Knowledge of Sustainability Communication in Higher Education among Undergraduate and Postgraduate Students of Arts Teaching

RESEARCH ARTICLE

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Abstract

The objective of this study was to reveal the extent to which undergraduate and postgraduate students of art teaching are aware of campus activities conducted in the context of sustainable development. The study employed a correlational model, which is a quantitative research method. The population of the study consisted of undergraduate and postgraduate students of the Department of Visual Arts Education at a public university in Türkiye, while its sample comprised 128 students. The "Sustainability Communication Scale for Higher Education Institutions" was used to collect data in the spring semester of the 2023-2024 academic year. Statistical analyses were conducted using the SPSS package program. It was determined that the participants had very low levels of awareness regarding the sustainability communication activities at their university, and they did not know about the activities of the university regarding environmental, social, and economic sustainability communication. These results were not significantly associated with the gender or education stage of the participants. However, the class years of the participants were found to be significantly related to their scores in the economic sustainability communication subscale. This relationship was present between the participants who were 1st-year students and others and between those who were 4th-year students and others.

Keywords: *sustainability, sustainability communication, sustainability in higher education institutions, department of arts education*

Resim-İş Eğitimi Ana Bilim Dalı Lisans ve Lisansüstü Öğrencilerinin Yükseköğretim Kurumunda Sürdürülebilirlik İletişim Düzeylerinin İncelenmesi

ARAŞTIRMA MAKALESİ

Öz

Sürdürülebilir kalkınmaya yönelik gerçekleştirilen kampüs faaliyetlerinden, öğrenim gören lisans ve lisansüstü öğrencilerinin ne ölçüde haberdar olduklarını ortaya koymak araştırmanın odak noktasını oluşturmaktadır. Araştırma nicel araştırma yöntemlerinden ilişkisel tarama deseninde tasarlanmıştır. Türkiye'de bulunan bir devlet üniversitesinin "Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencilerinin tamamı araştırmanın evrenini, katılan 128 öğrenci örneklemini oluşturmaktadır. 2023-2024 eğitim öğretim yılı bahar döneminde öğrencilere "Yükseköğretim Kurumlarında Sürdürülebilirlik İletişimi Ölçeği" Google Form üzerinden uygulanmıştır. Gönüllülük esasına dayalı olarak katılan öğrencilerin cevaplarından elde edilen veriler SPSS paket programı kullanılarak istatistiksel olarak analiz edilmiştir. Yapılan analiz sonuçlarına göre; "Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencileri öğrenim gördükleri üniversite ile sürdürülebilirlik iletişim düzeylerinin "çok zayıf" aralık değerinde olduğu, öğrenim gördükleri üniversitenin çevresel, sosyal, ekonomik ve sürdürülebilirliğin iletişimi konusundaki faaliyetlerden haberdar olmadıkları görülmüştür. Bu durumu öğrencilerin cinsiyeti veya eğitim düzeyi etkilememektedir. Ancak öğrencilerin sınıf seviyesi ile ekonomik sürdürülebilirlik iletişimi alt boyutunda anlamlı bir ilişki tespit edilmiştir. Bu ilişki sadece 1.sınıf ve 4. sınıf öğrencilerinde görülmüştür.

Anahtar Kelimeler: *sürdürülebilirlik, sürdürülebilirlik iletişimi, yükseköğretim kurumlarında sürdürülebilirlik, resim-iş eğitimi ana bilim dalı*

Introduction

The concept of sustainability has become a topic that is meticulously studied in various disciplines with increasing importance in the 21st century. Sustainability refers to activities of protecting the needs of future generations while meeting currently existing needs with its environmental, economic, and social aspects.

According to Scoones (2007), the concept of sustainability, which has been described in different ways by scientists from various disciplines, was used for the first time by German mining administrator Hans Carl von Carlowitz in 1712 in his work Sylvicultura Oekonomika to refer to the long-term management of forests. However, a broader understanding of this concept started only in the 1980s. The emergence of modern environmentalist movements in the late 1960s and the 1970s and the report named Limits to Growth prepared and published by a group of scientists from the Massachusetts Institute of Technology (MIT) led

by the Club of Rome in 1972 revealed the contradiction between exponential and uncontrolled growth and the limited resources of the world. Options that could be chosen by society for a sustainable development process compatible with environmental limitations have been emphasized (Meadows et al., 1972 as cited in Yeni, 2014). While the concept of sustainability was mentioned for the first time by the International Union for Conservation of Nature and Natural Resources (IUCN) in 1982 in the document named the World Charter for Nature (Yazar, 2006), it became the focus of debates in the report "Our Common Future" in 1987 by the World Commission on Environment and Development (WCED). Thus, a modern definition emerged: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987 as cited in Scoones, 2007). In addition to the environmental dimension, this definition also covers the economic and social dimensions of sustainability such as the fair and effective usage of resources for the sake of future generations.

