressing their opinions. If they agree or disagree, he/she asks them to make a sentence starting with "because...". The researcher plays the role of a facilitator, not a teacher. At the end of the discussion, a general evaluation is made. Afterwards, students are given a self-evaluation form and asked to fill it in appropriately. They are also asked to write their thoughts and ideas in their thinking diary notebooks according to what was done in the lesson.

The activity carried out in the 3rd week is from the book "What Do You Do with a Problem" by Kobi Yamada. The researcher asked the following questions to the students during the warm-up phase. The text and P4C principles used in the creation of these questions were taken into account. For example, leading questions should be avoided.

1. Can you tell what you see as a problem?
2. Why do you think these are problems?
3. Are these problems valid for everyone? Why?

Then the stimulus is read by the researcher. Before proceeding to the questioning phase, questions are created and identified. The community of enquiry is now ready for questioning. The following questions are the questions discussed by the community of enquiry.

1. What is a problem?
2. Are there types of problems?
3. Do problems contain opportunities? How?
4. Should we face our problem?
5. Does facing the problem lead to a solution?
6. Are there unsolvable problems?
7. Do problems lead to discovery?
8. What do you do with a problem?

Then the evaluation phase is started.

2.4. Analyzing the data

In this study, quantitative data were analyzed with SPSS 22 software. The normality test of the data obtained in the study was carried out and the method of analyzing the quantitative data was decided. According to the normality test analysis results of the pre-test scores, the Kolmogrov-Smirnov value was 0.06 for the experimental group and 0.20 for the control

group. According to the normality test analysis results of the post-test scores, the Kolmogrov-Smirnov value was 0.05 for the experimental group and 0.07 for the control group. When the kurtosis and skewness values for the pre-test and post-test scores are analyzed, it is seen that these values are in the range of -1 and +1. Based on the findings obtained, it can be stated that the data exhibit a normal distribution. For this reason, one-sample t-test analyses were used in the intra-group comparisons of the pre-test and post-test scores of the experimental and control groups, and one-sample t-test analyses were used in the inter-group comparisons of the experimental and control groups.

Qualitative data were analyzed by content analysis. Content analysis aims to identify concepts and relationships in order to explain the data collected. Qualitative research data were reported through the processes of coding the data, finding themes, organizing the codes and themes, describing and interpreting the findings.

3. Findings

The findings of the data obtained in the study conducted to reveal the effect of the Philosophy Education for Children application on the metacognitive awareness of 5th grade secondary school students are presented below.

3.1. Quantitative findings

In order to determine the effect of philosophy education for children on their metacognitive awareness, a quasi-experimental process with pre-test - post-test groups were carried out. The results of the t-test analysis of the metacognitive awareness levels of the students in the experimental and control groups before the application are given in Table 1.

Table 1: Independent samples t-test analysis results for the metacognitive awareness levels of the students in the experimental and control groups before the application

	Group	**N**	**x̄**	**s.s**	**t**	**df**	**p**
Total	Experiment	17	28,7647	1,98524	0,07	32	0,94
	Control	17	28,7059	2,61641			

When the metacognitive awareness scores of the experimental and control groups before the application were examined, it was concluded that the difference between the experimental and control groups was not statistically significant [t (32) =0.07, p>0.05]. Based on this finding, it can be stated that students did not differ in terms of metacognitive awareness levels before the application. The findings regarding the comparison of the metacognitive awareness levels of the students in the experimental and control groups after the philosophy for children application are presented in Table 2.

Table 2: Independent samples t-test analysis results for the metacognitive awareness levels of the students in the experimental and control groups after the application

	Group	N	x̄	s.s	t	df	p
Total	Experiement	17	34,52	1,54	6,65	32	0,00
	Control	17	30,18	2,16			

When the metacognitive awareness scores of the experimental and control groups were examined after the application, it was concluded that the difference between the experimental and control groups was statistically significant [t (32) =6.65, p<0.05]. After the application, it was observed that the metacognitive awareness levels of the students in the experimental group (x̄=34,52) were statistically significantly higher than the scores of the students in the control group (x̄=30,18). It is seen that the effect size (d=0,58) calculated as a result of the test is at a moderate level. The findings regarding the evaluation of the metacognitive awareness scores of the students in the experimental and control groups in terms of pre-test and post-test scores are presented in Table 3.

