

## Examining the Drawings and Opinions of Teacher Candidates on the Environment They Want to Live in

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**Abstract:** This research was conducted with 27 teacher candidates studying in the final year of Trakya University, Department of Science Teaching, in the 2023-2024 academic year. The research was conducted with qualitative research technique and consists of drawings and semi-structured questions. In the research, participants were first asked to describe what kind of environment they wanted to live in by drawing pictures and then explain their drawings. Additionally, they were questioned about what they were doing for the environment in their drawings. Later, when the pictures were examined, it was determined that all participants, regardless of their demographic characteristics, wanted to live in clean, green and natural environments. In addition, it is seen that they focus on activities such as recycling, saving water and electricity, using public transportation, planting saplings, raising awareness and warning about the environment, for the environment they want to live in.

**Key Words:** Teacher Candidates, the Environment They Want to Live in, Drawing

### Öğretmen Adaylarının Yaşamak İstedikleri Çevreye İlişkin Çizimlerinin ve Görüşlerinin İncelenmesi

**Özet:** Bu araştırma 2023-2024 eğitim-öğretim yılı Trakya Üniversitesi Fen Bilgisi Öğretmenliği Anabilim Dalı son sınıfında öğrenim görmekte olan 27 öğretmen adayı ile yapılmıştır. Araştırma nitel araştırma tekniği ile yapılmış olup resim çizimi ve yarı yapılandırılmış sorulardan oluşmaktadır. Araştırmada katılımcıların önce nasıl bir çevrede yaşamak istediklerini resim çizerek anlatmaları ve sonra çizimlerini açıklamaları istenmiştir. Ayrıca çizimlerindeki çevre için neler yapıyor oldukları sorgulanmıştır. Demografik özellikleri fark göstermeksizin bütün katılımcıların temiz, yeşil ve doğal olan ortamlarda yaşamak istedikleri saptanmıştır. Ayrıca yaşamak istedikleri çevre için de en çok geri dönüşüm, su-elektrik tasarrufu, toplu taşıma kullanma, fidan dikimi, çevre konusunda bilinçlendirme ve uyarma gibi etkinliklere ağırlık verdikleri görülmektedir.

**Anahtar Kelimeler:** Öğretmen Adayları, Yaşamak İstenen Çevre, Resim Çizme

#### 1. INTRODUCTION

As with everything on earth, there is a certain order and balance in the natural environment we live in. This process, which can be called natural balance, helps living things develop their relationships among themselves and with the environment in a healthy way. On the contrary, when a situation occurs, this balance begins to deteriorate. One of the most important factors that lead to the disruption of natural balance; Industrialization and the use of technology, which increased with the industrial revolution in the 19th century, caused humans to destroy the environment and as a result of this process, rapidly growing environmental pollution (Bozkurt and Cansüngü Koray, 2002).

Environmental problems that emerged especially in the last quarter of the 20th century began to seriously affect human life. For this reason, the necessity of protecting the environment, which is affected by people's behavior, has become an important issue in society. Thus, by understanding environmental problems more deeply, it has helped the environment to be accepted as the common heritage of humanity and the emergence of

programs and practices that support the development of environmental awareness (Aydın, 2013).

It has become a necessity to raise environmentally sensitive individuals in order to leave a healthier, safer and cleaner environment to future generations (Şahin et al., 2004). Young people's attitudes towards the environment are more important than other individuals. Because young people are expected to have a significant impact on finding and developing solutions to the environmental problems we face today. Therefore, effective environmental education emerges as an important necessity for school-age students (Yalçınkaya, 2012).

Individuals need to be given environmental knowledge and environmental awareness training from a very young age (Aydın, 2013). Education starting from the pre-school period will help protect our environment by raising environmentally friendly individuals and transfer environmental awareness to future generations (Aydın, 2013).

Environmental education given in higher education institutions is an education level that should be

given importance like other education levels. Because it is the last stage in which individuals can be instilled with knowledge, skills and behaviors such as environmental awareness, environmental sensitivity, environmental responsibility awareness and active participation in environmental issues. Environmental education in higher education institutions teaches individuals about environmental problems at national and international levels, makes them think about the solution of these environmental problems, and helps them achieve sustainable development (Abalı, 2014).

For this purpose, using student drawings in research has many advantages. Collecting data by doing drawing studies is open-ended and they are familiar activities. When drawings are supported by interviews, they can be a tool that enables interaction (Einarsdottir et al., 2009; Özdemir Özden and Özden, 2015). Therefore, this study aimed to determine the satisfaction of future teachers with the environment they live in and to investigate their activities for a better environment.

