

PRIMARY SCHOOL TEACHERS' VIEWS ON TEACHING CRITICAL THINKING

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Abstract/Izveleček

The main purpose of the study is to examine the views of classroom teachers on the teaching of critical thinking. It is a qualitative study wherein the data are collected through semi-structured interviews. Thirteen classroom teachers comprised the study group for the research. Descriptive and content analysis is also used in the analysis of the data. According to the findings, teachers believe that critical thinking is a teachable skill, and they know how important their roles are in teaching this skill. However, teachers emphasize that skill training would not be possible without family support.

Keywords:
teaching critical thinking,
primary school, teachers'
views

Ključne besede:
poučevanje kritičnega
mišljenja, osnovna šola,
pogledi učiteljev

Pogledi učiteljev osnovnih šol na poučevanje kritičnega mišljenja

Glavni namen študije je preučiti stališča učiteljev pri poučevanju kritičnega mišljenja. Gre za kvalitativno študijo, pri kateri se podatki zbirajo s polstrukturiranim intervjujem. Raziskovalno skupino predstavlja 13 učiteljev razrednega pouka. Pri analizi podatkov se uporabljata tudi opisna in vsebinska analiza. Glede na ugotovitve učitelji verjamejo, da je kritično mišljenje učljiva veščina in se zavedejo svoje pomembne vloge pri poučevanju te veščine. Učitelji so poudarili, da usposabljanje otrok za tovrstne spretnosti brez podpore družin ne bi bilo mogoče.

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Introduction

Learners' learning capacity is a basic feature that distinguishes human beings from other creatures. The curriculum gives us the answer to the question of what should be taught to these individuals who have learning skills. In every society, basic knowledge, skills, values and attitudes that must be learned are presented to individuals through school curricula (Varış, 1996, Demirel, 2011). In today's world, in addition to content that differs from society to society, common skills for all individuals are also mentioned. The basic skill that individuals use to determine the purpose of their lives, to set their goals in achieving that purpose and to make smart decisions is "thinking" (Chaffee, 1994, cited in Yıldırım, 2005). Teaching students thinking skills create the core of the learning-teaching process. In this way, the information gained piece by piece in lessons is transformed into a meaningful whole and can be transferred to life. Therefore, thinking skills and the thinking habit should be developed in students (Saban, 2000).

Theoretical Framework

What the thinking is or how it is thought, has been an important issue recently. The widespread goal of educational purposes such as understanding how an individual thinks and teaching to think has also popularized the teaching of critical thinking (Kazancı, 1989). According to Ennis, critical thinking is the correct evaluation of causes. It means, before doing or believing something, questioning causes, thinking intensely, and then making decisions. The critical thinker should have skills such as observation, participation, generalizing, questioning, and evaluating causes and interest (Ennis, 1985). Critical thinking is an active, organized mental process that aims to understand ourselves and the events that occur in our environment, by being aware of our own thought processes, considering the thought processes of others and by applying what we have learned (Cüceloğlu, 2001).

Critical thinking has also taken its place among the 21st-century skills announced by ME. It has drawn attention to the teaching of critical thinking. It is especially emphasized that the teacher is the most important factor in teaching critical thinking skills. So, teachers' perspectives and the importance they give to critical thinking, will guide the efforts to encourage this thinking skill among students (Halpern, 1998;

Paul and Elder, 2001; Gürkaynak, Gülgöz and Üstel, 2003; Doğanay and Sarı, 2002; Seferoğlu and Akbiyık, 2006). It is recommended that the new generation be able to think and be aware that the only truth may not be what it knows or believes. For this, teachers are needed who think and try to make their students realize how they think (Narin, 2009). During the teaching of critical thinking, it is expected from a teacher to be an example for students by showing critical thinking examples, to avoid judgmental reactions, to listen to students to gain understanding, to give all students the opportunity to express their opinions but not to pressure them, to avoid embarrassing anyone, to be willing and equipped during the methods and techniques used (Gürkaynak et al., 2003). For example, a teacher who tries giving students critical thinking skills can have group work to increase the interaction between them while they are learning. Open-ended questions that do not have a single right answer may be asked. Such learning should provide opportunities for students to apply their new learning or past experiences to different situations (Özden, 2003). According to Fisher (1995), while the teacher tries to communicate with children, he should focus on their efforts and positive behaviours rather than on their mistakes. The teacher should encourage children to think creatively and critically; to this end, instead of judging students in the classroom, he should create an independent environment for them, treating everyone equally and as an effective listener. Teachers' low academic expectations and negative attitudes toward their students will prevent students from thinking critically. In addition, teachers should not treat students in a way that makes them dependent on their teachers.