Environmental sustainability covers issues such as the preservation of natural resources and biological diversity, the fight against climate change, and waste management. Economic sustainability is focused on topics such as balancing economic growth and the exhaustion of resources, income inequality, and development. Social sustainability emphasizes topics such as social justice, equality, health, education, and human rights. Higher education institutions are among the most important institutions that take on significant roles in providing solutions to these basic issues encountered by humanity. The research and activities conducted in these institutions, which are critical for a sustainable world, constitute a valuable field. They not only transfer and produce knowledge but also disseminate it among their students and personnel via their sustainable practices. In this context, higher education institutions integrate sustainable living into their strategic plans, course contents, and on-campus practices. In particular, the practical activities on campuses provide students with real-world experience about sustainability. Training students, who will build the future, as responsible members of society in the context of sustainability has become one of the main goals of the education systems of the 21st century. According to Akdemir (2023), sustainability and activities regarding sustainable development concern all members of society. A connection between sustainability activities and people can be established through appropriate communication. Sharing knowledge about

this concept using suitable communication techniques, simplifying it for adoption by the masses, and creating a framework of collective collaboration based on a culture of synergy will guide responsible and effective steps toward the future.

This influential role of universities and their quantifiable effects are dependent on systematic communication. Thanks to their privileged position, universities can warn and inform society about the implementation of plants for sustainability and compliance with these plans. However, such activities can only be possible with the help of communication channels addressing individuals (Filippo et al., 2020). The effectiveness of these communication channels will allow sustainability messages to reach the target audience and draw their attention.

Sustainability Communication

Communication strategies aim to create a connection between sustainability and people, raise awareness, increase current levels of awareness, and promote sustainable behaviors. It is important that communication channels be effective for the adoption of sustainability activities by society and the participation of society in these activities. Golob, Podnar, and Zabkar (2023) discuss the concept of sustainability communication (SC) under five headings:

- SC as transmission of information about sustainability, informing and raising consumer awareness,
- SC as critical, deliberative, and transformative communication,
- SC as disclosure of information,
- SC as persuasive/commercial communication,
- SC as misleading communication (as cited in Çetintaş, 2023).

SC is an approach that is utilized to raise awareness about environmental, social, and economic sustainability and create behavioral change. This communication approach aims to affect the behaviors of society positively to promote societal prosperity (Özgen, 2022). Adopting an understanding of a sustainable world, SC focuses on the protection of nature and people. It allows organizations and institutions to communicate appropriately with people regarding ecological sustainability and offers a way of adopting an eco-centric point of view (McDonagh, 1998). UN Member States have accepted 17 Sustainable Development Goals and 169 Targets under these goals and aimed to achieve them by 2030 at the latest. These goals and targets are universal and applicable to all countries of the world (IISD). In this context, in terms of reaching goals,

raising awareness about the issue, guidance, and the promotion of sustainability, communication channels have an arguably vital role. All institutions of society, from the smallest to the largest, are expected to take an active role and contribute to the creation of a sustainable future. The pioneering position of universities, which have a significant role in the development of societies, in terms of sustainability is undeniable. As institutions aiming to train qualified individuals in several fields, universities are among the leading institutions in the conduct of sustainability activities. With their guiding activities in terms of sustainable living, universities as key institutions that raise members of a developed society will have significant contributions to the 2030 Sustainable Development Goals.