## 2. MATERIAL AND METHODS

It is seen that research on the environment is generally conducted using quantitative research. The number of qualitative studies is less. Semi-structured interviews are often used in qualitative research aiming to determine students' views on the environment (Özdemir Özden and Özden, 2015; Yardımcı and Bağcı Kılıç, 2010; Loughland et al., 2002).

Benefiting from previous studies in the literature (Arik, 2014; Aydın, 2013; Kıvrak, 2018; Polat, 2012), this study tried to determine the mental models of prospective teachers regarding what kind of environment they would like to live in. The research data was collected in the fall semester of the 2023-2024 academic year from students studying in the final year of Trakya University, Department of Science Teaching, in the "Environmental Education" course. The draft questions used in the data collection tool were prepared by the researcher and presented to expert opinion. Three questions were determined to determine the mental models of candidate teachers. These questions; "Describe what kind of environment you want to live in by drawing a picture?", "What did you want to say in the picture, explain?", "What do you do for the environment you want to live in, explain?". A form was distributed to the prospective teachers and they were given approximately 2 class hours to prepare their demographic characteristics (Table 1) and drawings. Participants were left free to choose paper size, drawing technique and paint type.

Table 1: Distribution of Demographic Characteristics of Science Teacher Candidates.

Demographic Characteristics	f	%
<b>Gender</b>		
Female	23	85.19
Male	4	14.81
<b>Place of Residence</b>		
Province	8	29.63
District	17	62.96
Village	2	7.41
<b>Mother's Education Level</b>		
Is illiterate	-	-
Primary school graduate	2	7.41
Secondary school graduate	6	22.22
High school graduate	15	55.56
University graduate	4	14.81
Master's or PhD graduate	-	-
<b>Father's Education Level</b>		
Is illiterate	-	-
Primary school graduate	-	-
Secondary school graduate	9	33.33
High school graduate	15	55.56
University graduate	3	11.11
Master's or PhD graduate	-	-
<b>Total</b>	<b>27</b>	<b>100</b>

Before the applications were carried out, participants were informed about the purpose of the research, how to answer the data collection tool, voluntariness and confidentiality. All participants participated in the research voluntarily.

Then, the data obtained in the research were examined using the content analysis technique (Cohen and Manion, 1994). First, the answers given by the candidates were transferred to the computer environment by the researcher and each candidate was given a code (Candidate Teacher = CT1-27). Students coded CT6, 7, 17 and 22 are male, the others are female. In the next stage, the participants' answers transferred to the computer environment were subjected to content analysis. Content analysis is one of the techniques frequently used, especially in qualitative studies. Content analysis is defined as a systematic, repeatable technique in which some words of a text are summarized into smaller content categories with coding based on certain rules (Büyüköztürk et al., 2015). In the content analysis, answers that were close to each other were grouped together within the framework of certain concepts and themes. Then, the collected and grouped data were reported using content analysis.

A study permit was obtained for the study by Trakya University Social and Humanities Research Ethics Committee with the number E-29563864-050.03.04-569946.

### 3. RESULTS AND DISCUSSION

First of all, in this section, the drawings of prospective science teachers about the environment they wish to live in are examined and their statements are included. Then, what they do to live in such an environment is discussed.

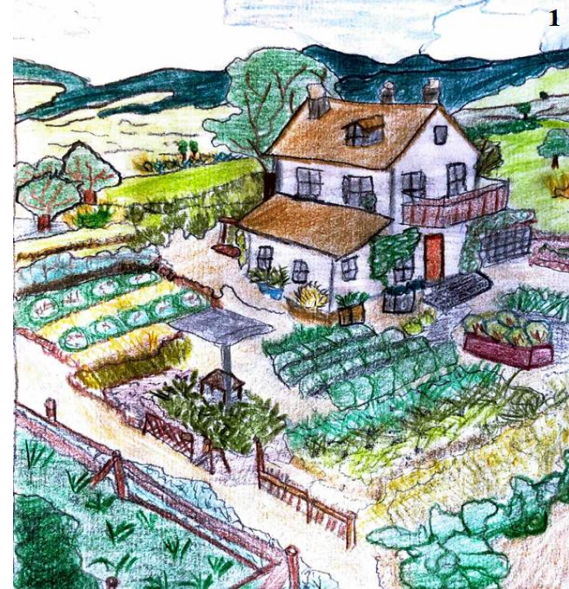
#### 3.1. Evaluation of Candidate Teachers' Drawings

In this section, most of the participants' drawings and expressions of the environment in which they want to live in their dreams are included.

