



Education Quarterly Reviews

Bertiz, H. (2022). The Water Awareness Via Drama: An Experimental Study on Pre-Service Science Teachers and Their Views. *Education Quarterly Reviews*, 5(1), 462-475.

ISSN 2621-5799

DOI: 10.31014/aior.1993.05.01.455

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

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The Water Awareness Via Drama: An Experimental Study on Pre-Service Science Teachers and Their Views

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Abstract

The aim of this research is to determine the effect and usability of drama in creating water awareness. The research was carried out with pre-service teachers who are studying in the Science Education Department of a state university in Turkey and who want to participate in the research voluntarily. A total of 17 pre-service science teachers (PSTs), 14 female and 3 male, took part in the research. In the research, a written interview form (WIF) consisting of 3 questions was used to determine the opinions of the PSTs about the usability of drama in raising water awareness. Applications in the study covered 12 weeks. In the applications, a drama application was made for each week about water. After the applications, the qualitative data obtained in the research were evaluated and interpreted. Descriptive and content analysis techniques were used in the analysis of qualitative data. The results of the research show that drama can be an effective method in creating water awareness. As a matter of fact, the opinions of PSTs are in this direction and point out that the usability of drama in creating water awareness is high. In the light of the findings obtained at the end of the research, the results were discussed and some suggestions were given.

Keywords: Drama, Creating Water Awareness, Drama in Education, Pre-Service Science Teacher

1. Introduction

Water is one of the essential components of life and has been one of the main factors determining the fate of civilizations for centuries. Today, due to the ever-growing population and increasing water use, the extent of the crisis is increasing day by day, especially in terms of water-poor countries. Based on the fact that there will be no artificial substance that can replace water in the future, it is predicted that water will become a strategic scarce resource by increasing its importance (Mengü & Akkuzu, 2008). Water is not only necessary to sustain life, but also a very valuable resource in that it plays an integral role in the life support system, economic development, community well-being and cultural values (Çolakoğlu, 2009). On the ground, fresh water is vital to nearly every aspect of the lives of humans, animals, plants, the environment, and ecosystems. Despite all the developments, the planning and management of water on earth are difficult. At the root of this difficulty is the lack of understanding of the effects of land, ocean and atmospheric systems on water, and in this case, there are factors such as population growth, increase in water demand, industrialization, urbanization, water pollution,

deforestation (Sivakumar, 2011). Large numbers of people die each year from water-related diseases. This situation mostly affects children and the elderly (Klawitter & Qazzaz, 2005). Sufficient and high quality water is one of the most important needs for healthy people and quality production. For this reason, it has become imperative not to leave future generations in a difficult situation and to find solutions to increase usable water and to use existing water economically (Ergin, 2008).

So much so that water is one of the indispensable elements of life. The life and survival of living things depend on the available fresh water resources on earth. Because 80% of the body of a person, who is the most equipped among living things, consists of water, and 2/3 of the earth is covered with water. Water is a vital substance that shapes the earth, creates and sustains all kinds of life. Since water is a vital substance that comes from nature and is intertwined with nature, it is naturally a natural part of science lessons. It is almost impossible for a science teacher to continue his lessons without knowing water and its components, sharing it with his students, or raising awareness about the importance of water to his students. Because water is in the basis of every phenomenon in every natural event. For example, while there is water in the living areas of living things in a lake, river or ocean, on the other hand, there is water in the metabolic structures of all these living things. Although the effects of global climate changes on water are known (Kundzewicz et al., 2008; Chiew & McMahon, 2002; Ludwig et al., 2009; Bergström et al., 2001; Milly et al., 2008; Arnell, 2004; Barnett et al., 2004; Mata & Budhooram, 2007), the insufficiency in water resources And considering the unavoidable depletion, knowing the value of the available water resources and acting economically in this context is only possible by understanding the importance of this vital substance. An awareness to be created on the importance of a valuable substance such as water for life can increase the amount of heritage to be left to future generations. This can only be possible if a conscious generation uses water correctly, effectively and economically. Defining water in terms of integrity in the field of science education and raising awareness about its importance can be an important value in the processing of science subjects. It is very meaningful to raise awareness about water, which means life, for the world, which is struggling with various environmental problems and will face a very valuable natural resource shortage such as water in the very near future.

