



PRESERVICE TEACHERS' ECOLOGICAL LITERACY DISPOSITIONS: IDEOLOGY AND PRACTICE

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Abstract: Ecological concerns in the 21st century have increased as we get more information about the world's current situation thanks to technological developments. It has been evident that there is a direct relationship between human actions and the deterioration of nature. Hence, there is a need to inform societies about environmental problems and educate them to adopt lifestyles that promote a sustainable environment. Ecological literacy can be an answer to these problems because ecologically literate people tend to shape their lives to live in peace with nature. Language teachers can integrate ecological issues into their practice since any topic about world issues can be a material for language teaching. However, language teachers should have the ecological literacy skills to incorporate ecological problems into their practice and enhance public awareness. This study aimed to explore the ecological knowledge, behaviour, and attitudes of preservice English language teachers (ELT) at a public university in Turkey. A questionnaire collected the data from 50 first grade and 40 third grade ELT students. The analysis was carried out through SPSS 25.0. The results showed that the preservice teachers generally held positive attitudes and behaviours. Their awareness levels of waste, recycling, and sustainable environment were high. The students' answers about sustainable environment indicated that they were informed about how a sustainable environment could be achieved. However, the students' behaviours and attitudes toward using plastic bags, using disposable batteries, and reading from hardcopies were more

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frequent than expected. Finally, the result displayed that the students believed that governmental and non-governmental organizations should work harder to conserve the environment.

Keywords: Ecological literacy; Nature; Environment; Preservice teachers; English language teaching.

Resumo: As preocupações ecológicas no século 21 aumentaram à medida que obtemos mais informações sobre a situação atual do mundo graças ao desenvolvimento tecnológico. Ficou evidente que existe uma relação direta entre as ações humanas e a deterioração da natureza. Daí a necessidade de informar as sociedades sobre os problemas ambientais e educá-las para adotar estilos de vida que promovam um meio ambiente sustentável. A alfabetização ecológica pode ser uma resposta a esses problemas porque as pessoas ecologicamente alfabetizadas tendem a moldar suas vidas para viver em paz com a natureza. Professores de línguas podem integrar questões ecológicas em sua prática, pois qualquer tópico sobre questões mundiais pode ser um material para o ensino de línguas. No entanto, os professores de línguas devem ter as habilidades de alfabetização ecológica para incorporar os problemas ecológicos em sua prática e aumentar a conscientização do público. Este estudo teve como objetivo explorar o conhecimento ecológico, comportamento e atitudes de professores de inglês em formação em uma universidade pública na Turquia. Um questionário coletou os dados de 50 alunos da primeira série e 40 da terceira série do ensino de língua inglesa. A análise foi realizada através do SPSS 25.0. Os resultados mostraram que os professores em formação geralmente tinham atitudes e comportamentos positivos. Seus níveis de conscientização sobre resíduos, reciclagem e meio ambiente sustentável foram altos. As respostas dos alunos sobre meio ambiente sustentável indicaram que eles foram informados sobre como um meio ambiente sustentável poderia ser alcançado. No entanto, os comportamentos e atitudes dos alunos em relação ao uso de sacolas plásticas, uso de pilhas descartáveis e leitura de cópias impressas foram mais frequentes do que o esperado. Por fim, o resultado mostrou que os alunos acreditavam que as organizações governamentais e não governamentais deveriam trabalhar mais para conservar o meio ambiente.

Palavras-chave: Alfabetização ecológica; Natureza; Meio ambiente; Professores em formação; Ensino de língua inglesa.

1. Introduction

In recent years, there have been global concerns about the environment. With the knowledge that we have about the current situation of nature, it is too optimistic to say that nature will support the presence of life if we continue to live the way we do. The deterioration of nature has been getting deeper as a result of human actions. We have a lot of evidence that the balance of the earth is changing, which has created worrisome concerns about ecological problems (JONES, 2010). We know that there is an undeniable relationship between our lifestyles and the situation of nature (KAISER et al., 1999). This means that if humans learn to live without exploiting nature and take steps to conserve the environment, nature can survive, and so can humanity. Therefore, there is a need to create an awareness in public about environmental issues and adapt ourselves to living in peace with nature. Immediate attention to increasing people's awareness of the environment is required since the darkness and disorders caused by human actions might lead to an end, which is not far from us (ORR, 1992). Out of these concerns, many attempts were made to encourage environmental education at the international level, and the importance of creating an ecologically literate public has been recognized.