CT1 expressed that she wanted to live in a natural village environment (Picture 1) with the following words: *"I wanted to express in the picture that I wanted to live in a natural village environment. I think it would be better to live in an environment where we can grow our own products and where natural life reigns, away from noise, rather than being crowded, industrialized and suffering from intense air pollution affected by the smoke of factory chimneys and car exhausts. In the picture I drew a detached village house. I used different shades of green to indicate that there is a small garden and small areas in the garden where I can easily grow the products I want. I colored the sky with very light blue tones to indicate that air pollution is at a minimum level. I drew small hills behind the house to remind me of fertile soil and covered them with green vegetation and grass. In short, I wanted to explain that organic life with the least pollution prevails in the picture."*

CT2, on the other hand, stated the environment she wanted to live in with her very environmentally friendly personality (Picture 2). *"I tried to paint a coastal town based on the places I visited, as opposed to the environment I lived in. In the environment where I want to take part in this picture, there is a settlement where care is taken to preserve the natural beauties. There is an environment where green areas, trees and forests are abundant, and attention is paid to the sustainability of water and soil, which are important resources for our lives. Care is taken to protect the ecosystem in an environment where agriculture can be carried out on lands with fertile soil and plants can be grown by drip irrigation from the natural water source. It is an environment where small and concise houses consisting of two or three floors at most are not made up of concrete piles, where groups of plants, animals and people can live together. I chose this living space because I think*

*that the factors that will cause pollution can be reduced as much as possible. In this picture, I have shown an environment where bicycles are used as vehicles, and transportation is carried out easily, without vehicles that will cause air pollution. Additionally, in this picture, I designed an environment that uses renewable energy sources. For example, I drew wind turbines suitable for the terrain in hilly areas, with three blades that can take tall wind. I installed solar panels on the roof of each house that can generate its own electricity. In this way, the entire environment can provide the electricity needed for household appliances from solar energy. In order to pay attention to the control of waste that will cause environmental pollution, I positioned recycling bins specific to each waste in the center so that an environmental life that cares about the concepts of recovery and recycling and pays attention to this will continue to be passed on to future generations. I also placed water pools in the gardens of each house to collect dew in order to prevent water scarcity."*



Picture 1: The natural village environment where the participant coded CT1 wants to live





Picture 2: The environment CT2 wants to experience in holiday towns

CT3 wanted to express in her painting that she wanted to live in an environment free of environmental pollution with the following words: *"I explained that I wanted to live in an environment where there was no smoke coming out of factories, no high skyscrapers and urbanization, in short, no factors that would negatively affect human health and economy or reduce biodiversity, and no environmental pollution caused by population growth. That's why the people in the picture cover up these bad factors. In this way, what will remain is an environment where renewable energy resources are used, everywhere is green, and production is made with human power, not machine power."* (Picture 3).



Picture 3: CT3 depicts an environment where pollution is eliminated

CT4 highlights natural areas in its painting (Picture 4). *"In the picture, I wanted to explain that animals live freely, there are many forests and greenery, forests are not destroyed, houses are not multi-storey, away from people, there is no air, water or soil pollution, there are no economic problems, attention is paid to environmental pollution, forests are not burned, seas and lakes are clean, and wind energy is converted into electrical energy thanks to wind turbines."*



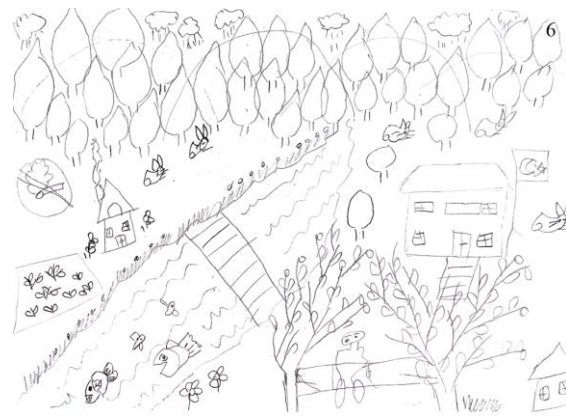
Picture 4: CT4's natural environment where animals are free