To reach broader audiences, universities have started to focus on the effectiveness of strategic communication channels related to sustainability to both guide people and promote such activities. This way, it has become more important to understand how the governance activities and strategies pertaining to development in institutions can be made effective (Bayhantopçu & Özuyar, 2021). To strengthen their practices about sustainability, universities need to be restructured in a way to integrate sustainable development into their entire institutional system (Lozano et al., 2013). Sustainability should be integrated into the strategic plans, course contents, and campus management operations of universities. An effective communication network will make it possible to educate students effectively, raise awareness in them regarding sustainability activities on campus, and ensure their active participation in these activities. Universities, which are expected to take on an effective role in the success of the 2030 Sustainable Development Goals, share all scientific, cultural, and social activities about the 17 Sustainable Development Goals on their campuses, relevant reports, announcements, and news storied on their websites. Websites, which are among the most important instruments of SC, are also effective instruments for accessing the sustainability reports of universities. Tanç et al. (2022) examined institutional websites to reveal the status of universities in Türkiye in terms of sustainability activities. They showed that among 207 universities, only 7 published sustainability reports, and they usually focused only on the environmental aspect of sustainability. The authors stated that although universities had not adopted the concept of sustainability reports to the desired extent, they made explanations/ announcements about sustainability activities, especially those regarding zero waste and green campus practices, on their websites. In another study suggesting

that universities in Türkiye have fallen behind in the world rankings, Gedikkaya et al. (2022) emphasized the significance of the constant decline of the awareness of universities in Türkiye regarding sustainable development and their interest in this issue every year in three international indexes: STARS (the Sustainability Tracking, Assessment, and Rating System), the UI GreenMetric, and Times Higher Education Impact Ranking. They also reported that Turkish universities fell behind their international counterparts, and there were very few universities ranking among the first 100 in the world. In this sense, universities that guide society need to adopt and promote the concept of sustainable development. To achieve goals, it is highly important for universities, which are expected to be pioneers in the internalization of a culture of sustainable development, to evaluate sustainability in terms of all its dimensions and report the results of their evaluations.

It is seen that studies on the sustainable practices of universities in Türkiye have mostly employed theoretical methods and discussed the topic in the context of zero waste, green campus, and sustainable environment policies (Tanç et al., 2022; Yıldırım, 2020). The effectiveness of communication channels is a determining factor for the sustainability activities of universities to reach their students and become successful in terms of promotion and adoption. Hence, it is important to discuss the concept of SC in the context of universities. Among studies conducted in Türkiye, no study on this topic that included university students could be encountered. Regarding this topic, Akdemir (2023) developed a scale, whereas Bayhantopçu and Özuyar (2021) aimed to identify the main indicators that need to be prioritized by a sustainable university in terms of governance, strategy, and communication. Considering their important position in the achievement of the 2030 Sustainable Development Goals to the desired degree, it is critical to discuss all aspects of the sustainability activities of universities, integrate these into all institutional systems, and disseminate these activities to both students and personnel via effective communication channels.

The primary objective of this study was to reveal the extent to which undergraduate and postgraduate students of a program in art teaching are aware of campus activities conducted in the context of sustainable development. No study on this topic involving university students in Türkiye was found in the relevant literature. This study will contribute to the field in terms of filling this gap in the literature, identifying the current status of the issue, and providing guidance for

future studies. It is desired that students, who are receiving university education and will shape the future, adopt a philosophy of sustainable living in all aspects of life. They are expected to do this within the campus that they are on. Genç (2019) argued that education is not only the art of raising individuals but also a policy. If considered from a social and governmental perspective, education refers to the raising of adaptable individuals and responsible citizens. The establishment of educational approaches by governments to raise adaptable and responsible citizens is an ordinary practice of education and politics. Arts education in general and visual arts education in particular contribute to the training of ethical individuals who have a sense of belonging to their community. The contributions of visual arts education that strengthens visual memory should not be overlooked in the transformation of the idea of the past into a part of education on values. Çaydere (2022) also emphasized that one can see the power and impact of arts in the shaping of a sustainable world in the works of artists and national/international activities that are planned. In its decision dated 1987, the WCED highlighted the need for the development of new methodologies by discussing the issue of sustainable design education. Accordingly, no resource is unlimited, and for this reason, the concept of sustainability in design is a topic that needs to be discussed urgently. The main recommendations decided upon by the Commission include teaching, concretizing, and promoting sustainability awareness. The focus on sustainability in arts education is an extension of the emphasis on the environmental, social, and economic components of sustainability in art movements centered around nature and the environment (Mamur & Köksal, 2016). In this sense, this study aimed to quantitatively analyze the communication of undergraduate and postgraduate students of the Visual Arts Education Department of a university where arts/design as concepts with a universal language are taught and which shapes the future of arts education with their university in the context of sustainability. According to the objective of the study, answers to the following questions were sought:

- How is sustainability communication between students and their university structured and manifested?Is there any difference or similarity in the levels of sustainability communication among students based on gender?
- Is there a significant difference in the sustainability communication levels of students based on their stage of education?
- Is there a significant difference in the sustainability communication levels of students based on their class year?