Ecological literacy is “the ability to use ecological understanding, thinking and habits of mind for living in, enjoying, and/or studying the environment” (BERKOWITZ et al., 2005, p. 228). Ecological literacy intends to “create a frame of mind that recognizes relations and interdependency with the natural world and supports the development of new capacities to create sustainable ways of living” (BOEHNERT, 2015, p. 1). It is expected that through ecological literacy, citizens will be able to understand the relationship between humans and nature as well as the relationship among various living systems in nature. During the second half of the twentieth century, significant steps were taken to incorporate environmental topics into education to enhance environmental awareness. The inclusion of environmental education throughout the various disciplines of formal education at all levels was seen as obligatory (WCED, 1987). Moreover, ecological literacy was determined as the primary goal of environmental education at the conference of UNESCO- UNEP in 1989 (CUTTER-MACKENZIE; SMITH, 2003). Therefore, attempts to promote environmental education in formal education and ecological literacy in public became more apparent. In the Turkish context, the developments to protect nature and create environmental awareness were in line with the rest of the world (ERDOGAN et al., 2009). In 1961,

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the environment was acknowledged for the first time by the Turkish Republic constitution. In 1991, the Ministry of Environment was established and cooperated with the Ministry of National Education (MoNE) to improve materials focusing on environmental-related issues and draw students' attention to environmental issues (TUNCER; EROL, 1992). Therefore, environment-related topics took their place in school curriculums. However, the intended results have not been achieved yet in spite of these attempts (GÜRSOY, 2010).

There is still an obvious need to spend more effort to enhance ecological literacy of the society. However, this can only be accomplished through education, and education is mediated by teachers. Teachers have an essential role in encouraging environmental awareness in public. They are at the very core of shaping the future. They can interact with students, parents, and other members of a society, which means that they have the chance to inform them about ecological problems (SWANEPOEL et al., 2002). Environmental issues have generally been dealt with only in science lessons. Nevertheless, we need to realize that environmental education is interdisciplinary. That is, ecological literacy skills can be promoted through various courses. Teachers of any subject can enhance their students' awareness without losing the focus of their subject. Further, teachers are not qualified enough to be able to incorporate environmental issues into their practice and enhance their students' ecological literacy, which creates a severe problem. According to Knapp (2000), lack of qualification is one of the main reasons why teachers cannot integrate environmental issues into their teachings. At this point, the significance of teacher training programs becomes a topic of discussion. In other words, teacher training programs need to equip preservice teachers with the necessary environmental knowledge so that these teachers of the future can contribute to establishing an ecologically literate society through their teaching.

English teachers have many opportunities to incorporate environmental education into their practice because anything about the world and ecology can be a topic of an English class. Moreover, teaching English has not been perceived as the only job of English teachers anymore. Cates (1997) underlines that "we can't call our English teaching successful if our students, however fluent, are ignorant of world problems, have no social conscience or use their communication skills for international crime, exploitation, oppression or environmental destruction" (para. 6). Therefore, English teachers are expected to have environmental literacy skills to integrate environmental topics into their teaching. What teachers teach and the way teaching happens are influenced by their knowledge (GROSSMAN, 1995). When English teachers have ecological

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literacy skills, they are more likely to focus on environmental topics while improving students' proficiency levels. As a result, they can contribute to establishing an environmentally literate society.