Understanding the importance of water for humanity and the earth can only be possible with an effective and effective education. Awareness situations to be created regarding the importance of water can play an effective role in ensuring the necessary care in the use of water in life. Providing this awareness from an early age is very important in the construction of future generations. Because the formation of societies that consume water consciously is an important step in the continuity of an important and vital resource such as water for a sustainable life. Different teaching methods can be functional in creating water awareness in education. In this context, in this study, it is desired to create an awareness of water, which has a very important place in science education, and to investigate how effective a life-centered method such as drama will be in this awareness. In other words, it is aimed to examine whether a method such as drama, which is based on the experiences of the individual in a fictional environment and offers quite rich life situations, can create water awareness.

Drama is a form of role-playing, improvisation, etc. on a fictional ground that allows learning by doing, being active, student-centered, giving the teacher the role of a guide, having playful forms in its structure. It is an enjoyable and entertaining teaching method that examines real-life situations with basic techniques such as, providing permanent and meaningful learning (Bertiz, 2015). In drama, the individual, by being himself in the role of the analyzed event or situation, not only provides a chain of experiences regarding realistic and rational solutions in a fictional environment, but also succeeds in establishing meaningful relationships with regard to the event, situation or concepts examined. At the same time, drama offers unique opportunities in terms of learning environments and experiences. For education and learning environments, drama is an effective method that provides meaningful and permanent learning (Bertiz, 2021). Drama includes dramatic conflict situations and playful processes on a fictional ground. Solutions to the problem situation are sought through improvisation and animations. The existence of conflict situations in drama is very important for the continuity of the process and for the search for more effective solutions to the problem situation. Because the situations of opposition in drama make the interest in the events and the happenings permanent. In other words, it makes the events worth watching. This interest can enrich the search for solutions to the problem in question. Drama has an important place and effect in science education as in many other fields. In this sense, there are many studies that reveal the

effect of the method in science education, underline the positive effect on course success and attitudes towards the course, and show that positive attitudes towards the method are developed, and more specifically, its contribution to permanent and meaningful learning, which increases interest (Altıntaş & Kaya, 2012; Bailey, 1994; Bailey & Watson, 1998; Bertiz, 2010; 2015; Bertiz et al., 2010; Bertiz et al., 2017; Christofi & Davies, 1991; Çam et al., 2009; Duveen & Solomon, 1994; Hamurcu, 2009; Kılınçaslan & Şimşek, 2015; Linfield, 1996; Metcalfe et al., 1984; Tveita, 1998; Watts et al., 1997). However, studies on water, which can be included among environmental issues in science education, and the importance of water in life are quite insufficient. In addition, in the context of the importance of water in life, it is very valuable to create a water awareness in terms of sustainability in future generations. At the same time, the effect of methods such as drama that can create water awareness is a matter of curiosity. Because, water-based events or situations that will be handled through the contrast situations in the drama can create a lasting and instructive effect. Because, while there may be those who want the water to be healthy and clean in nature, the natural opposition situations that will be created by those who are on the front that pollute the water due to their economic and work activities are exactly the desired environment in the drama. In other words, making students understand the importance of a vital component of life such as water and creating an awareness of its role in life can produce very fruitful results with an environment that will enrich the situations of opposition.

Accordingly, in this study, it was aimed to determine whether drama will have an effect on creating water awareness in pre-service science teachers (PSTs) from a science education perspective. The sub-objectives of the research are as follows. In this study,

- 1) To determine the effect of drama on creating water awareness in PSTs through some events and life situations that include the importance of water,
- 2) It is desired to determine the usability of drama in creating water awareness and in science education.

2. Method

2.1 Research Design

Case Study Design, one of the qualitative research methods, was adopted in the study. It is stated that the case study design is an appropriate way to describe and analyze a situation or phenomenon (Merriam, 1998). Sturman (1999) claims that it is a distinctive feature of case studies to have integrity in situations that require in-depth human research (Cohen et al., 2006). Case studies, in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals. The case(s) are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995 as cited in Creswell, 2003; p. 15).

2.2 Participants

The research was carried out with pre-service teachers who are studying in the Science Education Department of a state university in Turkey and who want to participate in the research voluntarily. A total of 17 pre-service science teachers (PSTs), 14 female and 3 male, took part in the research. The descriptive statistics of the participant group in the research are given in Table 1.

Table 1: Descriptive statistics of the participant group in the research

		GENDER		TOTAL
		Female	Male	
	N	14	3	17
Participant Group	%	82,3%	17,7%	100,0%

A total of 17 (100%) PSTs, 14 female (82.3%) and 3 male (17.7%), participated in the research on a voluntary basis. While 12 of the PSTs in the participant group are studying in the 3rd grade of the Science Education Department, 5 of them are studying in the 2nd grade. The ages of PSTs vary between 19 and 21.

