

**EMPATHY IN PRIMARY SCHOOL LIFE SCIENCES COURSE:  
THE ROLES ASSUMED BY PRE-SERVICE TEACHERS**

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**ABSTRACT**

It is known that students face daily life problems in the life sciences course in primary school; therefore, it is particularly important to use empathic skills in resolving these problems. However, research has determined that the teachers allocate only limited time to empathic activities, and there also very few such activities in textbooks. Therefore, this study aimed to provide pre-service classroom teachers with empathy-based training that they could use in their future life sciences classes. This research was planned as a case study among qualitative research designs. The participants were 52 third-year pre-service teachers attending the Department of Classroom Teaching at a state university. The pre-service teachers received empathy-based training consisting of the use of empathy, what empathic roles are, and how to use them in the life sciences course. The data collection tool was document analysis, and the quality of the empathetic texts created by pre-service teachers was examined after the training. Fifty-two empathic texts created by the pre-service teachers were examined. Most of the texts referred to a fire-damaged tree and a bird affected by environmental pollution with the least number of texts referring to grass affected by environmental pollution and a bird affected by the hunting season. In the activities created by the pre-service teachers, the basic criteria in the written empathic activities were found to be more appropriate than the quality-improving criteria. Of the 52 activities, only two activities did not comply with the empathic process and two did not comply with the given subject. Consequently, it can be argued that the training the pre-service teachers received in this study was successful.

**Keywords:** *life sciences teaching course, empathy, empathetic roles, activities.*

**INTRODUCTION**

Empathy is a complex moral emotion and has been defined as "the reactions of one individual to the observed experiences of another" (Davis, 1983, p. 113; as cited in Tettegah, 2007). Empathy has an ethical character as it refers to understanding others' perspectives and feeling the emotions of others (Goleman, 1995; Lyn, 2005; as cited in Narinasamy & Mamat, 2013). Empathy is a basic socio-emotional process of human development that involves the ability to perceive, share, and understand the emotional states of others (Richaud, Lemos, Mesuradom, & Oros, 2017).

Empathy is important in people's lives, and the reason for people experiencing problems in daily life is the lack of empathy. In human relations, the ability to empathise is of critical importance since it helps individuals communicate with others, understand their emotions and thoughts, anticipate their future

behaviours, and respond in appropriate ways (Allison et al., 2011; as cited in Peck, Maude, & Brotherson, 2015). The empathic process is recognised to differ in relation to cognitive and affective factors, age of the individual, and other traits, and accordingly researchers have suggested various models. Feshbach and Feshbach (2009) emphasised the cognitive skills in distinguishing affective states in others, and stated that with more mature cognitive skills, a person could perceive others' perspectives and roles and ability to experience emotions in an appropriate way.

Hoffman's (1982; 1983) developmental model focuses on giving an empathic response to those in distress as the motivation of cognitive, effective, motivating and altruistic behaviours (as cited in Feshbach & Feshbach, 2009). It is clear that empathy is correlated with open-mindedness, a democratic attitude, respect for differences and tolerance. Indeed, an effort to understand the reasons for "how he/she is not like me" by looking from others' perspective will bring about respect for differences and a democratic attitude. In this sense, it can be anticipated that studies on developing the empathic skills will contribute to the development of democratic and pluralist perspectives (Kabapınar, 2004).

Empathy has several benefits for individuals. It is positively related to self-expression, socialisation, social sensitivity and social adaptation. Individuals who can express their emotions and thoughts appropriately and have high social adaptation and social sensitivity also possess the ability to empathise. Use of stories, games, and films for children reinforces their empathising skills as well (Özbek, 2004). It is also known that empathy has a direct impact on academic achievement. Learning in the curriculum domains of reading, literature and social studies should be facilitated by empathy because an empathic child can assume the roles of central characters illustrated in fictional and historical reads in a more appropriate way. In addition to the ability to comprehend the roles and perspectives of these fictional and historical characters, the empathic child can share and experience his/her emotions to a certain degree (Feshbach & Feshbach, 2009).