Table 3: Experimental and control groups metacognitive awareness levels pre-test post-test scores t-test analysis

		N	**x̄**	**s.s**	**t**	**df**	**p**
Experiment	Pre-test	17	28,76	1,99	-12,16	16,00	0,00
	Post-test	17	34,53	1,55			
Control	Pre-test	17	28,71	2,62	-4,38	16,00	0,00
	Post-test	17	30,06	2,16			

When the metacognitive awareness pre-test - post-test scores of the experimental and control groups are examined, it is observed that the metacognitive awareness scores of the experimental group students are statistically significantly higher in favor of the post-test [t (32) = -12,16, p<0,05]. It is seen that the effect size (d=0,82) calculated as a result of the test is at a high level. Again, when the metacognitive awareness scores of the control group students are examined, it is observed that the scores are statistically significantly higher in favor of the post-test [t (32) = -4,38, p<0,05]. It is seen that the effect size calculated as a result of the test (d=0,37) is at a low level. Based on the findings, it can be stated that the Philosophy Education for Children Practice was effective on students' metacognitive awareness levels. It can be stated that the difference in the scores of the students in the control group emerged as a result of the routine activities carried out during the semester. In particular, it can be stated that the calculated effect size value supports this finding.

3.2. Qualitative Findings

In the qualitative phase of the study, the data obtained from the researcher diary, audio recordings, student diary, student self-assessment form and parent interviews were analyzed by content analysis method. As a result of the analysis of student diaries, student self-assessment form and audio recordings collected from students during the experimental process, 2 sub-themes and 20 codes were identified.

Table 4. Sub-themes and Codes Related to the Theme "awareness process with philosophy for children" of the Experimental Group

Sub-theme No	**Code No**	**Code Name**	**Frequency (f)**
Actions realised through philosophy for children	K1	Question formation	14
	K2	Evaluating the ideas of friends	17
	K3	Respecting different opinions	17
	K4	Being happy	15
	K5	Feeling free	11
	K6	Making justification	14
	K7	Generating different opinions	9
	K8	Learning from friends	12
	K9	Change your mind	7
	K10	Recognising own thoughts	10
Skills realised through philosophy for children	K11	Decision-making	12
	K12	Self-expression	13
	K13	Interpretation	11
	K14	Self-organization	10
	K15	Listening	15
	K16	Communication	13
	K17	Cooperation	12
	K18	Empathy	13
	K19	Creative	10
	K20	Making Inferences	12

According to the analyses of the voice recordings, student diary and student self-evaluation form of the experimental group, two sub-themes and twenty codes, namely "Actions realized through philosophy for children" and "Skills realized through philosophy for children", were emerged under the theme of "Awareness process with philosophy for children".

As a result of the work carried out with Kobi Yamada's book "What Do You Do with a Problem" used as a stimulus for the experimental group (age 10), the student named E.Ö.1.code was given the opinion he wrote in his daily notebook by taking a photo from his notebook:

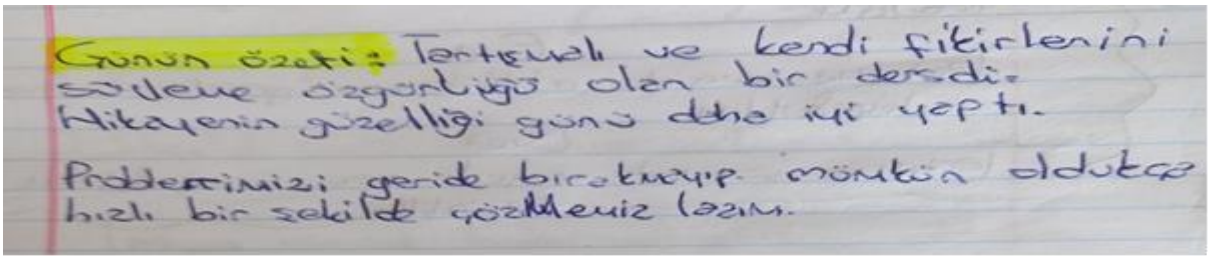


Figure 1. Direct quotes from student opinions

As a summary of the day in his/her diary book, E.Ö.1. wrote: "It was a controversial lesson with the freedom to express his/her own ideas. The beauty of the story made the day better. We should not leave our problems behind and solve them as quickly as possible." It is seen that the students expressed their ideas freely in the lesson and expressed the inferences they made from what was said.

In the analysis of the voice recordings, the dialogues of the students on the same subject are as follows:

TC 1.'s question: Should we solve our problem?

BC 2: I think we should solve it because the problem grows and multiplies.

TC 2: I don't agree with my friend, we shouldn't always solve it, because the problem can lead us to good places.