2.3 Data Collection Tool

Written Interview Form (WIF): A structured written interview form was used as a qualitative data collection tool in the research. This form included 3 open-ended questions. The questions were formed in a clear and understandable way that PSTs could easily answer. In the creation of the form, the opinions of two field experts and two language experts were taken. In line with these opinions, the form was arranged and given its final form. In the form, a sufficient space was left under each question in which the PSTs could freely express their thoughts. Thus, the PSTs were given the opportunity to express their opinions without limitations. The written interview form is aimed at determining the views on the usability of drama in raising water awareness and in science education. Accordingly, with this form, it was tried to determine the effect and usability of drama on creating water awareness and science education subjects. The response time for the written interview form varies between 30 and 40 minutes.

2.4 Procedure and implementation

The practices were carried out in the drama classroom of a large and well-established state university in Turkey. A drama classroom was used for drama practices. The researcher also developed drama lesson plans by taking the opinions of two field experts. The plans, which are prepared in detail by including the basic stages of the drama and establishing cause and effect relationships, mean a facilitating program for the scenario for the leader. However, although these plans are an indicator for the activities in the process within the framework of the objectives and sub-achievements of the lesson sessions, the fine details up to the role distribution are left in the process due to the nature of the drama. Because what role people will play, what kind of groups will be formed and in this sense, all consensuses develop in the process. As a matter of fact, spontaneous situations or events, which are the nature and dynamism of the drama process, provided creative and effective environments during the practices.

In the research, specific objectives have been established for applications where another dimension of water is examined every week around the water theme. These objectives have been designated as an important guide to the course of the course. Accordingly, the application order, name and objectives of each lesson session according to the weeks are presented in Table 2. After 12 weeks of applications, written opinions of 7 randomly selected PSTs were taken.

2.5 Data Analysis

A qualitative method was followed in the analysis of the research. Accordingly, the data obtained from the WIF was analyzed and interpreted with descriptive content analysis. In the first step of the analysis of the data in the research, themes were formed from the questions asked to pre-service science teachers (PSTs) and the striking expressions under these themes were described as they were. Thus, the validity of the research was increased by sharing the statements in a clear and objective way. In this context, the answers given by the students to the questions were examined, themes and codes were created from frequently repeated expressions and analyzes were made. The frequency distributions of the resulting codes are presented in a table. Thus, it was aimed to reveal certain tendencies of PSTs' thoughts about the drama method by changing the angle and analyzing it in depth. In order to ensure reliability in data analysis, independent coding was done with another researcher and a consensus of 93% was reached among the coders. According to the coding control that gives internal consistency, the consensus among coders should be at least 80% and for this; $\text{Reliability Coefficient} = \frac{\text{Number of Subject/Terms on which Consensus was reached}}{\text{Number of Subject/Terms on which Consensus was reached} + \text{Number of Subjects/Terms on which Consensus was reached}} \times 100$ (Miles & Huberman, 1994; Patton, 2002).

Table 2: Prepared Drama Lesson Sessions and Aims

Order of Application	Drama Lesson Session	The Purpose of the Drama Lesson Session
Application 1	Drama and Inception	Comprehending the theoretical infrastructure of drama/Understanding the word origin of drama/Examining the historical process of drama/Recognizing the theorists who played a role in adapting the drama to the educational process/Comprehension of the basic structure of drama/Determining the techniques required in drama
Application 2	King Midas	Examining the techniques used in drama through a story
Application 3	Faces, Dreams and Dreams	Experiencing the stages and application of drama structurally / Developing imagination / Developing creativity
Application 4	Water and Earth I	Determining how water is formed on earth / Understanding how water is formed on earth / Examining how the water cycle occurs in nature
Application 5	Water and Earth II	Determining the paths through which water passes on the earth / Determining the specific areas where water passes on the earth / Determining the areas of use of water in daily life
Application 6	Water and Its Benefit	Determining the benefits of water on earth / Determining what kind of benefits water has on earth / Understanding the importance of water in daily life
Application 7	Water and Life	Identifying water-oriented habitats on earth/Defining water-oriented living spaces/Recognizing the importance of water for all living things and life from ancient times to the present
Application 8	Life Without Water	Recognizing the problems that may be encountered when there is water scarcity / Identifying the sociological areas where water scarcity can be experienced / Recognizing the negativities that can be experienced when there is water scarcity / Recognizing the importance of water for life through water scarcity
Application 9	Water Crisis	Identifying ways to save water and being aware of the importance of water saving / Identifying ways to save water / Recognizing the importance of water saving / Developing solutions to a possible water crisis
Application 10	Journey to Mitsa Island and a Day on the Island	Examining solutions for thirst and drought/Developing and examining solutions for thirst and drought/Developing imagination and creativity
Application 11	Island and Happy Life Full of Water	Identifying the areas of use of water in a living area and being aware of the benefits of water / Determining the areas of water use on the island and the ways of using water / Awareness of the benefits that water brings to a living area / Awareness of the negative effects of thirst and drought on the individual before migration / Developing imagination and creativity
Application 12	No Water on the Island!	Developing solutions to a water crisis in a living space/Finding solutions to a water crisis in a living space/Recognizing the importance of water for a living space