There is a range of approaches to teaching critical thinking. In the Subject Based Teaching Approach, critical thinking is considered a subject, and its principles and content progress together. In the Content Based Teaching Approach, the content, principles and rules of critical thinking are combined, and students are encouraged to think critically during learning content. In this approach, content teaching is at the forefront, and general principles of critical thinking are not directly stated. In the Skill Based Teaching (General Approach) Approach, critical thinking instruction is conducted as a separate discipline without depending on the content. The Blended Teaching Approach is a combination of a general approach and a subject-based or content-based approach (Vural and Kutlu, 2005; Ennis, 1989). In Turkey, the blended teaching approach has been adopted in the teaching of critical thinking. While thinking skills are taught by associating them with the lesson content, on the other hand, they are also taught through the "teaching of thinking" lesson added to

the primary school curriculum in 2007. This is an indication that it is important for students to acquire all thinking skills, especially critical thinking skills. However, the main element that will teach critical thinking is not the content of the lesson or lessons added to the programs; it is the perspective of teachers and the teachers themselves who are the implementer of these programs. Although the curriculum is implemented across the country, there may be differences in classroom practices. Although teaching activities are shaped in line with the curriculum, the knowledge, skills, opinions and beliefs of the teacher shape the classroom learning-teaching environment, the culture created in the classroom, the outline of the methods and techniques used. This creates differences between classes (Doğanay and Sarı, 2002). In general, research on critical thinking overlooks the work done by teachers in the classroom to develop this skill. However, understanding critical thinking from the teacher's perspective is key to closing the gap between theory and practice (Caseres, Nussbaum and Ortiz, 2020). Teachers' perspectives on critical thinking skills and the practices they uphold while teaching will support or inhibit student learning. Especially considering the strength of the teacher-student relationship in primary school, the opinions of primary-school teachers about teaching critical thinking become more important.

Purpose of the Study

The main purpose of this qualitative study is to examine the views of primary school teachers on the "teaching of critical thinking." For this purpose, answers to the following questions were sought:

What are the teachers' views on the definition of critical thinking?

What are the teachers' views on teaching critical thinking?

What activities do teachers use to teach critical thinking?

What are teachers' perceptions of efficacy in teaching critical thinking?

Methodology

This study determines classroom teachers' thoughts about critical thinking and their perceptions about teaching critical thinking. For this purpose, the research was designed as a qualitative study, and teachers' views were gathered through interviews.

Participants

The study group consists of thirteen classroom teachers (7-female, 6-male) working in Ereğli district of Konya. Participants were selected using the purposeful sampling method (maximum diversity) and on a voluntary basis (Fraenkel and Wallen, 2006). To ensure maximum diversity, primary schools at different social-economic levels were selected. The seniority of teachers is between 14 and 30 years. The study group description is given in Table 1.

Table 1. Study Group

Data Number (Mean voice record number)	Code by Gender	Name of School	Social-economic status of school	Seniority
1	F1	A	Lower	22/15
2	M1	B	Upper	25/9
3	M2	B	Upper	29/6
4	F2	B	Upper	15/5
5-6	F3	B	Upper	23/8
7	M3	C	Lower	15/7
8	M4	C	Lower	20/9
9	F4	C	Lower	22/16
10	M5	D	Middle	27/2
12	F5	E	Upper	17 / -
13	M6	E	Upper	23/9
23	M6	F	Middle	44 / -
24	F7	F	Middle	20/10

Data collection

The data were collected through a semi-structured interview format. The original form of the interview was developed by Kanik (2010). In this study, the questions were reviewed, and the form was greatly revised. A pilot study was conducted with two classroom teachers from the study group, after which the final form was constructed. The form consists of twelve main questions and nine exploratory questions.

Data were collected in the spring term of the 2018–2019 academic year. The interviews were conducted face-to-face by the researcher at predetermined times and locations (library, principal's office, an empty classroom, or the teacher's office). During the interviews, a voice recorder was used in line with the permission received from the participants. Data collection was completed within two weeks.

Data analysis

The data obtained from the interviews were read line by line and transferred to the computer. Seventy-three pages of raw data were obtained. Content analysis and descriptive analysis were both used for analysing data. According to Yıldırım and Şimşek (2013), primarily, the data summarized and interpreted in descriptive analysis are subjected to a deeper process in content analysis. Concepts and themes that cannot be noticed with the descriptive approach can be discovered through content analysis. This perspective was also adopted in the current research. First, “possible” codes and themes were created in line with the questions in the interview form, and then new themes or sub-themes emerging from the statements of the teachers were determined.

Validity and reliability

To ensure validity and reliability, the research process was explained step by step. Direct quotations from the participants’ statements are frequently included in the research report (F1M: female, middle social-economic status). Two different researchers coded the randomly selected interview record. The reliability coefficient was calculated as 0.87. Since this value is greater than 80%, its reliability level is set as “good” (Miles and Huberman, 1994).

Findings

The findings of the study are presented in accordance with the themes created based on the questions in the interview form. The codes determined under each theme are also described in the text. Direct quotations from the participants’ discourse on the subject were added. After this section, the abbreviation CT will be used to replace the phrase “critical thinking.”

General views on critical thinking and on teaching critical thinking

The opinions of the participants regarding the “what” of CT, its teachability and the role of the teacher in this process are discussed under this title. Teachers were first asked to define CT. Only one of the participants (F6M) refrained from making a clear definition. The other twelve teachers created a definition of critical thinking based on the characteristics of the critically thinking individual. Details of the definitions are given in Table 2.

Table 2. Codes in teachers' critical thinking definitions

Description	f
Explanation of the reasons	3
Defending your mind	3
Finding the truth	2
Generating solutions	2
To be able to express thought correctly	2
Reasoning	2
Total	14

The teachers who defined CT were asked about the characteristics of critical thinkers. All participants identified the characteristics they believe should be found in individuals who think critically according to their critical thinking definitions. These traits consist of personality traits, skills or behaviours. Themes and codes are given in Table 3.