Various studies have been carried out with the aim of having insights into teachers' and students' understandings of environmental problems in recent years. Padmanabhan & Rao (2008) investigated environmental awareness and attitudes of secondary school teachers in Maldives. The study revealed that there was no significant difference between male and female teachers in terms of environmental education awareness and attitudes. Tuncer et al. (2009) evaluated teacher educators' environmental literacy at one of Turkey's most prominent public universities. According to the findings of the canonical analysis, as preservice teachers' interest in environmental issues grows, so does their environmental knowledge and concern. Intending to assess students' environmental knowledge and their thoughts about a course on environmental education, Tal (2010) conducted a scale. The participants were 75 preservice teachers at a university in Israel. The findings indicated that the participants' environmental awareness increased during the course. The study also highlighted that environmental topics should be included in the teacher training curriculum. Surmeli and Saka (2013) explored preservice teachers' opinions about environmental ethics. A scale was utilized to collect data from students from various departments. The results showed that the participants held biocentric and ecocentric thoughts irrespective of gender. Sargin et al. (2016) studied preservice teachers' environmental knowledge, conduct, and attitudes and found they were sensitive to education. Sultan et al. (2016) investigated preservice teachers' perceptions of ecological problems in Pakistan. A pretest-posttest design was utilized. First, the pre-test was implemented. Then, the students were given an exposition about environmental problems. Finally, the post-test was implemented to see if the students' perceptions had changed. The results indicated that the participants' awareness became more positive compared to pre-test results. Karyanto et al. (2018) carried out a study to explore the ecological literacy of preservice teachers at Sebales Maret University. They aimed to investigate the components of ecological knowledge, ecological attitude, and ecological concern. The participants were 98 students who took some courses that focused on ecology at some point. The findings revealed that ecological literacy was low for the value of each component, which might have resulted from the provision of inadequate ecology concepts. In another study, Ergin (2019) carried out a study to reveal teacher candidates' awareness of environmental issues. The results showed that although the participants'

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level of environmental awareness was high, the degree of awareness changed in terms of some factors and marital status. Chen (2020) intended to reveal if environmental education efforts in China were fruitful or not. Chen investigated university students' awareness and knowledge of environmental problems through a questionnaire. The results showed that China's effort had been effective over the years. Most of the participants were already aware of and knowledgeable about environmental issues. However, they still had some hesitations about enrolling in any environmental organization. Finally, Hastürk (2021) carried out a study to determine students' environmental awareness based on whether or not they had received environmental education, gender, class level, parental education level, residence, and age. In terms of gender variable, she discovered a significant difference in favour of female students regarding environmental consciousness. Moreover, there was no significant difference in environmental awareness among children based on their grade levels.

As teachers of the future, preservice teachers need to have ecological literacy skills so that they can integrate activities to create awareness in their students. The leading organization to encourage environmental education is the formal education system. In this study, we investigated the preservice ELT teachers' awareness of ecological issues and their attitudes and behaviours toward environmental problems. In other words, whether teacher candidates have eco-friendly behaviors and live-styles was the main focus of the study. Regarding the aim of the study, the following research questions were formulated:

1. What are the preservice ELT teachers' levels of ecological literacy?
2. Do the preservice ELT teachers show eco-friendly attitudes and behaviors?
3. Is there a significant difference in the preservice ELT teachers' awareness, attitudes, and behaviours in terms of gender and grade?

2. Methodology

2.1. Participants

The participants of this study were 90 (49 females, 41 males) preservice ELT teachers at a public university in Turkey. A total of 50 students from first grade and 40 students from third grade took part in the study.

2.2. Instrumentation

A questionnaire of 25 items modified from Eren and Yaqub (2015) was used to explore the students' attitudes and ideas from three dimensions. The first dimension investigated the students' awareness level of consumption and sustainable development. The second dimension examined how the students approach waste and recycling topics. Finally, the third dimension focused on the students' beliefs and ideas about sustainable development. The questionnaire was designed as a five-point Likert scale. Numbers from 1 to 5 (never, rarely, sometimes, often, every time) were assigned to the answer options of the items in the first and the second dimensions. In the third dimension, although it was also a five-point scale, the answer options were different (strongly disagree, disagree, neutral, agree, strongly agree).

2.3. Procedure

First, necessary modifications were made to the questionnaire. Later, the questionnaire was given to first and third grades students. Before implementing the questionnaire, the participants were informed about the aim of the study and the procedure. It was also highlighted that the participation is based on voluntariness and that the information they provide would be confidential. Therefore, a consent form was given to the students. The students who wanted to participate in the study filled in the questionnaire, and the data collection was completed.

2.4. Analysis

The data was processed through SPSS 25.0. First, the descriptive statistics were calculated. Then, an independent sample t-test for grade and gender variables was applied. The significance level in the analysis was determined as $p < .05$. The Cronbach's Alpha value of the questionnaire was found to be .790.

3. Results

The students' statistics for conscious consumption and sustainable development are presented in Table 1. The results indicated that the students were careful about checking a document before printing it to avoid wasting any paper (4.60). They generally preferred to print on both sides of a paper (4.04). Additionally, the analysis showed that the students generally held positive attitudes toward using the paper of lecture notes repeatedly (3.43). Finally, the students used electronic devices instead of hard copies to send messages (3.39) and study (3.32).