Researcher: Do you agree or disagree with your friends' ideas? Do you have any other ideas?

S.3.: Teacher, we should both solve and not solve, in fact, we need to solve according to the order of importance.

E.Ö.3: The problem can be good or bad.

S.E.4: The problem does not have to be good or bad, we do not need to solve it ourselves, someone else can solve the problem.

K.Ö.4: I think we should solve serious problems, teacher.

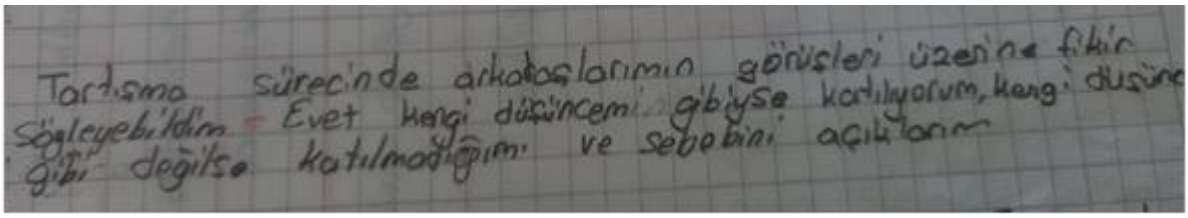


Figure 2. Direct quotes from student opinions

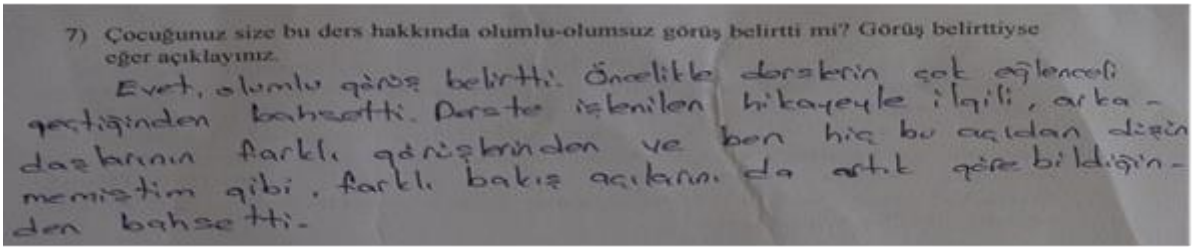
In student self-evaluation, the student tries to explain whether he/she agrees or disagrees with his/her friend's opinion by justifying.

Another qualitative finding was obtained from semi-structured interview forms with parents. According to the content analysis, the theme "The effect of philosophy for children practice on cognitive awareness" and its sub-themes "The effects of philosophy for children" and "The skills realized with philosophy for children" were identified. 2 sub-themes and 15 codes were identified.

Table 5. Sub-themes and Codes Related to the Theme "Effects of philosophy for children on cognitive awareness" According to Parent Views

Sub-theme No	Code No	Code Name	Frequency (f)
Effects of Philosophy for Children K1	K1	Recognising different perspectives	12
	K2	Prejudice removed	11
	K3	Broad thinking	10
	K4	Provided self -confidence	11
	K5	Curiosity	12
	K6	Recognising the characteristics of your child	2
	K7	Defending your ideas	6
	K8	Respect for different opinions	7
	K9	Increase in imagination	5
Skills realised through Philosophy for Children	K10	Communication	13
	K11	Generating ideas	14
	K12	Listening	8
	K13	Questioning	9
	K14	Reasoning	5
	K15	Expressing oneself	15

When the data of the semi-structured interviews conducted with the parents were analyzed, it was seen that the parents stated that the philosophy for children application contributed positively to their children and that their children also gave positive feedback to their parents. A female associate degree graduate parent stated that her child had a positive opinion about this course as follows:


7) Çocuğunuz size bu ders hakkında olumlu-olumsuz görüş belirtti mi? Görüş belirttiyse eğer açıklayınız.

Evet, olumlu görüş belirtti. Öncelikle dersimin çok eğlenceli geçtiğinden bahsetti. Derste işlenilen hikayeyle ilgili, arka-daşlarının farklı görüşlerinden ve ben hiç bu açıdan düşün-memiştim gibi, farklı bakış açılarını da artık görebildiğin-den bahsetti.

Figure 3. Direct quotes from parents' opinions

"First of all, the parents mentioned that the lessons were very fun, that they learnt different opinions from their friends, that their child said "I had never thought from this point of view", and that they could now see different perspectives".