Table 3. Critical thinker features

Theme	Code	f
Skill/Behaviour	Asking questions/Questioning the reasons	8
	Explaining/defending your mindset	5
	Listening to speaker effectively	3
	Reading habit	2
	Defending your rights	2
	Being interested in school and lessons	1
	Ability to dream	1
	Organizational ability	1
Personality/Habit / Temperament	Self-reliance	7
	Supporting/democratic family	5
	Perseverance	3
	IQ	2
	Leadership	2
Other	Wonder	1
	Attention	1
Total		44

All teachers participating in the study stated that CT is a teachable skill. This situation suggests that teachers will not hesitate to try teaching a skill that they believe can be taught. The most striking statement from a participant is given below:

F1L: ...of course It is something that can be taught because critical thinking is one of the types of thinking. As we know, there are 3 types of thinking and we tell this to the children repeatedly. One

is pure, unintentional thinking - right thinking, another is selfish thinking, just self-thinking. Therefore, we say again and again, do not be prejudiced against everything, do not decide right away, do not be fooled by whatever is said, think without prejudice. The other is critical thinking. Therefore, critical thinking can be taught. . .

Teachers who declare that CT is teachable are asked about the role of the teacher in the teaching process. While all 13 participants emphasized that the role of the teacher was definitive, three teachers explained that “it is about personal effort.” One teacher (M1U) explained the situation by asking, “Does the teacher have this skill first, does he provide guidance, can he bring the student to the forefront, is he democratic, it is necessary to change and develop the teacher before the system.” The explanations of one female teacher on the subject are as follows:

F6M: So yes, the teacher is doing this. The student should feel comfortable in the classroom, should not feel like a machine and should be able to appeal to his teacher when necessary, and the teacher should tolerate this. If the teacher is confident and can encourage the student, if the teacher respects the student's opinion, critical thinking may develop there. However, if the teacher has strict rules with solid lines, and he has a mind-set like “only I know”, the child cannot show it. It is up to the teacher to make the student think freely. It's all about the teacher's self-knowledge. We reward them by mobilizing, encouraging them. That critical thought develops in parallel with us, that is, in parallel with our mind-set.

Views on the effect of the current curriculum on the teaching of critical thinking

In this section, the teachers were asked to evaluate the content, educational and test situations of the primary school curriculum in the context of its effect on teaching critical thinking. First, the participants who teach many different courses in primary education were asked whether the content of each lesson is appropriate to gain this skill. When the teachers' responses were examined, it emerged that they thought this to be more about the personal disposition of the teacher than the content of the lesson. In other words, CT can be taught in each lesson as long as the teacher has a strong academic capacity. In addition, four of the teachers emphasized that CT can be taught more easily in the social sciences. Alternatively, all the participants stated that the teaching of CT does not need to be based on a separate lesson, but it is more appropriate to do this by adding it to other lessons. Examples of teachers' statements about these two situations are as follows:

M5: ...it may be useful if we put it as a CT lesson. However, for example, the child is criticizing me. If I say "No, not now, say it in the CT lesson." It means that the child should shut up.

M4: Now, there is something like that, especially in lessons that require talent, we cannot develop that opportunity, so we cannot develop it. However, we can give them in mathematics and verbal lessons.

Teachers were asked to evaluate the activities in the programs in terms of their contribution to the teaching of CT. On this question, the opinions of the teachers varied the most. Two participants think that the activities and content in the curriculum support CT. Five participants state that the content of the curriculum is loaded with information and therefore they are trying to complete it. Three participants stated that the program was prepared in good faith but could not be implemented under current conditions. Two participants (M1, F2) stated that whatever is written in the curriculum, the teacher behaves as he knows. For this reason, teachers find it unnecessary to discuss whether the program is effective in teaching any skills. Examples of teachers' views are given below:

F1L: Even if it supports, it is not enough. It is already by social-economic status. So, it gives results according to its location. We are doing the curriculum according to ourselves, that is, we are choosing the activities that concern us. It's about time and possibilities. You must do many activities in the curriculum; but I can do only appropriate ones.

F2U: The success of the primary school curriculum depends on the teachers enacting it. There are enough directions in our textbooks. True questions were asked to guide the student and to encourage them to think.

M5M: ...it supports CT theoretically but not in practice. It says, you will do the following experiments in our guidebooks. However, none of the materials are available in my school. What should I do?

Teachers were asked which of the methods and techniques they use to support CT. There was no clear answer. It emerged that the main reason was that the teachers did not want to name the methods and techniques they used. Accordingly, the question was changed to make the participants feel more comfortable and asked again (what kind of activities they do in their classes). The teachers said that they use discussion (six teachers), essay writing (two teachers), and completing the story (two teachers). The comments of the two teachers are as follows:

F1L: Telling the techniques one by one? When you open the teachers' guidebook for curriculum, they all in there. We cannot say that we are doing this for sure. In a lesson, we use all of them in 40 min. Sometimes we do other things, but we do not know the name. What you are doing has no

name. We combine or add something from ourselves. Because you prepare before coming to class. You plan, you study, but when you come to class, the situation of the class at that moment, students' mood or your own mood also causes you to employ different techniques. Therefore, there is no such thing as "this technique is good, study and memorizes it and apply it." So, techniques change according to the level, situation and classroom. You add a little bit of yourself, but it has no name.

M2U: ...I also use the expression technique in the classroom. I look for presentations on the internet. I teach the lesson through lectures, I use all the techniques. I use both visual and all the techniques.