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Table 1.

Descriptive Statistics of the Items for Conscious Consumption and Sustainable Environment

| Items | N | Mean | Std. Deviation |
|---|----|-------------|----------------|
| I check the preview of a document on computer before printing. | 90 | 4.60 | .74 |
| I take print on both sides of a paper. | 90 | 4.04 | 1.00 |
| I re-use the paper of lecture notes. | 90 | 3.43 | 1.07 |
| I often send e-mail instead of hard copy output. | 90 | 3.39 | 1.23 |
| I prefer to read the document on computer instead of taking its print on paper. | 90 | 3.32 | 1.13 |
| Average Mean | | 3.75 | |

The findings of the students' behaviors and attitudes toward waste and recycling are presented in Table 2. The item about collecting their garbage before leaving a place had the highest mean (4.67). Moreover, the findings indicated that the students showed quite positive attitudes toward water consumption (4.38). The students seemed to avoid using paper towels as much as possible (3.73). The students' preferences regarding the long-lasting products were also optimistic (3.70). Similarly, the students showed positive attitudes toward throwing items of different materials into separate recycling boxes (3.48). It was revealed that the students were careful with throwing used batteries in waste collection boxes (3.46). They showed mildly positive attitudes and behaviors toward using rechargeable batteries instead of disposable batteries (3.22). However, the mean of the item for easily-soluble bags was found to be low (3.07). Finally, the participants seemed generally uninformed about the dangers of using plastic bags because the mean of the related item was the lowest for this part (2.96).

Table 2.

Descriptive Statistics of the Items for Waste and Recycling

| Items | N | Mean | Std. Deviation |
|--|----|------|----------------|
| I throw the garbage into dustbins before leaving that place and do not leave any trash | 90 | 4.67 | .63 |
| I pay attention to water consumption when using the sink and toilet | 90 | 4.38 | .85 |
| I try to protect the environment by using the least number of paper towels | 90 | 3.73 | 1.10 |

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| | | | |
|---|----|-------------|------|
| I prefer to use long-lasting products (rechargeable batteries, cloth bags) for a sustainable environment instead of disposable products | 90 | 3.70 | 1.05 |
| I throw the plastic, metal, and paper into separate recycling boxes | 90 | 3.48 | 1.12 |
| I throw the used batteries in waste collection boxes. | 90 | 3.46 | 1.26 |
| I use rechargeable batteries instead of disposable batteries | 90 | 3.22 | 1.20 |
| I prefer to use easily-soluble bags rather than plastic bags | 90 | 3.07 | 1.14 |
| I would avoid using plastic bags. | 90 | 2.96 | 1.11 |
| Average Mean | | 3.63 | |

The students' ideas about sustainable development are presented in Table 3. A high degree of agreement was also observed regarding the role of recycling in the protection of the environment and natural resources (4.70). The students stated that energy-saving was significant for a sustainable environment (4.67). They also agreed that young people's environmental awareness level was crucial for sustainable development (4.57).

The students seemed to be aware of renewable energy sources for a sustainable environment (4.52). The students thought that using separate dustbins for items of different materials is another crucial thing to establish a sustainable development (4.47). A great number of students agreed that getting bills electronically (4.39) and using public transport (4.31) were important to promote sustainable development. Moreover, the participants stated that they did their best to prevent environmental pollution (4.21). Similarly, informing students about environmental issues in higher education was perceived as essential by the students (4.08). However, the students believed that governmental and non-governmental organizations did not work enough to conserve the environment (2.61). Finally, they stressed that the number of separate collection dustbins was insufficient in their neighborhoods and university (2.41).

Table 3.

Descriptive Statistics of the Items for Sustainable Environment

| Items | N | Mean | Std. Deviation |
|--|----------|-------------|-----------------------|
| Recycling waste is important for the protection of the environment and natural resources | 90 | 4.70 | .62 |
| I think that energy saving is important for a sustainable environment | 90 | 4.67 | .70 |
| I think that young people should have a good environmental awareness for a sustainable environment | 90 | 4.57 | .82 |