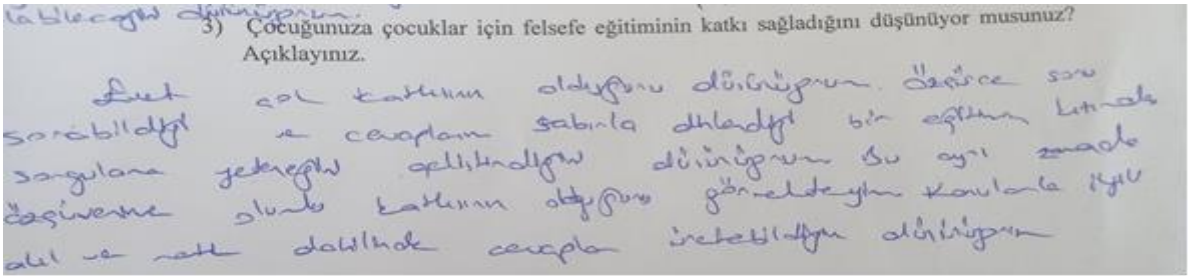
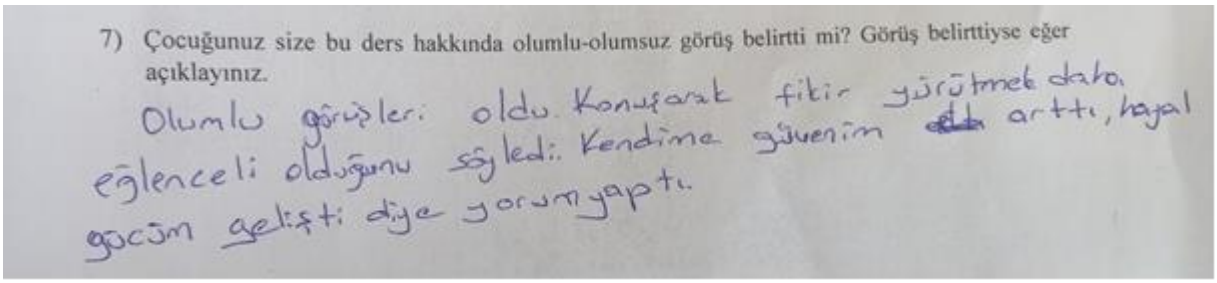

3) Çocuğunuza çocuklar için felsefe eğitiminin katkı sağladığını düşünüyor musunuz? Açıklayınız.

Figure 4. Direct quotes from parents' opinions

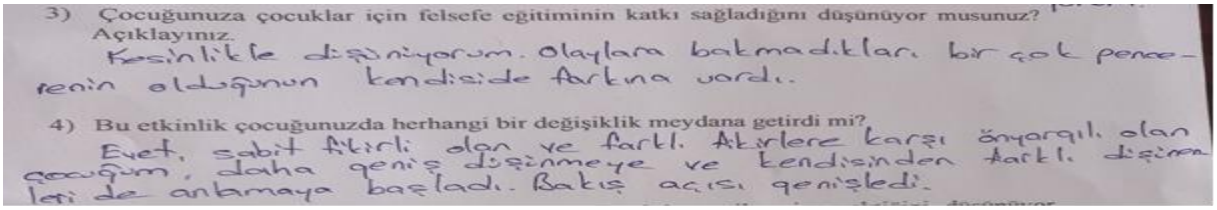
In another parent statement, a female graduate parent stated that the process contributed to her child with the following statements *"Yes, I think it contributed a lot. I think that an education in which she can ask questions freely and her answers are listened to patiently has developed the ability to question in my daughter. I also see that this has a positive contribution to her self-confidence. I think she was able to produce answers about the subjects within reason and logic."*


7) Çocuğunuz size bu ders hakkında olumlu-olumsuz görüş belirtti mi? Görüş belirttiyse eğer açıklayınız.

Olumlu görüşleri oldu. Konuşarak fikir yürütmek daha eğlenceli olduğunu söyledi. Kendine güvenim artti, hayal gücüm gelişti diye yorum yaptı.

Figure 5. Direct quotes from parents' opinions

In another parent's opinion, a female high school graduate parent stated that her child commented *"It is more fun to reason by talking, my self-confidence has increased, my imagination has improved".* It can be stated that the metacognitive awareness of children with increased self-confidence and developed imagination also increases.


3) Çocuğunuza çocuklar için felsefe eğitiminin katkı sağladığını düşünüyor musunuz? Açıklayınız.
Kesinlikle düşünüyorum. olaylara bakmadıkları bir çok pencerenin olduğunun kendisinde farkına vardı.