CT6 indicates that it prefers a clean environment without much human intervention (Picture 5). *"I wanted to describe an environment intertwined with natural life, animals and trees, where there is not much intervention in nature, where people protect the environment they live in, where other creatures live in the world other than themselves and are conscious of not harming their living spaces, where animals live freely in their own habitats, where water is not polluted with waste from factories, where air is not polluted with fumes from factories, where there is no air, water and soil pollution, where people live in detached houses rather than apartments, where animals live freely in their own habitats."*



Picture 5: CT6's living environment with little human contribution

CT7 depicted the environment she wanted to live in as follows (Picture 6): *"In the picture, I wanted to describe a life in which our oxygen source forests are not destroyed, our water resources remain clean, and we do not negatively affect the lives of natural animals. I wanted to tell about the happy life of children who enjoy going to school in a pristine environment."*



Picture 6: CT7's desire for a pristine environment

CT9 also depicted a clean environment without pollution (Picture 7) and explained it as follows: *"In the painting, I aimed for people and animals to live in clean air. I wanted to draw a picture where there were plenty of forests and trees and the air was clean. I tried to minimize environmental pollution, where the houses were made of wood, not concrete. I wanted to draw water sources where there is no water pollution and where animals and people can live healthily. I aimed to ensure that there were no factories around and that waste would not pollute the water and air. I wanted to draw an environment where people do not interfere with the natural area. I wanted there to be large areas where agricultural areas and animal husbandry can be done easily. I chose such a drawing because I wanted to live in an area where I would not be affected by natural disasters or human errors. I wanted it to be away from the pollution of city life. I wanted the house to be powered by renewable energy. Energy is provided by solar panels on the roof of the house."*



Picture 7: CT9's desire for a clean environment without pollution

CT10 green prefers the forest more (Picture 8). *"Our world breathes thanks to our trees, so I want a world where our forests do not disappear. Let's plant new tree saplings, I want to sit and rest in the shade of old trees. I want to have a picnic under the shade of the trees. When I looked out the window in the picture I drew, I said that I wanted to see greenery, parks and gardens, not concrete and high-rise buildings. In the picture, I depicted a world where there are children's voices and bird sounds, and where children can have fun and play to their heart's content in parks and gardens."*

*Inspired by Mustafa Kemal Atatürk's words, "Eyes that do not see green are deprived of the taste of color...", I painted the environment I wanted to live in."*



Picture 8: CT10's desire for children playing in greenery

CT11 again desires clean environment (Picture 9). *"In the picture I drew, I imagined that I lived in a clean environment. I dreamed of a lake with a lot of greenery and afforestation and clear water. I dreamed that fish lived in this lake, there were swans, and other animals lived in this clean water."*

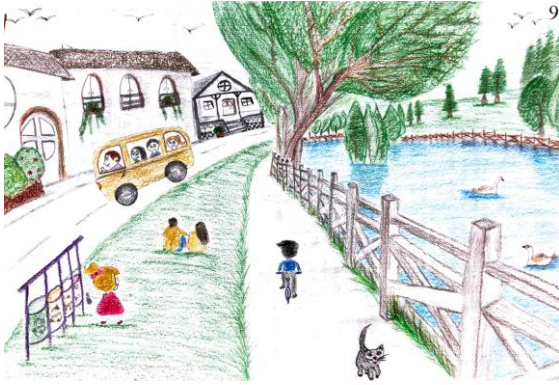
*I imagined that areas such as green areas, parks and gardens were kept clean, and that people saw these green areas as living spaces and became sensitive individuals for their cleanliness and greenery."*

*I imagined that people would reduce possible environmental pollution to a lower level by using public transportation vehicles (such as buses, bicycles) instead of choosing individual cars and living a life where both noise pollution and the smoke from car exhaust create environmental/air pollution."*

*At the same time, I dreamed of garbage bins where even the garbage bins were made from recycling and the garbage was separated into plastic, glass and batteries. I dreamed of an environment where families taught their children how to sort their garbage."*

*I imagined that people cared about greenery and looked for plants in their homes and balconies. I imagine an environment where there are single-storey minimal houses instead of multi-storey houses, and these houses produce electrical energy using renewable energy sources such as solar panels."*