Methodology

Design

This study was designed with the correlational method, which is a quantitative research approach. Quantitative studies try to reach conclusions via description or causality by measuring events and phenomena from the outside, observing them, or conducting experiments on them. They are studies in which observations and measurements are repeatable and unbiased (Arıkan, 2013). The correlational method allows the quantitative or numerical description of trends, attitudes, or views in a population by conducting analyses on a sample selected from within the population (Creswell, 2017). Correlational models are research methods that aim to determine the presence and/or degree of simultaneous change in two or more variables (Karasar, 2008). This research method provides researchers with the opportunity to express events or phenomena in ways exceeding simple descriptions by examining relationships and connections (Büyüköztürk et al., 2014). This research was conducted using the relational screening approach, one of the quantitative research methods, to determine the sustainability communication levels of undergraduate and postgraduate students of the Department of Visual Arts Education with the university they study at and to determine numerically whether variables such as gender, education level, and class level create a significant difference between sustainability communication levels.

Population and Sample

The population of the study included all undergraduate and postgraduate students registered at the Department of Visual Arts Education at the Education Faculty of a public university in Türkiye in the 2023-2024 academic year. Participants were selected using the purposive sampling method, which is a non-random sampling method. The logic and strength of purposive sampling are based on in-depth comprehension. This method allows the selection of situations that offer a rich body of information to provide depth (Patton, 2014). The researcher attempts to discover and explain natural and social events or phenomena and the relationships between them in the context of the selected cases (Büyüköztürk et al., 2014). The sample of this study consisted of 128 undergraduate and postgraduate students of the Department of Visual Arts Education at the aforementioned university. This sample size constituted a considerable level of representation of the population.

While 103 of the participants were undergraduate students, 25 were postgraduate students (Table 1). According to Karasar (2008), a researcher should aim to select a good sample rather than a large sample. The ideal utilization of a sample is only possible by selecting a sufficiently small but sufficiently representative sample.

Table 1

Demographic Characteristics of the Participants

		n	%
Gender	Female	106	82.8
	Male	22	17.2
Age	17-20	44	34.4
	21-25	62	48.4
	26-29	6	4.7
	30 or older	16	12.5
Education Stage	Undergraduate	103	80.5
	Postgraduate	25	12.5
Class Year	1st-year	13	10.2
	2nd-year	34	26.6
	3rd-year	32	25.0
	4th-year	24	18.8
	Course Stage	7	5.5
	Thesis Stage	18	14.1

Data Collection Instruments

In order to conduct a quantitative analysis of sustainability communication between undergraduate and postgraduate students within the Department of Visual Arts Education at the Faculty of Education of a public university in Türkiye and their institution, the Sustainability Communication Scale for Higher Education was employed as the primary data collection instrument.The Sustainability Communication Scale for Higher Education Institutions was developed by Akdemir (2023) as a part of the author's PhD thesis.

The scale includes questions on demographic information and four subscales. The subscales, which contain 32 items in total, are the environmental

sustainability communication, social sustainability communication, economic sustainability communication, and sustainability of communication subscales. The five-point Likert-type scale (strongly disagree-disagree- neither agree nor disagree -agree-strongly agree) includes 8 items in the environmental sustainability communication subscale, 9 items in the social sustainability communication subscale, 7 items in the economic sustainability communication subscale, and 8 items in the sustainability of communication subscale. The scale, which was used to collect data in this study, was administered to the participants via the Google Forms platform in the spring semester of the 2023-2024 academic year. No identifying information was collected from the participants, and participation in the study was on a voluntary basis.

Research Ethics

Permission to use the "The Sustainability Communication Scale for Higher Education Institutions" scale, which was used as a data collection tool in the research, was received via e-mail from Akdemir (2023). In addition, the research was approved by Bartin University Social and Human Sciences Ethics Committee at meeting number 6 dated 30.05.2024. The study group of the research consisted of undergraduate and postgraduate students who voluntarily filled out the online form.