While performing the empathic process inside the classroom, the quality of courses is also important. Teachers' effort to understand what students feel in the classroom and ensure that students are able to empathise with each other is of significance. Enacting this in a course which involves real-life elements would be particularly easier and require less effort. In Turkey, one of the important primary school courses which brings students face to face with certain real-life cases is the life sciences course. The life sciences course contains significant content that covers different real-life stories, addresses various disciplines, and offers individuals elements related to their own experiences (Ministry of National Education, 2009). The associations made by students between their prior experiences and new knowledge is important, as addressed in the 2018 Life Sciences Curriculum as follows: Rapid change in science and technology, changing needs of individuals and societies, novelties and developments in learning-teaching theories and approaches have had a direct impact on roles expected from individuals. Such a change defines an individual who produces information, can use it functionally in life, solve problems, think critically, take initiatives, have communication skills, empathise and contribute to society and culture. (Ministry of National Education, 2018).

The latest changes in the life sciences curriculum in Turkey were implemented in the 2018 curriculum. Although the constructivist approach has not been replaced in this curriculum, certain important changes have been made, including a decreased number of attainments, shorter class hours, and six main themes replaced by six main units. While the life sciences course is given in the first three years in primary schools, the social studies course starts to be given in the fourth year as a continuation of the former, and both courses have similarities (Ministry of National Education, 2018). In this respect, according to Kabapınar (2016), who conducted studies on the use of empathy in the courses of life sciences and social studies, the main criteria for empathy are basic and quality-improving. The former are criteria which must be possessed by the texts when empathy is in place. These refer to staying in the same role during the activity, providing details about the emotions and thoughts of the impersonated being, not providing biased statements or generalization and mentioning the general problems of the group of the person or being impersonated by the students. Quality-improving criteria are criteria which enhance the quality of empathizing process and must be involved by the product. These refer to involving social messages and encouraging people to empathize during the empathic process.

In the empathising process, teachers need to have sufficient knowledge and shape their courses accordingly. Having performed studies on the matter, Carkhuff and Berenson (1967) explained an empathy model with two elements: First is the ability to understand and define others' emotions and points of view, and the second is the ability to transfer such understanding to the empathising person. While students need to be understood, this alone it is not enough the key point of teacher empathy is the teacher-student interaction. Empathy is achieved in the effort through teachers who enable students to understand how their peers feel (as cited in Feshbach & Feshbach, 2009). In addition, as stated by Tettegah (2007), use of empathy by a teacher in the classroom affects the teacher-student relationship and students' confidence levels. Several problems observed in the classroom stem from a lack of empathy. Various research studies addressing empathy in education are related to the role of empathy in the learning and teaching processes of teachers and pre-service teachers (Hazler, 1997; 1998; as cited in Tettegah, 2007; McAllister & Irvine, 2002; Sinclair & Fraser, 2002).

The presence of empathy in a negative situation in the classroom affects the learning process positively. Therefore, it is extremely important to provide pre-service teachers with training in empathy and problem-solving. Feshbach and Feshbach (2009) states that it was possible to learn and improve empathy. According to Peck et al. (2015), "empathy is not a magic wand but a greatly important element required for interactions between teachers and children and teacher and parents. Hence, empathy training should be encouraged for teachers' occupational development." (p.177).

In a study conducted with classroom teachers, it was found that they often focus on intellectual analysis questions in life sciences courses to seek solutions to real life problems and often overlook those related to empathic examination (Ütkür, 2016). However, Rowe and Newton (1994) reported that while examining the problematic situations in the classroom, it was necessary to place an equal emphasis on all questions related to intellectual analysis, empathic examination, and moral analysis. It is very important that primary school children, especially at the concrete processing level, can put themselves in the shoes of characters in presented events and empathise with them when solving social problems. Classroom teachers have a great amount of responsibility in supporting this process because they are fully in control of the quality of this activity and helping the children resolve social problems.

The literature contains many studies investigating the relationship between empathy and education (Barnett & Thompson, 2001; Bratitsis & Ziannas, 2015; Dahri, Yusof, & Chinedu, 2018; Faver & Alanis, 2012; Feshbach & Feshbach, 2009; Garrett & Greenwalt, 2010; Goroshit & Hen, 2014; McAllister & Irvine, 2002; Sinclair & Fraser, 2002; Narinasamy & Mamat, 2013; Peck et al., 2015; Richaud et al., 2017; Saunders & Kowalski, 2015; Skoe, 2010; Tettegah, 2007; Uzunkol & Yel, 2016; Yeniçeri, Yıldız, Seydaoğulları, Güleç, Sakallı-Çetin, & Baldemir, 2015). However, to the best of the author's knowledge, there are no studies that evaluated the effects of a training program on the use of empathy in the life sciences course for pre-service or in-service classroom teachers teaching young children. Therefore, this study is important in terms of providing the teachers of the future with an empathy-based training and investigating the effects of this training.