4) Bu etkinlik çocuğunuzda herhangi bir değişiklik meydana getirdi mi?
Evet, sabit fikirli olan ve farklı fikirlere karşı önyargılı olan çocuğum, daha geniş düşünmeye ve kendisinden farklı düşünceleri de anlamaya başladı. Bakış açısı genişledi.

Figure 6. Direct quotes from parents' opinions

In the answers given by the female associate degree graduate parent to the above questions, her child *"realized that there were many windows that they did not look at the events"* and in her answer to the other question, *"My child, who was fixed-minded and prejudiced against different ideas, started to think more broadly and to understand those who think differently from him. His perspective has widened."*

As can be understood from the statements of the parents, it can be stated that philosophy education for children contributes positively to children and affects children's metacognitive awareness.

Another qualitative finding is the researcher diary. In the analysis of the data obtained from the diary of the researcher who conducted the implementation of the study, it can be stated that at first the children constantly interrupted each other's words, but in the following lessons they learned to listen to each other, to respect each other's ideas, to develop their ability to form philosophical questions, children became aware of their own thoughts, sometimes they expressed "teacher, now I will be nonsense" while giving answers, and they realized the distinction between what is logical and what is illogical. From time to time, the children expressed to the researcher that their reading comprehension skills improved during the lesson and that they were able to think more deeply about a subject. Some of the children's statements are as follows: *"If we do not know formulas in math's class, we cannot solve the problem. If we do not think long and deep about a subject, if we do not ask questions, we cannot think, so we cannot understand what we read. This course improved our understanding and interpretation of what we read".* The fact that children realize what kind of changes they have experienced in themselves can be expressed as a finding showing an increase in their metacognitive awareness.

4. Discussion and Conclusion

P4C includes a wide range of metalogical and metacognitive strategies that contribute to the development of logical reasoning. Doubt is an important feature of questioning, helps to develop epistemic common sense and, combined with many other metacognitive factors and the collective nature of the Community of Inquiry dialogue, appears to promote dialectical thinking and logical reasoning. P4C benefits in all disciplines, from science and maths to language acquisition (Cloutier, 2021, p.44). Isn't questioning the way scientific knowledge emerges? Are we just learning that philosophy is the origin of all sciences? Can we diversify

the ways of questioning and looking differently? How should we think in order to answer these questions? This research was planned based on the idea that questioning, which has an important place in the discovery of scientific knowledge, can have effects on learning and the learner. It is thought that different teaching methods based on philosophical thinking (P4C, Socratic Thinking, Socratic Discussion, etc.) may have effects on the individual's learning skills. It is thought that many skills, including academic subjects, can be taught more qualitatively with the P4C method. Metacognitive awareness can be considered as one of these skills. For this reason, in this study, the effect of philosophy education for children on metacognitive awareness was investigated. When the results of the research are analyzed, it can be said that P4C activities within the scope of philosophy education for children provide positive contributions on thinking, thinking skills and metacognitive awareness.

When the pre-test scores of the control and experimental groups were analyzed, it was seen that the pre-test scores of the groups did not show a significant difference. When the post-test scores were examined, it was seen that there was a significant difference in favor of the experimental group. When the statements constituting the quantitative measurement tool of the research were examined, it was concluded that the students improved themselves in subjects such as self-control, task awareness, monitoring and self-awareness. Children who are in different peer groups in schools, study with different types of teachers, and live in regions with different cultures and habits may have suppressed or overdeveloped their desire to be curious and ask questions. The most important thing for a human being is to understand himself/herself and the world he/she lives in. I wonder how many of us postpone the questions we need to ask just to adapt to the environment and conditions we live in? Postponing curiosity, asking questions and questioning our own thoughts is equivalent to postponing learning. This situation may mean not only postponing learning but also postponing or even ignoring our own thoughts and perspectives. Because being interested in complex cognitive activities, perception of solving personal problems and metacognitive awareness level appear as interrelated structures (Karakelle, 2012). This situation can be explained by the concept of reasoned thinking. Philosophical thinking develops reasoned thinking and leads to a constant search for logic (Çotuksöken, 2005). For this reason, the students participating in the study may have mobilized their suppressed sense of curiosity through P4C. Participant students may have learnt how to question about any event, information, fact, concept or generalization.