Data Analysis

The data collected in the study were analyzed using the SPSS 26.0 package program. The analyses included frequency, mean, standard deviation, Mann-Whitney U, and Kruskal-Wallis tests, and the significance of the results was evaluated based on a p-value threshold of 0.05. In the scoring of the responses of the participants to the scale items, the ranges shown in Table 2 were used.

Table 2

Response Score Ranges

Range	Option	Interpretation
1.0 – 1.80	Absolutely Disagree	Very weak
1.81 – 2.60	Disagree	Weak
2.61 – 3.40	Somewhat Agree	Moderate
3.41 – 4.20	Agree	Strong
4.21 – 5.00	Absolutely Agree	Very strong

Findings

The results of the analyses of the data obtained using the data collection instrument are presented in this section for each research question.

Sustainability Communication between Students and University

The first research question was "What is the nature of sustainability communication between students and their university?" The distributions of the scale and subscale scores of the participants are shown in Table 3.

Table 3

Sustainability Communication Scale for Higher Education Institutions, Total and Subscale Scores of the Participants

Sustainability Communication Scale for Higher Education Institutions		N		Mean	Std. Deviation
		Valid	Missing		
Environmental Sustainability Communication	I am aware of activities to increase the consumption of renewable energy resources (e.g., wind, solar) at my university.	128	0	1.9844	1.17040
	I am aware that there are energy-saving practices (e.g., daylight saving, solar water heating, use of motion sensors for lamps) at my university.	128	0	1.9844	1.17040
	I am aware that my university has operations about the prevention of water pollution and access to clean water.	128	0	1.9844	1.17040
	I am aware of the activities of my university to prevent deforestation and plant trees.	128	0	1.9844	1.17040
	I am aware of the activities of my university to preserve biodiversity by protecting endangered species.	128	0	1.9844	1.17040
	I am aware that my university conducts education activities regarding climate change.	128	0	1.9844	1.17040
	I am aware of the activities of my university to reduce the emission of harmful gases like carbon dioxide, carbon monoxide, and methane	128	0	1.9844	1.17040
	I am aware of the efforts/ activities of my university about waste management and recycling.	128	0	1.9844	1.17040

Sustainability Communication Scale for Higher Education Institutions		N		Mean	Std. Deviation
		Valid	Missing		
Social Sustainability Communication	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
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	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386
	I am aware of the activities of my university to fight communicable diseases.	128	0	2.2578	1.24386

Sustainability Communication Scale for Higher Education Institutions		N		Mean	Std. Deviation
		Valid	Missing		
Economic SustainEconomic Sustainability Communication	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168
	I am aware of the activities of my university to increase the number of individuals qualified in entrepreneurship.	128	0	2.9844	1.39168

Sustainability Communication Scale for Higher Education Institutions		N		Mean	Std. Deviation
		Valid	Missing		
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
Sustainability	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.	128	0	2.3359	1.27531
	I am aware that the upper management is informed about issues of critical importance at my university.		2.3359	1.27531	

As seen in Table 3, the environmental sustainability communication levels of the participants were "very weak" in general. Accordingly, they were unaware of the environmental sustainability activities of their university. Moreover, the social sustainability communication levels of the participants were also "very weak" in general. According to this, they were unaware of the social sustainability activities of their university. Furthermore, the economic sustainability communication levels of the participants were "very weak" as well. This meant that they were unaware of the economic sustainability activities of their university. Finally, the sustainability levels of the communication between the participants and their university were "very weak" in general. This indicated that the participants were unaware of the sustainability communication activities of their university.

Sustainability Communication and Gender

The second research question was "Is there a significant difference in the sustainability communication levels of students based on their gender?" The distributions of the scale and subscale scores of the participants in this context are shown in Table 4.

Table 4

Mann-Whitney U Test Results of the Sustainability Communication Levels of the Participants Based on Their Gender

	Subscale	Gender	n	Mean Rank	U	*p*
Sustainability Communication Scale	Environmental Sustainability Communication	Female	106	63.77	1088.500	0.624
		Male	22	68.02		
	Social Sustainability Communication	Female	106	66.20	985.500	0.254
		Male	22	56.30		
	Economic Sustainability Communication	Female	106	66.14	992.500	0.273
		Male	22	56.61		
	Sustainability of Communication	Female	106	64.46	1162.000	0.980
		Male	22	64.68		

Accordingly, there were no statistically significant differences in the environmental sustainability communication (p>0.05), social sustainability communication (p>0.05), economic sustainability communication (p>0.05), and sustainability of communication (p>0.05) scores of the participants based on their gender.