The life sciences curriculum in Turkey, which aims to provide students with the general skills of communication, emotion management and respect for differences, is closely related to empathic skills (Ministry of National Education, 2018). However, it has been observed that life sciences course books contain only few activities which involve such empathic roles. Thus, it is important that classroom teachers are able to design empathic activities and use them in the classroom setting in the life sciences course which is critical in children's development. Classroom teachers and pre-service teachers need training to assist them in creating and implementing appropriate activities in these courses.

This study, therefore, aimed to examine the quality of empathy-based activities developed by pre-service classroom teachers in the life sciences teaching course after the empathy-based training. To this end, the research questions were as follows:

1. What are the empathic roles created by the pre-service teachers in the texts?
2. What is the quality of the empathic texts prepared by the pre-service teachers?

## Methodology

### *Research design*

This research was conducted as a case study within qualitative research methods. In a case study, it is necessary to investigate a situation in real life, current context or environment (Creswell, 2013; Yin, 2003). A holistic single-case design was utilized, in which only one unit, institution, school or case is investigated (Yin, 2003). In this study, it was aimed to examine the extent to which third-year pre-service classroom teachers were able to benefit from an empathy-based training program prepared by the researcher after receiving expert opinions. In this respect, a single-case design was deemed appropriate for the research since the selected group consisted of a single class of a department of a state university.

### *Study group*

The study group was composed of 52 third-year pre-service teachers attending the Department of Classroom Teaching at a university in Istanbul province. There were 29 female and 23 male students in the group. The criterion sampling method, which is a purposive sampling method, was used when choosing the teachers. In criterion sampling, the sample is chosen in accordance with certain pre-specified criteria. It is important that the selected criteria are rich in terms of providing information (Patton, 2014, p. 238). It was an important criterion that the pre-service teachers volunteered to participate in the study. A further criterion was that the students in the group were enrolled in the life sciences teaching course given in the third year of the classroom teaching programs in the faculties of education in Turkey. This course consists of theory and practice-based education regarding how to present the life sciences course. All procedures were ethically followed in the study. The names of the participant pre-service teachers were not mentioned in the study, and voluntary participation was particularly important. Regarding the implementation of the research, ethical permission was obtained from the pre-service teachers. The researcher received the opinion of field experts in the process of preparing empathy-based training and paid attention to the content validity of the training program.

### *Training procedure*

After the pre-service teachers had attended a nine-hour empathy-based training over three weeks, they were asked to write empathic texts for the life sciences course. The training was prepared by the researcher by asking the opinions of four instructors and four classroom teachers, which ensured that the training served the purpose of the study. The content validity indexes of the items were calculated with the Lawshe (1975) technique (as cited in Yurdugül, 2005). The content validity index value was found to be 0.96. It was therefore determined that the training was valid for use in this study. This empathy-based training was composed of three stages, as detailed below:

- 1) Introduction – Stage of preparation and creating awareness
  - Discussing what empathy is with brainstorming
  - Showing cartoons and drawings that reinforce empathy
  - Explaining the importance of empathy with the support of literature
  - Explaining why empathy is so important in the life sciences course
  - Describing the types of empathy
- 2) Body – Stage of application
  - Describing empathic roles and giving examples
  - Describing empathy-related basic criteria
  - Describing empathy-related quality-improving criteria
  - Giving examples for empathy through written tests, photography, and drawing
  - Performing empathic activities using empathic roles
- 3) Conclusion – Stage of evaluation
  - Exhibiting/reading the products
  - Peer evaluation

- Comparison with previous empathy-based activities
- Discussing empathic attributes in other instructional methods such as case study, drama, and six-hat thinking
- Having students discuss the importance of empathising in the classroom.