Picture 9: Picture of CT11's dream of a clean environment

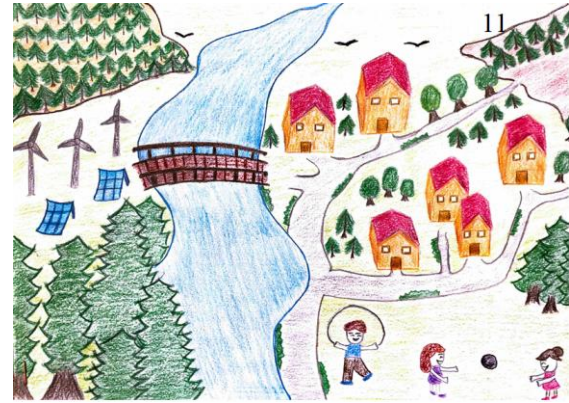
CT12 explained that she wanted to live in a city environment with a green environment (Picture 9). *"Rather than living a completely village life, I would like to live in a place where both city life and a green environment coexist. Instead of seeing pale colored houses everywhere, I would like to see lush green trees, colorful flowers, and a deep blue, pollution-free sky. I explained that I wanted to live in a modern and clean environment, away from the pollution caused by factories."*



Picture 10: CT12's green city living environment

CT13 portrays a humble and natural environment (Picture 11). *"I would like to live in a place where there is a quiet, calm, modest life, away from noise and pollution, where everywhere is green and there is no gloomy weather. I wanted to draw a place where the environment is not polluted to produce*

*energy, water is not polluted when used, the natural order is not disturbed and everyone lives in a happy order. I drew this picture because I wanted to live in an environment where no trees were cut down, even if they were cut down, new ones would be planted, where no animal life became extinct because of humans, and where people were not unhappy because of the gloomy weather."*



Picture 11: CT13's modest living environment

CT15 wants to live in a natural environment (Picture 12). *"In the picture I drew, you see that there is plenty of greenery and trees. I would like to live in a natural environment full of trees, flowers and greenery. I wanted to express this in the picture I drew. Then, in my picture, I drew a trash can filled with garbage. I wanted to explain that garbage should be thrown into the trash can, not into rivers, under trees or on the ground. I wanted to explain that if filters are installed in the chimneys of the factory I drew, the amount of gases polluting the environment will decrease. All of these details are very important for our environment and I tried to make them noticeable in my painting. Especially trees and plants are very important both in preventing erosion and in terms of the benefits they provide to our environment. Let's not harm the environment, let's protect nature."*



Picture 12: CT15 life in a natural environment

CT16 explained her desired environment as follows (Picture 13): *"I would like to live in an environment where there is greenery wherever I turn my eyes,*

where trees are abundant, and where energy needs are met using renewable energy sources (in the picture I drew, wind energy is used). I would like to live in an environment where transportation is provided by vehicles such as bicycles in close distances for both the environment and human health, where the water is clean enough to be used from nature and does not contain chemicals, where many animal species can live in the environment, where there are more low-rise houses than high-rise buildings. I wanted to express this in the picture I drew."



Picture 13: CT16 life in a natural environment

CT18 prefers a clean and unpopulated environment (Picture 14). "A clean environment away from the noisy crowds of the city, where people cannot pollute. I wanted to describe a living space where animals' habitats are not destroyed, and where they have clean air, water and soil, and are surrounded by animals. I wanted to draw a living space that was a combination of abundant greenery and blue, with the sounds of animals instead of the noise of the city. The reason why I drew a boat that I can sail on the lake is that I love life in the water. Living in such a place gives me peace. I would like to live in a place where animals are abundant and people are few. I would like to have a living space where I can get my fill of fresh air and relax. A living space with clean water, where animals live together and away from pollution. An environment with agricultural areas where resources are used economically. An environment with plenty of trees and oxygen."

CT20 explains as follows (Picture 15): "In the picture I drew, I drew a living space where people live in single-storey detached houses rather than living in multi-storey city sites, and there are more green areas. There are also places where people plant trees in some parts of green areas. With these trees drawn side by side, I wanted to emphasize how important afforestation is for the natural environment."



Picture 14: CT18 life in a natural environment

I drew it by imagining a place where some people obtain some of their own food resources by planting crops in the field. People in this area protect natural habitats by not throwing their garbage into the natural environment. That's why there is no trash in my picture. I emphasized that on the roof of each house, people produce electrical energy by taking advantage of the sun, thus saving electricity and using renewable energy sources. I didn't draw too many houses because the more people there are in that area, the more environmental problems there are. I drew an area where flying birds, running dogs and children can play freely. I wanted to create a more natural environment by drawing a stream between the houses. In addition, agricultural people use the water in streams in a way that does not disrupt the balance of nature, thus saving water. That's why I placed the houses along the streams."