After classroom practice, the teachers were asked whether these efforts could be transferred by students. Nine of the 12 participants think that transfer is possible to the extent that school-family cooperation can be achieved. Three teachers think that what is learned cannot be transferred to life.

F2U: Actually, it is in our hands. Instead of complaining about the facilities or other things, we can create it ourselves. We have our canteen, I can say "everyone will bring money tomorrow; they go to the canteen and shop. We can create the situation ourselves.

F1L: "We have the opportunity as well. For example, most of the parents work in construction. As pavers. I associate this knowledge within patterns and ornaments. I say, "Children think that you are working in construction or your fathers are laying tiles, triangular, square rectangular; how do you lay them?" This is also a pattern.

Teachers described the classroom environment that supports CT. The first point emphasized by teachers is the need for an uncrowded classroom. Teachers also emphasized that it should be a democratic environment (five teachers), materials should be available in the classroom (six teachers), and there should be no level difference between students in the classroom (three teachers). The participants' view of M4L is "the leadership qualities of the children should be improved because non-leaders do not criticize and feel passive."

Finally, teachers were asked to evaluate their exam and homework practices in terms of their contribution to the teaching of CT. All the teachers, except one explained this in detail. The point that teachers emphasize is the necessity to ask comment questions to support the teaching of critical thinking. However, the requirements in the curriculum (trial exams, joint exams) make such activities difficult for them. A teacher's assessment of the exams from his own life:

M1U: I avoid preparing questions based on knowledge. My child is studying in the eighth grade. He took the TEOG exam. All four wrong answers were related to comment questions. He was unable to do comment questions. There is no need to take action, there is a simple visual, and he

could not do it while he should interpret it. The meaning given in the above paragraph or given below, which of the following could it be? Can he comment or can he think? Does it make him think? In other words, not to determine that two plus two is four, but to question why it is four?

After previous explanations, teachers were asked whether they gave homework to their students and how they structured it. The teachers stated that they use homework for reinforcement or preparation. Two teachers emphasized that homework was given to meet parental expectations rather than student needs (F1L, M3L). Eight of the participants stated that they regularly gave homework assignments to improve their students' interpretation skills. Examples of participant opinions are as follows:

F1L: I assign homework activities in the workbook on the subject, but the aim is to have them repeat at home. I say you will study five pages. Only this. I do not give any homework. Homework was given above the level of such a child. The child cannot manage. So, either Mom will do it, or someone else. The performance task prepared by the child is not visually good, what the child himself prepared is clear, seems bad, half wrong and half correct. Of course, we give him a low grade. However, the one prepared by parents, also visually good, we give these high marks, but it does not help the child. It does not help unless you did it in the classroom with the child.

M4L: I am against homework full of pages. Because that homework is far from being homework; simultaneously, I cannot control it. When you give dozens of homework assignments to the students, the child gets tired. However, there is also homework we give to reinforce. In the form of a couple of activities. In addition, it does not matter what the student does when you can't control the assignment day by day.

M2U: When I have covered a subject, I give at least 4–5 activities on the same topic. I have some activities done at school, and some of it as homework. To reinforce the issue. We also give them plenty of activities, so that we can reinforce even more.

Views on factors affecting the teaching process of critical thinking, whether positive or negative

Teachers were asked to indicate the factors that they encountered during CT education in general and that affected the process positively or negatively. The main factor that all teachers think has both positive and negative effects is “family.” The opinions of the participants are positive or negative according to the socio-economic level of the school. The main reason for this is that the main determinant of the socio-economic level is the social, cultural and economic condition of the families.

Parents at the lower socio-economic level do not have professional positions; they may be seasonal workers or even unemployed. In terms of marital status, there may be a broken family or one parent not at home. According to teachers, all these features affect children negatively in terms of learning and applying CT. Alternatively, in upper socio-economic schools, parents are generally senior civil officers, or teachers in the same school. This ensures that the teaching process started at the school is supported at home. Another point is “teacher attitude.” Nine participants said that teacher attitude may affect the student learning CT process positively or negatively. Sample statements from both perspectives are as follows:

M3L: If the teacher allows the child to make such criticisms in the classroom, if he considers what the child is saying, if can listen to him... To have critical thinking, all children should be given the opportunity to speak, and the teacher should try encouraging students who do not speak. The important thing is to ensure that the child gains self-confidence. I think that children who have gained their self-confidence will contribute to the development of the country and to providing better development of a peaceful environment in the future, in terms of their careers, their future, and the development of our country.

M4L: The family at home should also be open-minded. Sometimes I ask students about their family. They said, “My parents do not ask me and get angry with me.” At that time the child is in a dilemma. If the teacher thinks the same as the family, it is a pity.

Discussion

Teachers as practitioners of the curriculum are at the key point in transmitting knowledge, skills and attitudes, which are among the objectives of the curriculum. In this context, the opinions, experiences, and activities of teachers with sufficient professional experience, which are defined among the 21st-century skills and planned to be taught in all lessons, are considered important. According to the findings, teachers are mainly aware of their roles in the process. However, they cite the possibilities or non-possibilities of the schools where they work, and the parent profile of students as the most basic factors in achieving their teaching goals. When the teachers’ discourses are examined, it emerges that the teachers are self-critical, and that teacher effort will contribute positively to the process regardless of the conditions.