3. Results

Table 3 below shows the codes, percentage and frequency distributions of the PSTs whose written opinions were taken during the interview.

Table 3: Codes, Percentage and Frequency Distributions of the Interview Group

Gender	N	%	PSTs in the Interview and Their Codes
Female	5	71	1F, 5F, 6F, 13F, 14F
Male	2	29	2M, 3M
Total	7	100	1F, 5F, 6F, 13F, 14F, 2M, 3M

1F: 1st Female PST/5F: 5th Female PST /6F: 6th Female PST /13F: 13th Female PST /14F: 14th Female PST
2M: 2nd Male PST /3M: 3rd Male PST

In this section, the expressions and opinions revealed in the written interviews with the PSTs are described as under the theme of each question.

3.1 Drama as a method and its educational effectiveness

In the written opinions taken from some of the PSTs, it is seen that they have adopted drama as a method. This can actually be seen as an important situation for the water awareness-drama meeting. Because the PSTs witnessed the drama and its practices through the water issues that set out to raise awareness of water, and they acquired positive attitudes towards the method in the handling of this issue. 1F's thoughts on drama are as follows: *"I feel very lucky to have learned the drama method. I believe it really helped me a lot. The training process I received was very effective. It has contributed to my knowledge of what drama is, its development, its history. The circle of friends we made and the sincere behavior of our teacher made us love this method even more. The most important thing I learned in this drama method was to build our self-confidence. I believe we did it even better thanks to our teammates and our coach."* (1F)

1F considers himself lucky to know the drama method. She also argues that the drama and the events in the process contributed to him very seriously. She also stated that he witnessed that the drama increased his self-confidence. These sincere thoughts that 1F said about the drama method were expressions to be considered. Expressing that she also found the process educational and instructive, 5F's statements about the method and process in general are as follows: *"I found the process educational and equally entertaining for myself. I remember looking forward to the next lesson every week. Most of the time, we didn't even realize how the time passed together. I think, above all, it gave me a lot of experience in how one can look at different situations from different perspectives."* (5F)

It is seen that she uses deep and methodically impressive expressions about the drama method, which she finds educational and entertaining. Expressing that what is done with drama is very enjoyable and fun, even they do not understand how time passes, she emphasized the immersive nature of drama in a sense. 6F's views on the same question are as follows: *"I found the drama method very useful. I think it helps the development of communication, socialization skills, the development of imagination, emotional and psychomotor behavior development, empathy skills, as well as self-expression and critical thinking skills using all of the sense organs... It's an effective process."* (6F)

The expressions used by 6F, who were seen to have obtained very detailed information about drama throughout the process, were also noteworthy. For example, by exemplifying the effectiveness of the process, 6F stated that she was quite creative in the applications, had fun, and what she learned remained in his memory. The comments and views of 13F, who started with the permanence and effectiveness of the drama, are as follows: *"I think that drama is a very permanent and effective method in education and training. Because it appeals to the student mind in many ways. It also increases creativity and productivity. When we associate the subjects discussed in drama with life, we can grasp the importance of many subjects. In drama, the child can move freely. He uses his imagination. Drama is also a good environment for friendship and self-confidence..."* (13F)

13F draws attention to the self-awareness that occurs in the practices, and argues that drama improves the attention phenomenon in the person. For example, she stated that they realized that water has many uses and

importance that many of them did not realize until today. The views of 14F, who mentioned the fun aspect of drama, were as follows: *"I think drama is an event that all teachers and teacher candidates should learn. Because I really think it pays to learn while having fun. I think it would be very useful to apply the drama method to the fields of learning. Because, especially for my department, being able to reach the level of children of that age and teach something without suffocating them is an important event. We learned something by having a lot of fun in the drama app. First of all, it was really enjoyable to be able to produce something quickly and try to apply it."* (14F)