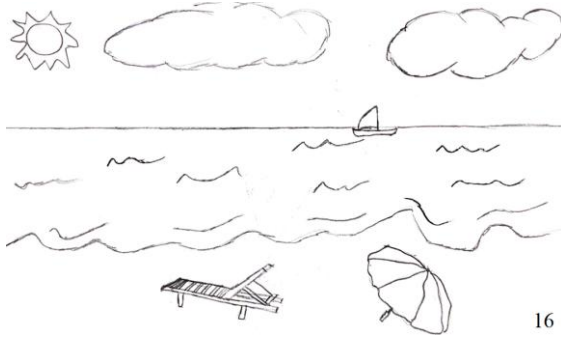


Picture 15: CT20's desire for green and single-storey houses

Participant coded CT22 wants an unpolluted Gulf of Saros (Picture 16). "In the picture, I imagined that the FSRU Port and Pipeline, which was built in the Gulf of Saros, one of the cleanest regions of the Aegean Sea, was never built, as the report was found positive in 2018. I drew a Gulf of Saros that is self-cleaning, smells like the sea, can be used by the

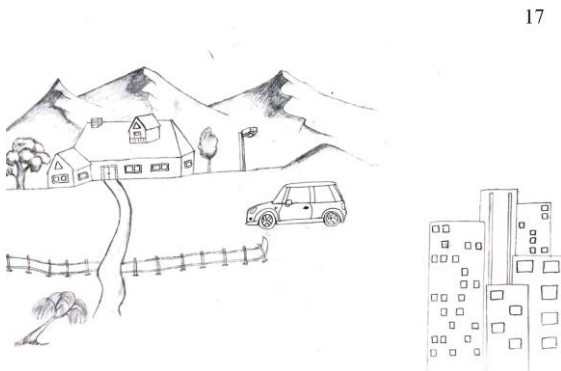


public, trees are not cut down for the project, and the environment is not polluted."



Picture 16: Drawing of TC22 unpolluted Gulf of Saros

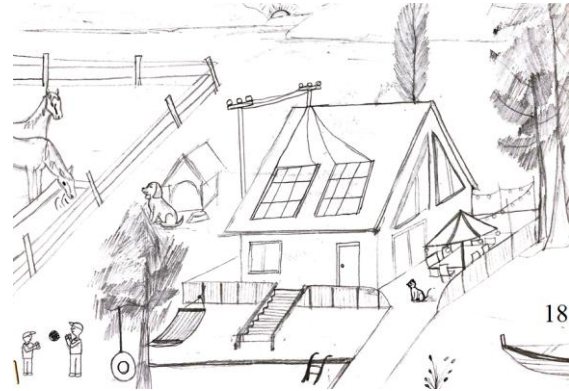
CT23 wishes to live in a detached house close to the city centre. (Picture 17). *"I want to live in a detached house that is 25-30 minutes away from the city center by car, surrounded by greenery, surrounded by trees, quiet, clean and with a garden. I want to live in a quiet place surrounded by nature. In a place where I can walk in greenery, where there are no car sounds or noise, and where bird sounds can be heard easily. When I look out of the window or balcony, I want trees and grass, in short, a greenery and a view that gives me peace. I want the front of my house to face a green area with grass, but there should be trees on the sides of my house. I want the air in the environment I live in to be clean."*



Picture 17: Drawing of CT23's desire to live in a single-storey house near the city center

The candidate coded CT24 desires a natural life away from the city (Picture 18). *"My first goal is to establish a living space away from urbanization and intertwined with natural life. An environment with clean air created by pine trees and clean water by the lake. The cleanliness of the mountain air, where a farmhouse with pets is located, is beneficial for respiratory health. An environment far from the noise of city life, without horn sounds and exhaust fumes. I used solar panels, which are renewable energy, as the energy source. Energy is provided from the sun through panels installed on the roof."*

*There is no source that pollutes the environment. I aimed to provide heating and energy without using fuel that would create air pollution."*



Picture 18: CT24's desire for a natural life away from the city

The teacher candidate coded CT25 also prefers a natural environment (Picture 19). *"This environment is in a natural environment, with few people and natural beauties that inspire me. In this picture I depicted the area where I want to live. A nature away from pollution, surrounded by animals... It also has a wind turbine."*



Picture 19: Drawing of CT25's desire to live in the natural environment

As a result of examining the pictures drawn, and explanations the majority of the participants want to live in natural sustainable environments that are clean, unpolluted, and where animals move freely. They especially prefer non-multi-storey and detached areas. Only CT12 wants to live in multi-storey buildings in the city. But when he looks out the window, he wants to see greenery, flowers and a park. The male participant coded CT22 wishes that there would be no pipeline in Saros Gulf and that no trees should be cut down during the construction of this line.