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| | | | |
|--|----|-------------|------|
| I think that promotions of renewable energy resources are necessary for a sustainable environment | 90 | 4.52 | .89 |
| I think that the collection of waste in separate dustbins (plastic, metal, etc.) is important for a sustainable environment | 90 | 4.47 | .88 |
| I think it is necessary for a sustainable environment to get your bills electronically | 90 | 4.39 | .83 |
| I think the choice of public transport is important for a sustainable environment | 90 | 4.31 | .89 |
| I always show my best efforts to prevent pollution of the environment and show awareness | 90 | 4.21 | .80 |
| It is necessary for all university students to take a class related to environmental awareness | 90 | 4.08 | 1.16 |
| I think that working of governmental and non-governmental organizations in our country is sufficient with respect to the environment | 90 | 2.61 | 1.26 |
| I think that there are enough separate collection dustbins (plastic, metal, etc.) in the buildings of our university | 90 | 2.41 | 1.23 |
| Average Mean | | 4.08 | |

In Table 4, it is indicated that the participants' environmental awareness, attitudes, and behaviors were not significantly different in terms of gender. However, females had a higher mean than men.

Table 4.

Independent Sample T-Test Results by Gender

| Gender | N | Mean | Std. Deviation | Sig. (2-tailed) |
|--------|----|-------|----------------|-----------------|
| Female | 49 | 98.28 | 7.39 | .06 |
| Male | 41 | 94.09 | 12.65 | |

In Table 5, it is shown that although females had a higher mean, the participants' environmental awareness, attitudes, and behaviours were not significantly different in terms of grade level.

Table 5.

Independent Sample T-Test Results by Grade

| Grade | N | Mean | Std. Deviation | Sig. (2-tailed) |
|---------|----|-------|----------------|-----------------|
| Grade 1 | 50 | 95.34 | 9.43 | .28 |
| Grade 3 | 40 | 97.67 | 11.24 | |

4. Discussion

The purpose of this quantitative study was to investigate preservice ELT teachers' ecological literacy as well as their attitudes and behaviors toward environmental issues. To accomplish this aim, a questionnaire was implemented to the first and third grade ELT students at a public university. The analysis of the questionnaire yielded some interesting results and implications.

First of all, the participants' attitudes toward consumption and sustainable development were investigated. The study revealed that the students tended to show ecocentric behaviors, similar to Surmeli & Saka's (2013) study. Based on the means of the items related to this dimension of the study, the results indicated that the participants were careful with using papers and hardcopies effectively. They generally tried to make sure the document was finalized before printing it (4.60). They also preferred to use both sides of a paper (4.04) and re-use lecture notes (3.43). On the other hand, the means of the items related to sending e-mails instead of hard copy (3.39) and reading a document on a computer (3.22) could be seen as mildly positive.

Moreover, the students showed quite positive statements regarding cleaning up a place after using it (4.67), water consumption in the kitchen and bathroom (4.38), using the least number of paper towels (3.73), and using products that can be used over a long period of time (3.70). In this respect, the results disclosed that the participants held positive attitudes toward environmental protection, which can be compared to the study conducted by Sultan et al. (2016). Nevertheless, a number of participants showed little attention to avowing the plastic bags (2.96). Therefore, a low number of them preferred to use easily-soluble bags (3.07). Additionally, the participants' awareness of using rechargeable batteries was found to be moderate (3.22). Regarding these two aspects, jumping to a conclusion might be misleading. Shops and supermarkets readily sell plastic bags, and consumers can reach them right after they have shopped. In this case, it is unavoidable to use plastic bags to carry the products. Moreover, it might be challenging for them to carry a long-lasting bag or find an easily-soluble bag at markets. Chen (2020) underlined that although students in his study held high ecological awareness, they were unable to show their ecological knowledge in their behaviors. This study also showed that the student's awareness level was acceptable. Further, the participants were sometimes unable to show their awareness through their behaviors. This was especially true when the use of plastic bags and disposable batteries was a matter of discussion. Their awareness was believed to be high because they preferred to throw the garbage of different materials into different dustbins (3.48), which indicated that they were conscious of the importance of recycling

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plastic, metal, and paper. The participants' behaviors and attitudes toward sustainable development were positive to a great extent. Still, some of the behaviors, such as reading on computers instead of hard copies (3.32), using rechargeable batteries (3.22), and avoiding the use of plastic bags (2.96), were not as frequent as expected.