She stated that 14F drama is fun and enjoyable. Here are 2M's thoughts for the drama: *"The drama method is an effective and catchy method. Following the process and directing its course by people who are competent in terms of implementation will increase the level of effectiveness of this method. The drama method has a longer retention time and spreads over time. In other words, the information obtained can remain in long-term memories."* (2M)

According to 2M, which emphasizes the drama method as a method that provides permanence, beyond providing information at the cognitive level with drama, what is much more important is to provide development in the affective field. The views of another male PST, 3M, on this question are as follows: *"The drama method has primarily been a method that allows us to enter the inner world of events. If we consider the methods applied in the school education systems that each of us has taken for years, it is clear that it is a method that only gives instant ideas to the individual and trains for exams. The biggest difference of the drama method is that it allows individuals to experience the subject first and to learn by living through it. Buddha is a sign of permanent and life-long education. The drama education we receive is a very effective tool in the education system, especially in this respect. In addition, drama education motivates students and adds them to the education system with pleasure. During the implementation process, I saw and adopted this feature of drama at every stage."* (3M)

Expressing that he has adopted drama in a sense by expressing that drama must be included in education, 3M states that drama allows learning by doing-living, what is learned through drama is permanent, and at the same time, the drama environment is fun.

3.2 The effect and usability of drama in creating water awareness

In the second question directed to the PSTs, it was questioned whether it was possible to create water awareness in individuals with drama and the effect of drama on this issue in general. The PSTs, on the other hand, explained the effect of drama from their own perspective on this question, basing it on certain reasons. For example, the views of 1F, one of the PSTs, on this question are as follows: *"The fact that we touched on different aspects of water every week has effectively created drama and water awareness for us. We developed ourselves with a different aspect of water every week. Sometimes we became trees, sometimes we became princes, sometimes we became an umbrella. But we did these roles on the water. We grasped the water and revived the water. If necessary, we became water and tried to understand water that way."* (1F)

1F states that drama is an effective method and process in creating water awareness, with examples from the implementation process. She argued that working on a different aspect of water each week improves them and it is fun at the same time. Talking about the implementation process for this question, 5F's views are as follows: *"We examined the importance of water for other living things every week. Each time, we have described the need for water of a living thing that we have constructed. Maybe a drop of water on a leaf did not seem necessary to us before. I think it was very effective since water awareness and need were imposed on people depending on their imagination and creativity. During the discussions we had together at the end of the day, I realized how many areas I actually used water in my life."* (5F)

It is seen that 5F makes very effective and remarkable sentences on the effect and usability of drama in creating water awareness. Here are 6F's views on this question: *"With drama, water awareness can be created in individuals. Because with drama, we can think creatively and critically about the impact of an event on individuals, its impact on society, and its impact on the world, in possible situations such as before, during and*

after the event. It is very important to be conscious individually and socially for the consumption of water, which is of great importance for human beings. For this reason, I think it would be more beneficial to apply the subject of water awareness in children.” (6F)

Emphasizing that water awareness can be created through drama, 6F said that drama as one of the reasons for this; It shows its effect on the individual, society and the world in the examination of events as allowing critical and creative thinking. In addition, 6F advocates that water awareness should be gained through drama from an early age. Because she believes that conscious societies will be formed in this way, 13F's views are as follows: *“The work we have done has contributed to raising water awareness. I think it will be beneficial for individuals who take part in such events. Drama also compares people with reality, so it is an important activity in comprehending some facts. If I were to explain based on our work; We said what can we do in a time of water scarcity. In order to generate ideas, it is necessary to think as if you are in that scarcity, then many different solutions can be found.” (13F)*

Like her other friends, 13F also thinks that drama is an effective method for creating water awareness. She even expresses this by presenting evidence from his own earnings, as in others. The opinions of 14F and 2M, who briefly and concisely described the effect of drama, were as follows: *“I think that drama is an effective learning method. Therefore, what should definitely be given about water awareness can be given. While we are dealing with that subject, we are brainstorming and thinking about what we can do, what should be, how we should explain, we actually set out from the events we have applied in life.” (14F)*

“We evaluated water from a different perspective every week in the studies on water. We envisioned what kind of problems we would face in a waterless world. In addition to verbal awareness, this plays a role in making sense of water and embodying it more emotionally, both in individuals who play the drama and in the audience watching the drama. Concrete data is even more memorable. In other words, the drama method makes it easier for us to concretize the events. Thus, it is definitely an effective method for raising awareness in teaching water awareness.” (2M)