### 3.2. Activities Done for the Environment You Want to Live in



In this section, first of all, some statements of some participants about what they are doing today for the environment they want are included.

The participant coded CT6 acquired sensitive habits regarding the environment from an early age and expressed his behavior as follows: *"Since my childhood, I have a habit of never throwing my garbage on the ground. If there is no trash can around me, I don't even throw away the wrapper of a chocolate I eat. Instead, I take out a plastic bag from my bag and put it in it until I find a trash can. Unfortunately, not many people have this habit. People can throw away the garbage and packaging of everything they eat and drink into the environment. People can be insensitive about this issue. When I have a picnic with my family or friends in forest areas, I always clean up the garbage left behind, if we have lit a fire, I put it out and leave the place like that. I leave the place I am in clean so that people who will come after us can benefit from it."*

The expression of CT9 is as follows: *"I am a member of the TEMA community for this environment. I participate in sapling and tree planting activities. I do not throw garbage on the ground to prevent environmental pollution. I use recycled garbage in my own home. I take care to find recyclable garbage outside and throw it into them. I do not throw oil waste into sinks. I collect it and give it to recycling places. To reduce my carbon footprint, I usually go to places that I need to reach on foot. When I go to distant places, I prefer public transportation. I prefer solar energy instead of natural gas in my summer house. Instead of always buying plastic water bottles, I buy a bottle of water and recycle the old one to get a new one. I try to reduce the supply and demand relationship by shopping for clothes as much as I need. I prefer the economical ones when shopping for light bulbs and white goods."*

She explained what she did for the environment in CT18 as follows: *"I intervene when I see any contamination or pollutants. I try to spread the knowledge I have acquired as much as possible around me. Since there is a lot of planting in my family, I try to learn about planting trees, flowers and plants and apply them in practice. For example, when I was a child, I went to Bursa Regional Directorate of Forestry, where my grandmother worked, to help and observe. Later, during my university life, I participated in afforestation activities thanks to the TEMA club. I try to be conscious and economical in my usage. For example,*

*my paper usage, water usage, clothing, etc. I try not to spend unnecessary money on things."*

CT22 expresses its activities with the following words: *"Water is one of the most important resources of our time and is becoming increasingly depleted. Even a drop of water is very valuable. We water the trees with the rainwater we set up in the garden of our house. I am very careful not to waste water. I separate household waste, glass, oil and plastic waste and throw them into different boxes. I go to one of the chain markets that collect oil waste and empty it. I regularly donate to TEMA. I volunteer in tree planting programs. I try to walk short distances and use public transportation when walking is not possible. I share informative posts about environmental pollution with our people on social media."*

The expression of the activities of the participant coded CT27 is as follows: *"I started by planting the first plants and cacti on the balcony of my house for the environment I wanted to live in. I prefer bus or public transportation to ensure less CO<sub>2</sub> emissions in the environment. In this way, I try to both save the amount of O<sub>2</sub> I use and reduce the CO<sub>2</sub> emissions of the environment. My goal is not to cause global warming and not to disrupt the extinction and balance of animals. If I earn my own money and have a profession in the future, as a science teacher, I will emphasize to my students the importance of the environment, that we must be sensitive to the environment, and that it is very important for the generation of all living things. In this regard, I aim to work specifically with students. For example, I emphasize how picnics taken with students should be left clean and what the consequences will be if they are not left clean. Another thing I attach importance to is the segregation and collection of garbage, and I practice this in my own home. I especially tell my students the importance of this. Because some cats or dogs may injure themselves if there is glass in the garbage while going through the garbage. I think she needs to be sensitive for this. Or, I would like them to be careful about this by emphasizing that the glass waste left at picnics causes forest fires, destroying our forests and harming the animals in the forests, and that increasing fires can also come to settlements and damage our homes."*

The activities that science teacher candidates are doing today and that they plan to do in the future for the environment they want to live in, and the codes of the participants are given in Table 2.