Participants were asked to define critical thinking; a definition was obtained from all participants except one. Even if the number is one, it is noteworthy and alarming

that a teacher who has been actively working for more than 15 years is unable to provide a definition of critical thinking. The Ministry of Education (MEB, 2007) in Turkey explained that eight basic thinking skills should be taught in each lesson. The renewed perspective and primary curriculum are explained by in-service training. Everyone is not expected to be a critical thinker, but teachers who have priority in teaching this skill should have it, because only a teacher who thinks critically can teach students how to think critically. In a study conducted by the Organization for Economic Development and Cooperation [OECD] (1994, cited in Gelen 1999) on how to improve the quality of education, it was stated that teachers should first learn to think. Alternatively, teachers should be adequately supported and guided correctly in this regard. Countries constantly update their education programs according to the requirements of the day and apply for educational reforms when necessary. However, the targeted development will never be achieved unless the reforms change teacher habits, and the teachers are properly supported during the implementation process (Scheidler, 1994). The teacher, the practitioner, should fully understand the system to do his duties. Alternatively, even if the teachers understand the program, teachers who are accustomed to the traditional approach are likely to favour the old system in practice, even though they agree with the new system in theory (Kamber, Acun and Akar, 2011).

In the teachers' statements about the characteristics of the critical thinker, it was observed that they used similar expressions. Teachers used the same definition for a successful student as for a critically thinking student. Teachers also used the terms *clever* or *intelligent* for a critical thinker. Looking at the literature, intelligence emerges as the most important mental factor that affects the development of critical thinking power. When other conditions are equal, the ability to think increases as the level of intelligence increases (Kazancı, 1989). Activities such as thinking, and decision making are actions that require a certain level of intelligence. However, it is not true that every person with high intelligence will think critically, or that people with lower intelligence cannot think critically (Şahinel, 2002). Critical thinking is not an innate feature. It is a thinking system, one that is teachable, can be explained and can be applied (Kökdemir, 2005). It is important to note that no single definition of critical thinking exists for every discipline at every level (Alsaresh, 2020).

All the teachers stated that the skill of critical thinking was a teachable skill. As the participants emphasize, critical thinking skills are skills that can be given to individuals of all ages. The purpose of education is to educate effective individuals

who are constantly thinking, realizing their thoughts in the most appropriate way, and providing both individual and social development. This makes it mandatory to include activities for teaching critical thinking in schools (Cüceloğlu, 2008). However, encouraging these skills in individuals of all ages follows a different order. For example, according to Presseisen (1985, cited in Doğanay, 2001), while in the first level of primary education, the important thing is teaching basic skills, depending on the level of mental development, it would be appropriate to teach more complex skills in secondary education. In introducing the student to a more advanced thinking process, the 8th grade and the first year of high school are good times. At the end of primary education, thinking skills can be given more comprehensively and complexly. Some higher order thinking skills may be more relevant to some lessons. However, the most important thing here is that the purpose of complex thinking processes and the learning objective of a lesson should be compatible with each other and reinforce and support each other (Doğanay 2001). In addition, the teachers who participated in the study advocated that this skill should be taught in existing lessons and not as a separate lesson. There are four approaches to teaching critical thinking in the literature (see introduction). These approaches are included in the problem section. The situation described by the participants aligns with the “content-based approach.”

Within the scope of the research, teachers were asked to evaluate the role of critical thinking in the teaching process. Here are some highlights from the teacher statements: the teacher who gives the opportunity to the student can be a role model, develops a democratic classroom environment, knows his students well, empathizes, cooperates with students’ parents and other colleagues, directs the student, encourages students, asks questions and comments. In line with the literature, they argued that teachers with the features described above can improve their students’ critical thinking skills. Critical thinking is among the basic attitudes and skills that teachers should have. The critical thinker teacher provides students with high-level skills such as analysis, synthesis and evaluation (Şahinel, 2002). In addition, these teachers, by contributing to student cognitive development, also positively increase their students’ critical thinking attitude (Seferoğlu and Akbıyık, 2006).

One of the points where teacher opinions differ most is whether the activities in the curriculum contribute to the teaching of CT. Ten teachers think that the current curriculum does not support critical thinking skills. In his study, Polat (2014) examined the Turkish, mathematics, science and technology, life science and social

studies curricula and teacher guidebooks. He stated that in the curriculum and teacher guidebooks, activities related to critical thinking skills were adequately included. In the current study, the evaluation of teachers is considered subjective. We observed that the participants in the study answered this question in accordance with the socio-economic level of the school in which they work, the opportunities they have at school and their personal predisposition. Teachers working at the lower socio-economic school stated that they could not perform the activities in the curriculum because of impossible obstacles. There are teachers who find the activities in the program incorrect in terms of duration; there were also participants who argued that anxiety about performing activities and completing them on time decreased the quality of teaching. In the qualitative research, the exploratory questions asked during the interview showed that the main criticism from teachers is not the content and application dimension of the program; the primary education that was previously applied as 5 + 3 was restructured as 4 + 4. This is among the unexpected findings of the current research. Primary school teacher dissatisfaction continues despite the passing years (the 4 + 4 + 4 education system was implemented in 2012–2013). It is also apparent that this dissatisfaction is reflected in teaching practices. Alternatively, the teacher working in a lower socio-economic school makes an important observation: “The program is already by level. So, it gives results according to its location and level. We implement the program according to ourselves (our possibilities).” The research was conducted in the relatively small district of Ereğli. Here, the inequality of opportunity between even nearby schools is remarkable. These impossibilities are reflected in teacher evaluations of the program and workload during teaching.