Drawing attention to the fact that the drama actually examines the events that come from life, 14F was one of those who argued that the method would definitely be effective on water awareness. Again, stating that drama is an effective method in creating water awareness, 2M thinks that drama contributes to the interpretation of events with its affective aspect, and that it is also effective in concretizing events in general. 3M's views on this question were as follows: *“The most important feature of drama is to create awareness of the subject in individuals. The important thing is not to tell the subject, to have it written down and to memorize it, but to apply this knowledge to life. Drama method makes this awareness by making it fun for individuals. In each study, we aimed to be able to look at the event from many different perspectives and solve the problems by experiencing them, thanks to imagination and brainstorming. Maybe we discovered aspects of a small problem that are not seen in daily life. For example, we discovered how much wasted water is actually made in our daily lives. Each discovery brought a new solution. We combined these solutions with imagination and played.” (3M)*

3M draws attention to a very different aspect of the gain provided by drama in creating water awareness. Because 3M states that many people have gained knowledge at the cognitive level on the point of being sensitive about water, using water carefully, avoiding waste and not polluting the water, but this has not been translated into behavior and transferred to daily life.

3.3 Drama as a method proposal in creating water awareness from an early age

In the third question, the PSTs were asked whether drama could be suggested as a method in creating awareness to prevent water problems from an early age in the globalizing world, and their thoughts on this subject were sought. The views of 1F of the PSTs on this question were as follows: *“And it would be very nice. I totally agree with this idea. We could not possibly understand water awareness in a better way. Or they can't understand. As it is said in the question, it is necessary to know many aspects of water problems in our globalizing world. In other words, everyone can apply and teach the drama method very well, including children.” (1F)*

1F states that drama is a good method in creating awareness about the importance of water and water problems from an early age. As a method proposal, she thinks this is a rational and logical idea. 5F's comments for this question are as follows: *"I read in an article that whatever we tell an individual not to do, the brain is motivated to do it. No matter how much you say don't do it, he will definitely do it. I don't believe in the effectiveness of saying "do/don't do" in order to raise awareness on various issues anyway. In cases where the reasons are clearly stated, the individual should be confronted directly or indirectly with the consequences of these reasons. I think the drama will be effective in that respect."* (5F)

According to 5F, with drama, the person is confronted directly or indirectly with the consequences of an event or situation. In a way, this is much more effective than telling someone or forbidding something. The views of 6F, who think that the drama is effective, are as follows: *"Drama is one of the effective teaching methods applied to children. Raising awareness in individuals is a process that should be implemented from an early age. Awareness acquired from a young age, that is, raising the awareness of a generation is the first step in raising the awareness of societies. Young people form the future of a society. It is very important to raise the awareness of the new generation in our country, which does not yet have water consumption awareness or is at a deficient level."* (6F)

According to 6F, it is important for future generations to create water awareness from a young age and to create awareness about the importance of water and water problems. This can produce effective results with the drama method. Because, according to 6F, while the individual learns permanently in a fun environment with drama, on the other hand, he thinks both critically and socially about the reasons for water problems. The views of 13F, who are also warm to raising water awareness with drama like 6F from an early age, are as follows: *"Water awareness is created if the issue of water is handled with drama from an early age, and the child's effective participation is ensured. And in this way, the individual who understands the importance of water acts accordingly. He uses water carefully in his own life. They can inform their surroundings about the importance of water, pay attention to water resources, and warn people about water use. It can take measures to prevent water scarcity and drought. In our study, we addressed scarcity and realized that it was a really difficult situation."* (13F)

The opinions of 14F regarding the subject and the question are as follows: *"I think it should definitely be recommended. It is an important auxiliary method for splitting awareness. Because every person has differences in perception and understanding. For those who can understand by reading, reading is sufficient, but for those who understand by seeing, drama is an effective method. Of course, one method alone is not enough. It needs to be supported in different ways. Drama is also a method that will provide important support."* (14F)

Expressing that drama can definitely be recommended as a method in this regard, 14F was one of those who expressed a positive opinion about the method in creating awareness for water. 2M's thoughts are as follows: *"Drama is already an effective method. This method is a very good method for creating awareness on many issues. Especially in young minds, the information desired to be taught can be taught easily and permanently. Knowledge will not be forgotten for many years from a young age. The individual will be able to transfer his knowledge to his daily life and use it effectively."* (2M)