Sustainability Communication and Education Stages

The third research question was "Is there a significant difference in the sustainability communication levels of students based on their education stage?" The distributions of the scale and subscale scores of the participants in this context are shown in Table 5.

Table 5

Mann-Whitney U Test Results of the Sustainability Communication Levels of the Participants Based on Their Education Stage

	Subscale	Level of Education	n	Mean Rank	U	*p*
Sustainability Communication Scale	Environmental Sustainability Communication	Undergraduate	103	66.34	1098.0	0.254
		Postgraduate	25	56.92		
	Social Sustainability Communication	Undergraduate	103	63.69	1204.0	0.615
		Postgraduate	25	67.84		
	Economic Sustainability Communication	Undergraduate	103	65.35	1200.0	0.598
		Postgraduate	25	61.00		
	Sustainability of Communication	Undergraduate	103	64.14	1250.0	0.824
		Postgraduate	25	65.98		

Accordingly, there were no statistically significant differences in the environmental sustainability communication (p>0.05), social sustainability communication (p>0.05), economic sustainability communication (p>0.05), and sustainability of communication (p>0.05) scores of the participants based on their education stages.

Sustainability Communication and Class Years

The fourth research question was "Is there a significant difference in the sustainability communication levels of students based on their class year?" The distributions of the scale and subscale scores of the participants in this context are shown in Table 6.

Table 6

Kruskal-Wallis H Test Results of the Sustainability Communication Levels of the Participants Based on Their Class Year

	Subscale			n	Mean Rank	H	*p*
Sustainability Communication Scale	Environmental Sustainability Communication	Undergraduate	1st-year	13	72.38	3.153	0.676
			2nd-year	34	63.93		
			3rd-year	32	64.84		
			4th-year	24	68.48		
		Postgraduate	Course Stage	7	43.79		
			Thesis Stage	18	62.03		
	Social Sustainability Communication	Undergraduate	1st-year	13	86.12	8.264	0.142
			2nd-year	34	55.66		
			3rd-year	32	59.78		
			4th-year	24	68.13		
		Postgraduate	Course Stage	7	56.21		
			Thesis Stage	18	72.36		
	Economic Sustainability Communication	Undergraduate	1st-year	13	88.08	11.883	0.036*
			2nd-year	34	57.01		
			3rd-year	32	56.66		
			4th-year	24	76.44		
		Postgraduate	Course Stage	7	48.64		
			Thesis Stage	18	65.81		
	Sustainability of Communication	Undergraduate	1st-year	13	76.62	2.984	0.702
			2nd-year	34	59.15		
			3rd-year	32	61.91		
			4th-year	24	67.44		
		Postgraduate	Course Stage	7	57.29		
			Thesis Stage	18	69.36		

Accordingly, there were no statistically significant differences in the environmental sustainability communication (p>0.05), social sustainability communication (p>0.05), and sustainability of communication (p>0.05) scores of the participants based on their class years. However, the economic sustainability communication scores of the participants varied significantly based on their class years (p<0.05).

Table 7 presents the results of the pairwise comparisons of the economic sustainability communication scores of the participants based on their class years using the Mann-Whitney U test.

Table 7

Mann-Whitney U Test Results on the Economic Sustainability Communication Scores of the Participants in Pairwise Comparisons

	n	Mean Rank	U	*p*
Undergraduate 1st Year	13	31.46	124.00	0.021
Undergraduate 2nd Year	34	21.15		
Undergraduate 1st Year	13	30.23	114.00	0.018
Undergraduate 3rd Year	32	20.06		
Undergraduate 1st Year	13	22.15	115.00	0.200
Undergraduate 4th Year	24	17.29		
Undergraduate 1st Year	13	12.62		
Postgraduate Course Stage	7	6.57	18.0	0.030
Undergraduate 1st Year	13	19.62	70.00	0.062
Postgraduate Thesis Stage	18	13.39		
Undergraduate 2nd Year	34	33.18	533.00	0.888
Undergraduate 3rd Year	32	33.84		
Undergraduate 2nd Year	34	26.04	290.50	0.063
Undergraduate 4th Year	24	34.40		
Undergraduate 2nd Year	34	21.37	106.50	0.672
Postgraduate Course Stage	7	19.21		
Undergraduate 2nd Year	34	25.28	264.50	0.424
Postgraduate Thesis Stage	18	28.82		
Undergraduate 3rd Year	32	24.28	249.00	0.025
Undergraduate 4th Year	24	34.13		