### ***Data collection instrument***

Following the empathy-based training for the pre-service teachers, they were asked to adopt certain empathic roles during the empathising process; for example, a fire-damaged tree. In this way, an attempt is made for a person to think, feel and act like the person or being with which they will empathise. Once the students are familiar with 'pretending' within these roles during the teaching and instruction process, it is considered that this will contribute to the empathising process in their real lives.

In this study, 52 empathy-based activities created by the pre-service teachers were subjected to a document review. The activities were about the subject "protect our environment" chosen from the primary school third-year life sciences course. The reason why this subject was chosen was that it was assumed as a suitable subject for the pre-service teachers to empathise with and that different empathic roles could be chosen.

The data collection tool used in the study was document analysis. Documents are among sources that are especially useful in qualitative studies in helping obtain information without the need to use relatively longer-term data collection tools, such as observation and interviews (Yıldırım & Şimşek, 2013). In this study, the empirical texts presented by the pre-service teachers were considered as the documents to be analysed. The basic criteria and quality-improving criteria set by Kabapınar (2016) were utilised for the evaluation of empathic activities examined with the document review.

### ***Data analysis***

The data were analysed using content analysis, which is one of the qualitative research methods. The main purpose of the content analysis is to obtain concepts and relations that can explain the collected data (Yıldırım & Şimşek, 2013). The Real names of the pre-service teachers were not used, and therefore the students were encoded as PT1, PT2, PT3... Two expert instructors helped to code the data. The codes of the researcher and the instructors were compared using Miles and Huberman's (1994) intercoder reliability formula, which shows that when the value is above 0.80, the analysis is considered reliable. In the analysis of the data collection instruments, the intercoder reliability coefficients between the different instructors are given in Table 1.

Table 1  
*Reliability coefficients of the data collection instrument*

Data Collection Instrument	Expert 1	Expert 2	Mean
Document Review	0.90	0.92	0.91

According to Table 1, when the data were analysed, the coefficient averages of the analyses of the researcher and the other two instructors were 0.94. Accordingly, the analysis of the data collection tool used in this study was considered as reliable.

### **Findings**

#### ***Empathic roles created by the pre-service teachers in the texts***

The empathy-based texts written after the training provided for the pre-service teachers were analysed with the document review method. The data on what empathic roles the pre-service teachers assumed in these texts are given in Table 2.

Table 2.  
*Empathic roles regarding the subject protect our environment.*

Empathic roles	Number (f)
Fire-damaged tree	13
Bird that lost its home due to fire	11
Sapling just planted in the forest	9
Fire-affected turtle	6
Child having a picnic with his/her family in the forest	5
Villager who extinguished the forest fire	4
Watchman in charge of protecting the forest	2
Bird affected by the hunting season	1
Grass affected by environmental pollution	1
Total	52

According to Table 2, there are 52 empathic roles regarding the subject “protect our environment.” These roles included “fire-damaged tree” (13), “bird that lost its home due to fire” (11), “sapling just planted in the forest” (9), “fire-affected turtle” (6), “child having a picnic with his/her family in the forest” (5), “villager who extinguished the forest fire” (4).

The data showed that the pre-service teachers were able to choose empathic roles about protecting the environment.

***Quality of the empathic texts written by the pre-service teachers***

The data indicating whether the empathic texts written by the pre-service teachers using empathic roles met the basic criteria are presented in Table 3.

Table 3  
*Properties of texts that met basic criteria*

Properties	Number (f)
Staying in the same role during the activity	49
Providing details about the emotions and thoughts of the impersonated being	47
Not providing biased statements or generalisation	36
Mentioning about the general problems of the group of the impersonated person or being	35

According to the basic criteria in Table 3, 49 texts met the criterion of “staying in the same role during the activity” and 47 met the criterion of “providing details about the emotions and thoughts of the impersonated being.” Thirty-six texts met the criterion “not providing biased statements or generalisation”, and 35 met the criterion of “mentioning about the general problems of the group of the impersonated person or being.”

The following is an exemplary empathic text written by S15 using the role of “fire-affected turtle” and meeting the criteria of “staying in the same role during the activity” and “providing details about the emotions and thoughts of the impersonated being.