Teaching methods and techniques come to mind when seeking an answer to the question of how to teach critical thinking (Varış 1996; Demirel, 2011). Teachers were asked what methods and techniques they used to support the teaching of critical thinking that were useful for this purpose. The most frequent method used by teachers is composition and story completion. Both are activities, not methods or techniques. These are the activities in the guidebook that is expected to be implemented. Discussion, asking questions and debate are other practices that teachers mentioned. At this point, the finding of the research aligns with those from other studies (Baysal, Çarıkçı and Yaşar, 2018; Eğmir and Ocak, 2017; Adams, 2013; Demir, 2006; Gelen, 1999).

The classroom environment (physical or emotional atmosphere) is another factor that plays a decisive role in educational activities (Çengel, 2013; Alnesyan, 2012; Burke & Williams, 2008). It is important to create classroom environments where students can research and inquire, communicate, think critically, justify, easily share their ideas and offer divergent methods of solution (MEB 2013). From the findings regarding the classroom environment, we observed that teachers made evaluations about the physical environment of the classroom and then touched on the atmosphere of the classroom. Teachers particularly emphasized classroom size and accessibility to materials. In all studies related to the effect of class size on teaching quality, findings supporting this teacher concern are included. This is also valid for the teaching of critical thinking. In many OECD countries, the number of students per teacher varies between 11.2 and 15.6. In our country, this number is 22. In addition, the number of students per classroom in OECD countries is 21.4 (report by Türkeğitimsen). Although this is a goal in our country, the desired level has not yet been reached.

The most basic factor in ensuring the permanence of what is learned is its capacity to be transferred to life. What is learned at school gains meaning as long as it finds a response in life. When teachers are asked about this issue in the critical thinking axis, all the participants emphasized family and environmental support. This discourse of teachers thus aligns with the literature. In their research, Tümkaya and Aybek (2008) found that parental attitudes were influential on the critical thinking disposition, because families set an example for their children with their behaviour, and parents' attitudes cause positive or negative behaviours and tendencies in children (Özdoğan, 2000, Çalışkan, 2019).

The effect of measurement and evaluation activities in the curriculum on teaching critical thinking was also examined within the scope of the research. Exams that allow students to express themselves and examine high-level achievements contribute to the teaching of critical thinking. Alternatively, process and product evaluation must be conducted together (Facione, 1990; Şahinel, 2002; Seferoğlu & Akbıyık, 2006). As the findings show, this situation cannot be achieved. Although the curriculum focuses on the teaching of eight basic thinking skills, the examinations used are multiple choice. In many schools, common exams are held, or ready-made materials are used for the exam. The quality of the questions included here is the main element determining their contribution to the teaching of critical thinking. Tests can only handle what are called well-structured problems with logical

solutions. That is not an unimportant part of critical thinking, but it leaves out what are called ill-structured problems (Larsson, 2017). Another way to evaluate teaching is homework. The teachers give reading homework to increase the pupils' interpretation skills. Comprehending reading that requires understanding the meaning and details of a written material is among the basic language skills that should be given to primary school students (Rose et al., 2000, cited in Erçapan, 2009). Instructors who want to have a positive impact on critical thinking skills should consider including multiple written assignments and emphasizing research, then provide feedback on those assignments (Nold, 2017). According to Ennis, critical thinking involves finding the meaning of the narration and deciding whether to accept it or not (Kazançı, 1989). The literature shows that there is a relation between reading skills and critical thinking (Karasakaloğlu, Saracaloğlu and Yılmaz-Özelci, 2012; Çetinkaya, 2011; Kuş and Türkyılmaz, 2010; Şen, 2009). At this point, it can be said that these teachers are following an effective strategy.

Conclusion

In this study, the views of primary school teachers who teach the fourth grade about teaching critical thinking are examined. Opinions of 13 primary teachers working in schools at low, middle and upper social-economic status were included. The professional seniority of teachers is between 15 and 44 years. According to the findings, the following recommendations were made:

Teachers who take an active role in critical thinking teaching can be examined to establish whether they have this skill. If deemed necessary, in-service training involving teaching critical thinking could be employed throughout the process. A student-oriented system/unit can be developed to strengthen school-family cooperation in schools.

References

- Adams, J. W. (2013). *A case study: using lesson study to understand factors that affect teaching creative and critical thinking in the elementary classroom*. Unpublished PhD Thesis. Drexel University.
- Alnesyan, A. (2012). *Teaching and learning thinking skills in The Kingdom of Saudi Arabia: Case Studies from Seven Primary Schools*. Unpublished PhD. Dissertation. University of Exeter, UK.
- Alsalesh, N. J. (2020). Teaching critical thinking skills: Literature review, *The Turkish Online Journal of Educational Technology*, 19(1), 21–39.
- Baysal Z. N., Çarıkcı, S., and Yaşar, B. (2018). Analysis of academics' views on teaching thinking skills. *Inonu University Journal of the Faculty of Education*, 19(2), 174–188. DOI: 10.17679/inuefd.3-39151