In this study, qualitative findings were also obtained in order to reveal the effectiveness of the application. When the data obtained from the participants and the parents of the participants during the research period are analyzed, it can be said that individuals have the potential to learn high-level thinking quickly. When the behaviors of the participants, whose number of repetitions increased during the process, were examined, it was seen that they developed behaviors such as asking questions, questioning themselves, learning from friends, respecting those who are different, and changing their opinions. In addition, it can be said that participants developed skills such as decision-making, communication, inference-making and

empathy. Thinking about an event, phenomenon, information or concept is something that can be learnt. Thinking is the simplest way of healthy and productive learning. It would be extremely wrong to limit thinking or metacognitive awareness to P4C. There are many methods, techniques and activities on thinking and questioning pedagogy. The important thing is to be able to apply these methods. It seems that P4C makes positive contributions to students' thinking and metacognitive awareness. Falah Mehneh et al. (2020) tried to determine its effect on students' metacognitive and irrational beliefs by using P4C approach. They conducted their study in Iran with a total of 50 male students in the experimental and control groups in the sixth grade. They applied the metacognitive questionnaire of Jones' irrational beliefs. In the findings obtained as a result of the study, it was determined that there was a decrease in the mean scores of negative metacognitive and irrational beliefs of the students in the experimental group with the P4C approach, but there was no significant change in the control group. They concluded that P4C approach affects negative metacognitive and irrational beliefs.

Today, the most talked about issue in Turkey is the education system and the success of students. Educators at all levels of education complain that the starting levels of students are getting further and further behind every year. Education and training processes should be freed from all kinds of prejudices, prejudices, information that prevents open thinking, and the easy and imperious nature of the human authorities that we taboo within our belief system. Participating in the universe in which we live, not as spectators but as actors, allows us to make our own solutions (Akdemir, 2004). P4C, one of the important techniques of philosophy education for children, actually provides a dialogic learning environment in the classroom. Dialogic learning explains the relationship between teacher and student with the concepts of collaborative, mutual, supportive, cumulative and purposeful (Alexander, 2008). Dialogic learning, in which classroom conversations are organized, is a process in which students freely express their ideas in the classroom environment, contribute to the acquisition of knowledge by questioning and criticizing each other's ideas, and the teacher structures the learning flow by taking into account student responses. Free thinking and collaboration are key concepts for critical thinking (Çalışkan,2009). No child can experience the realization of a talent he/she does not know. The vast majority of teachers who use numerous teaching and learning methods in classrooms are aware that the problem is inadequate thinking. The solution is the realization that every individual in the education system has a superior ability to think and the foresight of what can be done to develop it.

The students in the experimental group of this study did not actually learn anything new, they realized how they could use their existing skills better. Asking questions, communicating, comparing ideas, trying to solve problems, and realizing that the best idea may not be their own may have increased the students' awareness levels. The main factor that plays a role in the development of students' metacognitive awareness is students' ability to think correctly. The factor that guides students to think correctly is P4C. In the study titled "P4C: Small Children,

Big Ideas" conducted by Avcı, Özdağ, Akdeniz, Öncü, and Öner (2021), it was stated that participating students were able to form qualified and in-depth questions, approach situations more logically, and make significant progress in listening, empathizing, and being equal.

As a result, it is seen that students participating in the P4C program are aware of what they are really saying or trying to say. It can be said that students are able to give logical examples about what they speak, write and what interests them. The most important contribution of this process for students who can think on their own and manage discussions is that they are aware that they can control and improve their thinking processes.

5. Recommendations

- If we want to raise the people of the future who have 21st century skills, we first need to develop their mental activities and metacognition. Therefore, the findings of this study showed that Philosophy for Children (P4C) helped children to develop their metacognitive awareness. In order to increase the awareness of these courses in schools, teachers should be given educational seminars and teachers who want to receive P4C training should be given practical training through MoNE and universities.
- With the increase in children's metacognitive awareness, it is seen that they acquire skills and actions such as asking questions, communication, empathy, inference, decision-making, listening, questioning, reasoning and respect for different opinions. In order for all children to acquire these elements, which are included in the curricula and vision of the Ministry of National Education, they can be applied by associating them with academic courses. For example, courses such as Life Science, Social Studies, Human Rights and Citizenship, and Turkish are very suitable for Philosophy for Children education.
- Philosophy for Children education should be implemented not only to develop children's metacognitive awareness, questioning ability and mental activities such as reasoning, but also to prospective teachers and parents. The metacognitive awareness, questioning ability and mental activities such as reasoning of parents and prospective teachers can also be increased through Philosophy for Children Education. Thus, our individual and social awareness and mental actions can reach a high level. The opinions of the parents who participated in this study support this situation.

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