*"I am a turtle living its life in the forest. I was feeling greatly distressed when I went for a stroll in the forest this morning but I could not find out what it was about. After I had walked absently in the forest for a while, I felt a burning smell. I did not mind at that moment, but after I walked forward a bit more, I looked up and saw that there was smoke all around before I and trees were invisible due to smoke. I was shocked. The forest was burning furiously. I was breathing smoke on one hand and trying to understand how that happened on the other hand. The habitat of my friends and me was*

*disappearing, and we would not have a place to live in. As I was thinking of these, I noticed I was having difficulty breathing. I left the forest and went to another direction, looking behind..."*

In this empathic text, it is seen that the pre-service teacher stayed in the role of a turtle throughout the text. Moreover, from the sentences "...but after I walked forward a bit more, I looked up and saw that there was smoke all around before I and trees were invisible due to smoke. ... The habitat of my friends and me was disappearing, and we would not have a place to live in." As I was thinking of these, I noticed I was having difficulty with breathing..." it was understood that the pre-service teacher tried to give details about the emotions and thoughts of the impersonated creature.

The following text written by S2 is an example of the empathic texts meeting the criteria "not providing biased statements or generalization" and "mentioning about the general problems of the group of the impersonated person or being", which used the role of "fire-damaged tree".

*"I have been in this forest since I was born. I loved the bittersweet of all four seasons. I grew as the seasons passed by and became a big, green tree. It was very nice to be healthy. One day everywhere was engulfed by smoke. My green leaves could not breathe. I had body aches. My friends withered away suddenly. It turned out that the forest was on fire. Humans came and lit a fire and left without even looking back. Now we are withered trees. We have no beautiful green leaves. Children do not come near us anymore. We do not even have any branches left to cast a shadow. I miss our old days so much... I wish this wasn't how it ended. I am not saying all humans are mean like this but I wish they had done it to us..."*

In this empathic text, the sentences "...My friends withered away suddenly. It turned out that the forest was on fire. Humans came and lit a fire and left without even looking back. Now we are withered trees. We have no beautiful green leaves. Children do not come near us anymore. We do not even have any branches left to cast a shadow..." show that the pre-service teacher mentioned the general problems of the group of the impersonated creature. Furthermore, it is understood from the sentence, "...I am not saying all humans are mean like this but I wish they had done it to us..."; that the pre-service teacher avoided bias and generalisation.

The data regarding whether the empathic texts written by the pre-service teachers met the quality-improving criteria are presented in Table 4.

Table 4  
*Properties of texts that met qualification criteria*

Properties	Number (f)
Involving social messages	15
Encouraging people to emphasise during the empathising process	13

According to Table 4, 15 of the empathic texts written by the pre-service teachers met the criterion of "involving social messages" and 13 met the criterion of "encouraging people to emphasise during the empathising process."

The following empathic text was written by S33 in accordance with the criterion of "involving social messages" and included the role of "sapling just planted in the forest."

*"I am a little sapling. My habitat changed a week ago. I was living in a garden before, now I am in the forest. I had colourful friends of different species there. I miss them but I love my friends here, too. We are having so much fun, and our animal friends are also joining us. On my second day in the forest, a kid coming for a picnic carved a writing on my body. I cried, but he did not hear me, and they left garbage as they left. Officers told*

*them not to leave rubbish, and a warning was hung in the forest. With the help of nature lovers, we will be big trees. I hope they will not do it to us ever again!"*

In this empathic text, with the sentences, *"Officers told them not to leave rubbish and a warning was hung in the forest. With the help of nature lovers, we will be big trees. I hope they will not do it to us ever again!"*, the pre-service teacher tried to give people a social message. Accordingly, the purpose was to increase quality of the empathic text by helping people in the society recognise this issue.

The following empathic text using the role of "bird that lost its home due to fire" was written by S47 in accordance with the criterion of "encouraging people to empathise during the empathic process."

*"I am a bird. There was a huge fire in the forest where I live. It was so bad that I cannot tell you. That very green, beautiful place was burnt away. All my friends did their best to leave. Some escaped while others could not. I not only lost some of my friends but also my home and habitat. From what I learned later, this fire was started because the picnickers could not put out their barbecues properly. I wish such a thing had not happened. Aren't we, birds or other animals, friends of people? I have no idea why people act like this. Now, everyone lost their homes. I hope people think about what they leave behind."*

As seen in this text, the sentences *"...Aren't we, birds or other animals, friends of people? I have no idea why people act like this. Now, everyone lost their homes. I hope people think about what they leave behind..."*, tried to encourage people to empathise.