- Burke, L. A. and Williams, J. M. (2008). Developing young thinkers: An intervention aimed to enhance children's thinking skills. *Thinking Skills and Creativity*, 3(2), 104–124.
- Çalışkan, M. (2019). Eleştirel Düşünmenin Öğretimi [Teaching critical thinking], *Neşehir Hacı Bektaş Veli University, Journal of Social Sciences Institute*, 9(1), 114–134.
- Caseres, M., Nussbaumi, M., and Ortiz, J. (2020). Integrating critical thinking into the classroom: A teacher's perspective, *Thinking Skills and Creativity*, 37(1), 1–12.
- Çengel, M. (2013). *Sınıf ikliminin oluşması sürecinde örtük program: Meslek liseleri üzerine bir araştırma [Implicit program in the formation of classroom climate: A research on vocational high schools]*, Unpublished doctoral thesis, Adnan Menders University, Aydın.
- Çetinkaya, Z. (2011). Türkçe öğretmen adaylarının eleştirel düşünmeye ilişkin görüşlerinin belirlenmesi [Determining the views of Turkish teacher candidates on critical thinking], *Abi Evran University Journal of Education Faculty*, 12(3), 93–108.
- Cüceloğlu, D. (2008). *İyi düşün doğru karar ver [Think well make the right decision]*, (50th Edition), İstanbul: Sistem Publishing.
- Demir, M. K. (2006). *İlköğretim dördüncü ve beşinci sınıf öğrencilerinin sosyal bilgiler derslerinde eleştirel düşünme düzeylerinin çeşitli değişkenler açısından incelenmesi [Investigation of primary school fourth and fifth grade students' critical thinking levels in social studies lessons in terms of various variables]*. Unpublished doctoral thesis. Gazi University, Ankara.
- Demirel, Ö. (2011). *Eğitimde program geliştirme: Kuramdan uygulamaya [Curriculum Development in Education: from Theory to Practice]*. 16th edition. Ankara: Pegem Academy.
- Doğanay A. (2001). *Yaratıcı öğrenme [Creative learning]*, (Editor: Ali Şimşek) Sınıfta demokrasi [Democracy in class], Ankara: Eğitim-Sen Publishing.
- Doğanay, A., and Sarı, M. (2003). İlköğretim öğretmenlerinin sahip oldukları eğitim felsefelerine ilişkin algılarının değerlendirilmesi: Öğretmenlerin eğitim felsefeleri [Evaluation of primary school teachers' perceptions of their educational philosophies: Teachers' educational philosophies], *Turkish Educational Sciences Journal*, 1(3), 1–10.
- Eğmir, E. and Ocak, G. (2017). The effect of curriculum design of critical thinking on students' reflective thinking skills, *Journal of Theoretical Educational Science*, 11(3), 431–456.
- Ennis, R. (1989). Critical thinking and subject specificity: Clarification and needed research. *Educational Researcher*, 18(3), 4–10.
- Ennis, R. (1985). *Goals for a Critical Thinking Curriculum*. Wadsworth Publishing Company, Belmont (ERIC no:16476)
- Erçapan, C. (2009). Okuduğunu anlama stratejilerine genel bir bakış [An overview of reading comprehension strategies], *International Journal of Social Studies*, 2(6), 207–223.
- Facione, P. A. (1990). *Critical Thinking: A statement of expert consensus for purposes of educational assessment and instruction* "The Delphi Report" (Executive Summary), California Academic Press: Millbrae.
- Fisher, R. (1995). *Teaching Children to Think*. Cheltenham UK: Nelson Thornes Publishing.
- Fraenkel, J. R., and Wallen, N. E. (2006). *How to Design and Evaluate Research in Education* (6th ed.). New York: McGraw-Hill.
- Gelen, İ. (1999). *İlköğretim okulları 4. sınıf öğretmenlerinin sosyal bilgiler dersinde düşünme becerilerini kazandırma yeterliklerinin değerlendirilmesi [Evaluation of primary school 4th grade teachers' ability to gain thinking skills in social studies lessons]*, Unpublished Master's thesis, Çukurova University, Adana.
- Gürkaynak, İ., Üstel, F., and Gülgöz, S. (2003). *Eleştirel düşünme [Critical thinking]*, Education Reform Initiative, İstanbul: Sabancı University Publishing.
- Halpern, D. (1998). Teaching critical thinking for transfer across domains, dispositions, skills, structure training and metacognitive monitoring, *American Psychologist*, 1(43), 449–455.
- Kamber, T., Acun, İ., and Akar, C. (2011). İlköğretim birinci kademe sosyal bilgiler öğretim programının uygulanabilirliği [Applicability of primary education first stage social studies curriculum], *Uşak University Journal of Social Sciences*, 4(2), 195–218.