2M believes that drama can be a very effective process in structuring young minds. He also thinks that the information learned by young minds will be permanent and will not be forgotten for many years. Therefore, according to 2M, what is learned with the drama method can be used effectively in daily life by transferring it to life. In this respect, 2M believes that drama will be effective in creating awareness for water from an early age. The views of another male PST, 3M, are as follows: *"I think the drama method is a very effective method for awareness formation. If we are thinking about our future, drama education must be included in the system and the awareness of the next generation of the globalized world must be laid. It is necessary to start this change from a young age. Another advantage of drama is that when practiced at a young age, awareness can almost turn into character. This is the foundation of a conscious society. In a conscious society, it will support and protect people with new ideas for the future."* (3M)

3M thinks that drama is effective because it provides a learning environment by living, because water problems cannot be prevented by just reading. Table 4 shows the percentage and frequency distributions of frequently repeated statements regarding the drama method and its usability in creating water awareness.

Table 4: Percentage and Frequency Distributions of Frequently Repeated Statements Regarding the Drama Method and Its Usability in Creating Water Awareness

Question	Frequently Repeated Phrases	<i>f</i> *	%
1. How did you find the drama method? Do you think the method is an effective process for education and training? Explain your feelings and thoughts on this subject, taking into account your feelings during the implementation process.	Drama is a very effective process	6	85,7
	Drama is a method that provides permanence	6	85,7
	Drama is an enjoyable and entertaining process	4	57,1
	Drama allows learning by doing-experiencing	2	28,5
	Drama is a useful process	2	28,5
	The creativity of the individual develops with drama	2	28,5
	Drama develops attention and awareness	1	14,2
	Drama develops a sense of self-confidence	1	14,2
2. In the applications, we worked on one aspect of the work on "Water" every week. Considering the practices we have done, do you think that "water awareness" can be created in individuals through drama? What do you think about the effect of the method on this issue? Explain the reasons.	Water awareness can definitely be created with drama	6	85,7
	Drama is an effective process in creating water awareness	6	85,7
	Drama is a method that provides permanence in creating water awareness	3	42,8
	The individual is creative and critical with drama in creating water awareness	3	42,8
	The individual learns by doing-living with drama in creating water awareness	2	28,5
	Drama is an enjoyable and entertaining process in creating water awareness	2	28,5
	Cognitive knowledge can be transformed into behavior with drama in creating water awareness	1	14,2
	Issues become concrete with drama in creating water awareness	1	14,2
3. Can drama be suggested as a method to prevent the "Water Problems" that are expected to turn into an important crisis in the near future, in our globalizing World, and to create awareness in individuals from an early age? Explain your thoughts with reasons.	It is effective to use drama from an early age for water awareness	6	85,7
	What is learned turns into behavior for years to come	3	42,8
	In this process, children learn by doing-living with drama.	1	14,2
	With drama, the child experiences an enjoyable and entertaining process	1	14,2
	Permanence is ensured with drama	1	14,2
	In this process with drama, the child thinks creatively and critically	1	14,2

*: The frequencies in the table show the number of people. (N=7)

When Table 4 is examined, the expressions of "Drama is a very effective process" ($f=6$, 85.7%) and "Drama is a method that provides permanence" ($f=6$, 85.7%) stand out as the highest frequency in the first question. In the second question, the expressions "Water awareness can definitely be created with drama" ($f=6$, 85.7%) and "Drama is an effective process in creating water awareness" ($f=6$, 85.7%) are of high frequency. Finally, in the

third question, the highest frequency was the expression "The use of drama from an early age for water awareness is effective" ($f=6$, 85.7%).