Some of the empathic texts written by the pre-service teachers were found not to be in accordance with the criteria. These texts are shown in Table 5.

Table 5

*Properties of texts that did not meet to the criteria*

Properties	Number (f)
Did not comply with the empathising process	2
Did not comply with the given subject.	2

According to Table 5, four out of 52 texts did not meet the criteria. Two of them did not comply with the empathising process while the remaining two did not comply with the given subject".

The following is the text written by S20 using the role of "a villager who extinguished the forest fire", which did not comply with the empathising process:

*"A village had a nice picnic area. Many people from near villages would come to this picnic area and have a nice time, but some of the people would have barbecues and leave without putting them out. One day, as he was passing by, a villager saw a part of the picnic area burning. He called the officers but the fire spread towards the forest. Seeing that, the villager grabbed a bucket of water and tried to extinguish the fire. He prevented the fire from growing until the fire-fighters arrived. The village people congratulated the villager."*

It is seen that this text did not include any of the basic criteria or the empathizing process. The villager who extinguished the forest fire was mentioned in the third-person singular. There was no empathising; only what the villager went through was described.

Although asked to write on the subject of "protect our environment", S50 used the empathic role of "a child having a picnic with his/her parents in the forest" in the following text:

*"I am having a picnic with my family in a very beautiful forest. I am so happy. My ball is over here and my swing is over there. I have no problems, such as homework and school. What a wonderful day. I can play ball very comfortably here. I can have a very nice time*

*with my parents, because they generally have work to do, but they can pay attention to me now. I wish I could spend all my days having a picnic with my family..."*

This preservice teacher met the criterion of "staying in the same role during the activity" during the empathising process but did not write the text on the subject "protect our environment".

Consequently, the empathy-based texts examined in the study were in accordance with the empathic text writing criteria in general. It can be argued that the empathy-based training for the pre-service teachers was effective.

## DISCUSSION

Empathy is an attribute and skill necessary for teachers working in partnership with children and their parents. LeCompte (2000) argued that empathy is a necessary component for healthy relationships. Healthy relationships between teachers and parents are required for parent-school partnerships (as cited in Peck et al. 2015). Hence, it is important that teachers perform activities for empathy in the classroom. Shaped in that direction, this study, aimed to examine empathy-based activities developed by the pre-service teachers in the life sciences teaching course after an empathy-based training.

The empathic roles chosen by the pre-service teachers in the written texts in the current study showed that the most preferred roles were "a fire-damaged tree" and "a bird affected by environmental pollution", and the least preferred were "grass affected by environmental pollution" and "a bird affected by the hunting season". Similar to this study, Faver and Alanis (2012) found that when building empathy, young children benefitted from stories that described the relationships between people and animals. It is suggested that the emotional and social empathy felt for animals is similar to that for humans.

In this study, it was seen that when producing empathetic texts in accordance with the roles they chose, the pre-service teachers tried to understand what they felt by putting themselves into the shoes of the creators in these stories, using statements, such as "I am a tree" and "I am a bird". Similarly, in a study by Saunders and Kowalski (2015), the students tended to use the pronoun 'I' in their poems when imagining that they could see, hear and feel like an elderly patient or a family member.

Kabapınar (2004) determined similar empathic roles in a study based on empathising by drawing pictures, the empathic roles included "cat maltreated by children", "fish affected by sea pollution", "public bus driver", "a flower that is not watered and kept in the dark", "a person who collects plastic bottles and waste paper", and "a child working in an industrial area". The students were asked to draw pictures of these roles, and the pictures were evaluated through questions. Evaluation of the data obtained in the research ensured achieving certain results for activities that aim to improve the empathising skill by drawing pictures. As indicated by the research results, empathising by drawing pictures can be an extension of the life sciences course.

In this study, in the activities created by the pre-service teachers, the basic criteria in the written empathic activities were found to be more appropriate than the quality-improving criteria. However, it was observed that the pre-service teachers could write texts that met the quality-improving criteria. Of the 52 activities, only two activities were found not to comply with the empathic process and two did not comply with the given subject. The primary result achieved in this study is that majority of the pre-service teachers could develop activities using empathic roles following the empathy-based training. It can be argued that this empathy-based training was a success.