- Karasakaloğlu, N., Saracaloğlu, A. S., and Yılmaz Öznelci, S. (2012). Türkçe öğretmeni adaylarının okuma stratejileri, eleştirel düşünme tutumları ve üstbilişsel yeterlilikleri [Reading strategies, critical thinking attitudes and metacognitive competencies of Turkish teacher candidates], *Journal of Abi Evran University Karşebir Faculty of Education*, 13(1), 207–221.
- Kazancı, O. (1989). *Eğitimde eleştirel düşünme ve öğretimi* [Critical thinking in education and teaching], İstanbul: Kazancı Books.
- Kökdemir, D. (2005). Üniversitede bir eleştirel düşünme yöntemi [A critical thinking method in college], *Science Technical*, 6(32), 4–15.
- Kuş, Z., and Türkyılmaz, M. (2010). Sosyal bilgiler ve Türkçe öğretmeni adaylarının okuma durumları: (İlgi, alışkanlık ve okuma stratejilerini kullanım düzeyleri) [Reading status of social studies and Turkish teacher candidates: (Level of use of interests, habits and reading strategies)], *Turkish Librarian*, 24(1), 11–32.
- Larsson, K. (2017). Understanding and teaching critical thinking: A new approach, *International Journal of Educational Research*, 84(1), 32–42.
- Ministry of Education (MEB). (2007). *İlköğretim düşünme eğitimi dersi öğretim programı* [Elementary thinking Education curriculum], Ankara: State Books Directorate.
- Ministry of Education (MEB). (2010). *Sosyal bilgiler dersi (4-5. sınıflar) öğretim programı* [Social sciences curriculum]. MEB Publication: Ankara.
- Ministry of Education (MEB). (2013). *Ortaokul matematik (5, 6, 7 ve 8. sınıflar) dersi öğretim programı* [Elementary maths curriculum]. MEB Publication: Ankara.
- Ministry of Education (MEB). (2015). *Türkçe (1-8. sınıflar) öğretim programı* [Turkish (grades 1-8) curriculum]. MEB Publication, Ankara.
- Miles, M. B., and Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (Second Edition). Thousand Oaks, CA: Sage Publications.
- Narin, N. (2009). *İlköğretim ikinci kademe sosyal bilgiler öğretmenlerinin eleştirel düşünme becerilerinin incelenmesi* [Investigation of critical thinking skills of primary education second level social studies teachers]. Unpublished Master Thesis. Çukurova University Institute of Social Sciences. Adana.
- Nold, H. (2017). Using critical thinking teaching methods to increase student success: An action research project, *International Journal of Teaching and Learning in Higher Education*, 29(1), 17–32.
- Özden, Y. (2003). *Öğrenme ve öğretme* [Learning and teaching], (5th Edition), Ankara: Pegem Academy Publishing
- Özdoğan, B. (2000). *Çocuk ve oyun* [Child and game], Ani Publishing: Ankara.
- Paul, R. W., and Elder L. (2001). *Critical Thinking: Tools for taking charge of your learning and your life*. Upper Saddle River, NJ: Prentice.
- Polat, S. (2014). *Eleştirel düşünme becerisi öğretiminin çok yönlü incelenmesi* [Multifaceted examination of critical thinking skill instruction] Unpublished PhD Thesis. Necmettin Erbakan University Institute of Educational Sciences. Konya.
- Saban, A. (2000). *Öğrenme ve öğretme süreci: Yeni teori ve yaklaşımlar* [Learning and teaching process: New theory and approaches], Ankara: Nobel Publishing.
- Şahinel, S. (2002). *Eleştirel düşünme* [Critical thinking]. Baran Publication, Ankara.
- Scheidler, K. P. (1994). Changing teacher thinking in school restructuring: A view from the trenches. *Journal of Education*, 176(2), 45–56.
- Seferoğlu, S., and Akbıyık, C. (2006). Eleştirel düşünme ve öğretimi [Critical thinking and teaching], *Hacettepe University Journal of Educational Faculty*, 30(1) 193–200.
- Şen, Ü. (2009). Türkçe öğretmeni adaylarının eleştirel düşünme tutumlarının çeşitli değişkenler açısından değerlendirilmesi [Evaluation of Turkish teacher candidates' critical thinking attitudes in terms of various variables], *Zeitschrift für die Welt der Türken (Journal of World of Turks)*, ZfWT 1(2), 69–89.

- Tümkiye, S., and Aybek, B. (2008). Üniversite öğrencilerinin eleştirel düşünme eğilimlerinin sosyo-demografik özellikler açısından incelenmesi [Examination of university students' critical thinking dispositions in terms of socio-demographic characteristics], *Çukurova University Journal of Social Sciences Institute*, 17(2), 387–402.
- Türk Eğitim Sen (n.d.). OECD ülkeleri baş alındığında ilköğretimde derslik açığı 158 BİN 999 [Based on OECD countries, the gap in primary education 158 THOUSAND 999], Report. (Retrieved in May, 2020 Available from https://turkegitimsen.org.tr/icerik_yazdir.php?Id=8909).
- Varış, F. (1996). *Eğitimde program geliştirme, teoriler, teknikler* [Program development, theories, techniques in education]. Ankara: Alkım Publishing.
- Vural, R. A. and Kutlu, O. (2004). Eleştirel düşünme: Ölçme araçlarının incelenmesi ve bir güvenilirlik çalışması [Critical thinking: Examination of measurement tools and a reliability study]. *Çukurova University Journal of Social Sciences Institute*, 13(2). 12–24.
- Wiersma, W. (1985) *Research Methods in Education: An introduction*, Third Edition. Allyn and Bacon, Int.
- Yıldırım, A. Ç. (2005). *Türkçe ve Türk dili edebiyatı öğretmenlerinin eleştirel düşünme becerilerinin incelenmesi* [Examination of Turkish and Turkish language literature teachers' critical thinking skills], unpublished Master's thesis, Zonguldak Kara Elmas University, Zonguldak.
- Yıldırım, A., Şimşek, H. (2013) *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in the social sciences], (9th edition). Ankara: Seçkin Publication.

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