4. Discussion and Conclusion

Written interviews with some of the PSTs support the determination that drama is an effective method in raising water awareness. Because, in their opinions, the PSTs stated that drama is an effective process in general, it provides permanence, they learn by doing-living with drama, they develop a sense of self-confidence, and they experience a fun and enjoyable process. Because there are many studies in the literature that support these views (Calp, 2020; Ormancı & Ören, 2010; Başcı & Gündoğdu, 2011; Bertiz, 2010; 2015; Saylan et al., 2016). In addition, they stated that drama provides creative and critical thinking and provides the opportunity to look at events from different perspectives. The positive sentences used by the PSTs about drama in the first question directed to them made them think that they liked and adopted drama very much. It should be considered important in terms of the results of this study that PSTs adopt drama in general as a method and develop positive attitudes towards the method. Because, PSTs acquired these positive attitudes towards the method during practices on water. In other words, PSTs were satisfied with drama and creating water awareness. Because environmental issues can often be seen as boring. However, it is quite striking and remarkable that the PSTs said that they enjoyed it instead of getting bored during this study. Apart from this indirect determination, in the second question directed to the PSTs, the opinions of the PSTs on this issue were taken directly. It has been observed that the PSTs have included expressions that clearly and clearly reveal the effect of drama on creating water awareness. They even explained all these by giving examples on their own, and revealed that the implementation process had certain reflections even on their own daily lives. It can be said that the effect of the method has a very important effect when this developing situation is evaluated as an adult individual's putting the knowledge and experiences they have gained through this whole application process into behavior in their own lives. Because it is known that it is not easy to transform the knowledge acquired at the cognitive level into behavior during the learning experience. Moreover, this situation becomes even more difficult for environmental issues. For example, a person who knows that keeping the water running while brushing his teeth is a waste does not comply with this behavior while brushing his teeth. Therefore, the fact that drama has a behavioral effect on some PSTs in such a short time makes the method important.

For some of the PSTs, the reflection of the gains in practice in their daily lives and the behavioral changes in this sense can be attributed to the effectiveness of the drama in the affective dimension. In other words, the individual who is involved in the events themselves, who empathizes with the event, phenomenon or person and who develops feelings and emotions can put the knowledge and experiences they have learned into behavior. For behaviors, only the knowledge acquired at the cognitive level may be insufficient. From this point of view, drama is an important method with its strong affective aspect. Because it is known in the literature that drama has an impact on attitudes and affective areas (Bertiz, et al., 2010; Hamurcu, 2009; Oğuz Namdar & Kaya, 2019). On the other hand, the concept of awareness is explained through knowledge, attitude and behavior in some studies in the field of environment (Erten, 2004; Bertiz, 2010; Bertiz et al., 2017). Therefore, for water awareness, besides cognitive knowledge, the emotional and behavioral domains should also be considered.

Drama, which affects the daily lives of even adults, can be used to create water awareness from a young age. Because one of the important results and outputs of this research is to encourage the use of water awareness from an early age. In the third question directed to PSTs, it was emphasized whether drama could be suggested as a method for raising awareness about water from an early age. The PSTs emphasized that this would definitely give a good result, and they agreed that drama would have very effective results in this regard. It is obvious that raising awareness of the importance of water in childhood and raising awareness about water is important for future generations. This can be possible by using the drama method from the basic education ages. There are studies in the literature suggesting that environmental awareness should be created from an early age (Alım, 2006; Bertiz, 2010; Bertiz et al., 2017; Gülay, 2011). Water awareness, just like environmental awareness, should be created from an early age for a sustainable life.

Water is an important component of the environment and life. From this point of view, the continuity of an important part of life is also important. Therefore, water should be protected and guarded by humanity with great sensitivity and care. However, while water is a part of the environment and the human factor is in question, avoiding the elements that pollute the water may seem like a challenge. There may even be human-oriented obstacles to the protection and healthy use of water. Humans are at the forefront of the elements that pollute the water. In other words, this natural conflict situation that emerges is a unique opportunity for the drama method in the context of content.

Except for situations of opposition, it is possible to examine the importance of a vital substance such as water by using tension elements due to the nature of drama, and it can produce very effective results. Because the tension elements, which are mostly included in the drama, are quite appropriate in an investigation about water. For example, using a tension element developed on the basis that water decreases with certain periods and making the participant feel that it will disappear completely in the end can offer unique opportunities to keep the importance of water alive. In other words, the fact that water is a vital substance will also enable to create tension elements naturally. This will present effective life situations in explaining the importance of water in the life cycle.

From another point of view, water is a part of natural life. In other words, it is a substance that an individual who experiences the drama process uses constantly in his life and frequently experiences about it. Therefore, this rich experience of each individual in the drama will pave the way for a multidimensional view of the drama in which real life is moved to a fictional ground. This will also enrich the gains in the process. Because each individual has a meaning attributed to water, and this is as much as the individual participating in the process. In other words, the subject in focus is far away from something that the individual has never encountered before in his life.

5. Suggestion

Based on the results of the research, the following suggestions can be made; Creating awareness of water and its importance and creating water awareness should be carried out especially from an early age. Teaching methods that can be effective within the education system in creating global awareness of water, explaining and conveying the importance of water should be researched. In this context, in the century we are living in when serious water problems begin to be experienced globally, educators should pay attention to use life-based teaching methods such as drama in raising water awareness. In addition, the effect of drama on water awareness should also be investigated for different age groups.

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