	n	Mean Rank	U	*p*
Undergraduate 3rd Year	32	20.22	105.00	0.816
Postgraduate Course Stage	7	19.00		
Undergraduate 3rd Year	32	24.25	248.00	0.418
Postgraduate Thesis Stage	18	27.72		
Undergraduate 4th Year	24	18.02	35.50	0.019
Postgraduate Course Stage	7	9.07		
Undergraduate 4th Year	24	22.60	189.50	0.500
Postgraduate Thesis Stage	18	20.03		

As indicated by the results of the pairwise comparisons between the participants who were first-year undergraduate students and those in other academic years, statistically significant differences were found in economic sustainability communication scores. Specifically, significant differences were observed between first-year undergraduate students and second-year undergraduate students ($p<0.05$), third-year undergraduate students ($p<0.05$), and postgraduate students in the coursework stage ($p<0.05$).On the other hand, there was no significant difference in terms of economic sustainability communication scores between the participants who were undergraduate 1st-year students and those who were undergraduate 4th-year students or between the participants who were undergraduate 1st-year students and those who were postgraduate students in the thesis stage ($p>0.05$). Additionally, there was no significant difference between the economic sustainability communication scores of the participants who were undergraduate 2nd-year students and the scores of those who were undergraduate 3rd-year, undergraduate 4th-year, postgraduate class stage, or postgraduate thesis stage students ($p>0.05$). Furthermore, the economic sustainability communication scores of the participants who were undergraduate 3rd-year students differed significantly from the scores of the participants who were undergraduate 4th-year students ($p<0.05$), but their scores were not significantly different compared to the scores of the participants who were postgraduate students in the course or thesis stage ($p>0.05$). Finally, the economic sustainability communication scores of the participants who were undergraduate 4th-year students differed significantly from the scores of those who were postgraduate students in the course stage ($p<0.05$), whereas the scores of the participants who were undergraduate 4th-year students and those who were postgraduate students in the thesis stage did not differ significantly ($p>0.05$).

Discussions, Conclusions and Reccomendations

This study aimed to investigate the communication of universities, which have significant contributions to sustainability practices, with their students. For this purpose, the relationships between this communication in a sample of undergraduate and postgraduate students and the gender, education stage, and class year of these students were investigated. The results first highlighted the importance of sustainability practices and sustainability communication. They then revealed the sustainability communication levels of university students. The extent to which students were aware of the sustainability practices at their university was determined. Finally, the results of the analyses were interpreted along with information in the relevant literature, and recommendations were considered. It is expected that the results obtained in this pioneering study will contribute to future studies to be conducted on the situation of sustainability communication channels at universities in other regions and countries.

The sample of the study consisted of 128 students, including 103 undergraduate students and 25 postgraduate students. While 106 of the participants were women, 22 were men. The participants, who took part in the study on a voluntary basis, filled out the "Sustainability Communication Scale for Higher Education Institutions", which was developed as a 5-point Likert-type instrument in the doctoral thesis of Akdemir (2023), via the Google Forms platform. The responses of the participants to the scale items were analyzed along with their descriptive characteristics using the SPSS package program. It was determined that the participants had "very weak" levels of sustainability communication with their university. This indicated that the participants were generally unaware of the environmental, social, and economic sustainability practices at their university, and they did not have sustainable communication with their university in this matter. In a study conducted with university students by Şahin, Ertepınar, and Teksöz (2009), who reached similar conclusions, it was shown that students knew the concept of sustainable development, but they were unable to develop behaviors in line with a sustainable world approach from a comprehensive perspective. In another study, which revealed that universities usually focused on environmental sustainability, which is just one aspect of sustainability, Tanç et al. (2022) examined the sustainability practices of universities in Türkiye by studying university websites. The authors reported that only 7 among 207 universities published sustainability reports. They emphasized that universities were unable

to adopt sustainability from a comprehensive point of view. Similarly, Uçar and Özdemir (2022) stated that universities had the means to make significant contributions to society by raising individuals educated about sustainability, but higher education institutions fell behind many other establishments in the context of sustainability practices and reporting.