Tablo 2: Activities that the participants are currently doing and planning to do in the future for the sake of the environment and the codes of the participants

Activities carried out by participants for the environment they want to live in	Participant codes
Using public transportation to prevent air pollution	1, 2, 3, 7, 9, 10, 15, 22, 26, 27
Collecting garbage in green areas (such as picnic)	1, 5, 6, 7, 13, 14, 17, 18, 24
Extinguishing the fire to prevent forest fires after the picnic	5, 6, 10, 14, 25, 27
Separating waste and placing it in recycling bins	1, 2, 4, 8, 9, 10, 11, 12, 14, 15, 16, 17, 19, 22, 26, 27
Using cloth bags instead of plastic bags when shopping	1, 8, 12, 15, 16
Using second-hand items by transforming them	2
Planting saplings and flowers	2, 5, 8, 9, 17, 18, 19, 21, 22, 24, 26, 27
Resting agricultural soil for better productivity	2
Providing home electricity with solar panels	2, 4, 9
Voluntary participation in activities to protect green areas such as forests	2, 19, 22, 4
Participation in sustainability studies	2, 14, 19
Raising awareness and warning the individuals around about the environment	3, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23, 25, 27
Using water and electricity economically	3, 8, 10, 11, 12, 13, 15, 16, 17, 18, 20, 22, 24, 26
Reduce carbon footprint	3, 4
Do not pour waste oil into the sink	4, 9, 14, 19, 20, 21, 26
Constantly using the same bottle while drinking water	4, 9, 21
Becoming a member of TEMA	4, 9, 18, 22, 24
Do not throw garbage on the ground	6, 7, 9, 10, 11, 12, 13, 15, 16, 20, 21, 23, 24, 25, 26
Avoid using deodorants that cause the greenhouse effect	7, 21
Donate to organizations working for the environment	7
Avoid unnecessary shopping	9, 11
Choosing economical bulbs and white goods	9
Plant growing and watering	10, 12
Save paper	10, 13, 18, 20
Not using pesticides and fertilizers that harm the environment	12
Buying potted plants as a gift	12
Not harming animals and feeding them	13, 14, 16
Do not spit on the ground	13
Collecting pet bottle caps for the blue cap project	13, 20
Dispose of dead batteries in battery collection bins	16, 20

#### 4. CONCLUSIONS

In this research, the environment in which science teacher candidates want to live and what they do for this environment were examined through drawings and semi-structured questions. Participants generally want to live in natural environments, away from the pollution caused by urban life. It is seen that the areas where they want to live are places where there is no environmental pollution, houses are single or low-rise, there are trees, there is a lake or stream, and renewable energy is used. This shows us that the

participants are not very happy in their environment. They desire peaceful, calm, clean and green environments in every aspect. Participants coded CT17 and CT23 prefer to work in the city center and live in natural areas close to the center. CT12, on the other hand, wants to live in the city center but surrounded by trees, flowers and parkland.

Trees, recycling and renewable energy sources generally come to the fore in the pictures and expressions of teacher candidates. This shows us how much importance young people attach to sustainability. There is a tree in every picture except CT20. Trees are considered as a source of oxygen, a



picnic area, fresh air and a place for children to play. It is seen that teacher candidates exhibit exemplary behavior in terms of sustainability for the students they will educate and can raise them as individuals who protect their environment.

They engage in different activities for the desired future in the picture they draw (Table 2). Many participants plant trees against the greenhouse effect. Trees are important for sustainability. Planting trees for newborn children and planting trees on the grave of the deceased are traditions that have continued in Anatolia for hundreds of years (Koçak, 2021; Temiz, 22). Since trees have a very important place in Turkish culture, they frequently appear in proverbs. For example; "The tree bends when it is wet, the one who slaughters the wet cuts off the head, the tree that bears fruit is stoned, the tree rots from its roots, the pine tree cannot be shaken in the moonlight" (Şeker, 2021; Temiz, 22). Trees remind us of connecting with nature. While today's people are stuck between buildings, they are free among trees (URL 1). It is important for teacher candidates to pass on the love of trees, which has an important place in our culture, to the children they will raise. In the modern world, where the bond with trees has begun to break compared to the past, the value that teacher candidates attach to trees is light.

Some teacher candidates do not pour their waste oil into the sink. Because when vegetable and animal waste oils reach the seas, lakes and streams, the water becomes polluted and the oxygen in the water decreases; It causes great damage to other living creatures in the environment, especially fish. 1 liter of waste oil pollutes 1 million liters of water (URL2). Therefore, they are exemplary behaviors in terms of preventing water pollution and ensuring biodiversity.

They leave the picnic areas clean and extinguish the fire they light to avoid causing a fire. Nowadays, natural resources are gradually decreasing. Participants who are aware of this attach importance to recycling. They also made significant mention of renewable energy sources. Therefore, the young teachers to whom we will entrust our children give hope for the future.

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