There are many studies on the use of empathy in education in the literature. Among them, Richaud et al. (2017) developed an Empathy Questionnaire for nine- to 12-year-old children. In the study carried out by Dahri et al. (2018), the importance of empathy in the relationship between students attending the program of technical and vocational development teaching and the instructors was shown. These studies generally commented that empathy is quite important in education. The most recent research about teacher effectiveness shows that empathic teachers do not just tend to create more secure and

motivating environments and establish positive relations with their students, but also that their empathy has positive effects on student performance (Goroshit & Hen, 2014; as cited in García-Pérez, Santos-Delgado & Buzón-García, 2016).

Empathic teachers were found to possess high moral standards, communicate successfully with their students, both emotionally and mentally, and encourage students to forge this kind of relationship with others (Cooper, 2004; as cited in Goroshit & Hen, 2014). Thus, teachers' empathy is a required teaching skill that promotes a positive learning environment for all students. Moreover, researchers agree that teachers can be trained to be more empathic (Ming Lam, Kolomitro & Alamparambil, 2011; as cited in Goroshit & Hen, 2014).

The research carried out by Uzunkol and Yel (2016) aimed to determine the effect of respect- and responsibility-based value education provided in the life sciences course on self-esteem, social problem-solving, and empathy. It was concluded in the research that the value education provided in this course had a positive impact on the empathic levels of the primary school third-year students.

It can be inferred from this result that an education provided in the life sciences course has a particularly significant effect on the empathic skills of primary school students. As stated by Barnett and Thompson (2001), empathic studies play a key role, especially for primary school students. Reinforcing the importance of empathy, it was observed in a study conducted with primary school fourth- and fifth-grade students that the highly empathic students were more helpful and were treated their friends in a better way.

According to Damon (2010), despite their important roles in improving empathy in children, parents' contributions may be limited because of their lack of knowledge and experiences. Relevant research study conducted by Wentzel (2002) showed that teachers could have more influence on the motivations and behaviours of students in the classroom than their parents (as cited in Narinasamy & Mamat, 2013). Furthermore, Skoe (2010) suggested that the presence of ethical models helped teachers contribute to the care and empathic development of students. Therefore, teachers need to play a crucial role in developing empathy among students. In a supporting study, McAllister and Irvine (2002) concluded from the data obtained in the teacher interviews that importance of empathy was emphasised in students' helping them become more effective and productive teachers. The teachers stated that empathy directed them to more positive activities through student-assisting classroom climates and student-centered pedagogy.

## CONCLUSION

With the arrival of technology and space age, one of the greatest problems at the national and international level in the future is related to human relations and communication. Particularly during the concrete processing period, young children now play games in the computer environment, and thus allocate less time to playing games or socializing with their peers in real life, which leads to individuals being raised without sufficiently developing communicative and empathic skills. This presents them with difficulties when they encounter a problem in their future lives. Since it is not an option to slow down technological developments, the role of teachers is to create opportunities in the education environment for young students to socialize, establish a healthy relationship and empathise with others.

From this study, it can be inferred that the empathy-based training provided for the pre-service teachers was successful in helping them create a qualified and desired level of empathic activities to enact with the children their future classrooms. Therefore, this kind of training can be applied to similar classroom and branch in-service teachers and pre-service teachers so that the individuals of the future can adequately develop their skills related to human relations.

Considering that especially in the early age group, the first education is provided in the home environment in which children are closely intertwined with their families. Therefore, similar training programs concerning empathy can be organised for the parents of children. As shown by the study of

Kol (2016), parenting styles have an impact on children's social skills. It has been shown that democratic parenting styles positively and significantly affect children's social skills, while overprotective parenting styles have a significant negative effect on their social skills. Therefore, an empathy-based training designed for parents can develop children's social and communicative skills in the following developmental stages. In this respect, future longitudinal studies could offer useful data.

In this study, the pre-service teachers were prompted to develop empathy-based activities, but after this process, they were not engaged in in-class practice related to these activities, in which they would have been able to observe possible situations to arise with their prospective students. Thus, future research can involve further empathic text and activity studies to be undertaken especially with primary school students.

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