The participants also put forward their ideas about sustainable development. First, the participants believed that recycling (4.70) and energy-saving (4.67) had a crucial role in the protection of the environment and natural sources. The results yielded that the participants agreed that young generations should possess high environmental awareness to establish a sustainable environment (4.57). Moreover, the students believed that renewable energy use (4.52), collecting waste in separate dustbins (4.47), getting bills electronically (4.39), and public transportation (4.31) were significant factors for a sustainable environment. They stated that they showed their best efforts to prevent pollution and show awareness (4.21). Based on the results, it can be revealed that the participants held positive opinions about conserving the environment, a comparable result to the study conducted by Sultan et al. (2016). Moreover, they underscored that universities should provide environmental-related courses (4.08), which also implied that there should be room for ecological concepts in curriculums. This finding was also parallel to the study conducted by Tal (2010), who concluded that ecological issues should be included in school curriculums. The participants mostly agreed that attempts made by governmental and non-governmental organizations to conserve the environment were insufficient (2.61). Chen (2020) investigated applications to preserve the environment in China and found that the government's attempts had been proved to be effective. The participants of this study, on the other hand, seemed to believe there was a need for more governmental attempts. Similarly, they stated that the number of separate collection dustbins around them was inadequate (2.41), which implies that the students were aware that institutions and government did not attach the necessary importance to recycling.

The means of items that measured their ideas (4.08) were higher than the items that measured their behaviors and attitudes (3.75, 3.63). This implied that similar to Chen's (2020) study, although the participants held positive thoughts about the sustainable environment, they were unable to show their thoughts regarding some aspects. In Chen's study, it was about enrolling in an environmental organization. In this study, the participants' hesitations were about plastic bags, rechargeable batteries, and reading online.

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The study also investigated whether the students' ecological awareness changed in terms of grade and gender. Regarding the grade, the students from the third grade had a higher mean than the students' from the first grade. However, the difference was not significant. This result can be compared to Hastürk's (2021) study, which concluded that there was no significant difference among students based on their grade levels. As for the gender variable, the female students had a higher mean than the male students. Nevertheless, this did not imply a significant difference. Similarly, Padmanabhan and Rao (2008) and Hastürk (2021) found that participants' environmental awareness did not differ in terms of gender.

5. Conclusion

This study investigated preservice ELT teachers' ecological literacy levels through a questionnaire. Therefore, the study aimed to explore the preservice teachers' attitudes and behaviours toward environmental issues and their perceptions of these ecological problems. The questionnaire collected data regarding three dimensions. In the first dimension, the focus was on awareness of consumption and sustainable development. In the second dimension, the students' attitudes and behaviors toward waste and recycling were measured. In the third dimension, the students' ideas about sustainable development were investigated.

The results revealed that the students' awareness level was pretty high in many aspects. First of all, they showed favorable behaviors in terms of using long-lasting products, water consumption, cleaning their mess before leaving a place, and throwing garbage of different materials into different dustbins. However, the participants' held mildly positive attitudes toward avoiding the use of plastic bags, using rechargeable batteries and reading online instead of reading from the hardcopy. As for the participants' ideas regarding a sustainable environment, the results indicated that the participants held the idea that people, especially young ones, should possess ecological awareness. Therefore, they believed that students need to take environmentally-oriented courses at universities. Moreover, the participants displayed quite positive ideas regarding the importance of renewable energy sources, energy-saving, getting bills electronically, recycling waste, and collecting garbage in separate dustbins. They emphasized that all these implementations were needed if we wanted to have a sustainable environment. Nonetheless, they touched upon the problem of not having an adequate number of separate dustbins to collect garbage of different materials. Finally, the participants were dissatisfied with the workings of governmental and non-

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governmental organizations because they thought those organizations did not work enough to protect the environment and establish a sustainable environment.

All in all, education in the 21st century has the duty to inform society about environmental problems and enhance ecological awareness of people. Teachers are the mediators of education; hence, they need to possess ecological literacy skills to incorporate environmental topics into their practice. Language teachers have a unique chance to do that since anything about the world can be a topic of language teaching. The investigation of preservice ELT teachers' perceptions of ecological problems and attitudes and behaviors toward these problems showed that the preservice teachers held positive belief and attitudes toward environmental issues. Moreover, they had certain ideas about how to establish a sustainable environment and what is necessary to achieve it. This study can draw attention to the importance of ecological literacy skills and the need for teachers to have them. Still, more studies on ecological literacy in preservice teacher education programs should be carried out.

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