The dissemination of a culture of sustainability in society is just as important as the prioritization of sustainability by universities. To make sustainability-related practices more visible, institutions need to keep their websites up to date, use clear keywords for the effective communication of information, provide objective information in university rankings, release sustainability reports in open-access publications, and follow a communication policy involving mass communication tools and social media (Filippo et al., 2020). Shan et al. (2022) identified a positive relationship between sustainability reporting practices and university rankings in universities in Australia and New Zealand. They determined that the publication of reports on websites affected outcomes in university ranking systems.

According to the data collected in this study, there was no significant difference in the sustainability communication levels of the participants based on their gender. It was seen that the participants provided similar responses regardless of gender indicating that they were unaware of environmental, social, and economic sustainability activities at their university. Although the results of the study conducted by Koyuncuoğlu (2022) were not exactly in line with the results of this study, the author investigated postgraduate thesis work written in the period between 2004 and 2020 on sustainable universities in Türkiye and found that female researchers showed approximately 2 times more interest in the subject than male researchers did. One may consider that postgraduate students focused on sustainability in their thesis work with the encouragement of their supervisors.

There was also no significant relationship between the education stages of the participants of this study and their sustainability communication levels. It was seen that the participants provided similar responses regardless of whether they were undergraduate or postgraduate students indicating that they were unaware of environmental, social, and economic sustainability activities at their university. Şendurur (2020) also studied whether the awareness statuses

of accounting students enrolled in the Faculty of Economics and Administrative Sciences at a university regarding sustainability reporting were associated with their gender, specialty, and whether they had taken part in internships. Consequently, the researcher did not find a significant difference among the groups. Notwithstanding, an institutionalized communication structure is highly important. To make communication sustainable, there is a need for a professional team, as well as the capacity to manage the system, process, and resources in communication well. Only in this way can sustainable communication be achieved (Saydam, 2014). Sustainability is a long-term process. It requires the in-depth transformation of processes and approaches. In this transformation process, the most important issue is to communicate the significance of the concept to personnel, students, and stakeholders in an effective manner and pursue the process resolutely (Günerhan & Günerhan, 2016).

One of the results of this study was the absence of a significant relationship between the class years of the participants and their environmental and social sustainability communication levels or sustainability of communication subscale scores. It was seen that the participants provided similar responses regardless of their class years indicating that they were unaware of environmental and social sustainability activities at their university. On the other hand, the economic sustainability communication levels of the participants were found to differ significantly based on their class years. As opposed to the other dimensions of the scale, the participants offered different views about the concept of economic sustainability communication. These differences were significant between the 1st-year and 2nd-year undergraduate students, between the 1st-yer and 3rd-year undergraduate students, between the 1st-year undergraduate and course-stage postgraduate students, between the 3rd-year and 4th-year undergraduate students, and between the 4th-year undergraduate and thesis-stage postgraduate students. The economic sustainability communication scores of the 1st-year students among the participants were significantly higher than the scores of the participants in other class years. This showed that 1st-year students, who newly started their education at university, were more aware of the economic sustainability activities at their university. A similar situation was observed between the participants who were 4th-year undergraduate students and those who were 3rd-year undergraduate or course-stage postgraduate students, where the scores of the former were significantly higher than the latter. It was a noteworthy result that the participants

who were undergraduate students were significantly more aware of the economic sustainability activities at their university only at the beginning and at the end of their university education.

It was revealed in this study that undergraduate and postgraduate students of Art Teaching were generally not aware of the sustainability activities on their university campus to the desired degree, which was worth noting considering the significant role of universities in efforts to reach the 2030 Sustainable Development Goals of the UN. Prospective teachers should be equipped with responsible perceptions regarding sustainable development and a more livable world. Awareness should be raised among prospective teachers, who will become role models in the process of raising individuals of all ages who will assume responsibility for a sustainable future (Demirbaş, 2023). Unless precautions are taken about this issue and unless a sustainable point of view is reflected in policies, lifestyles, and consumption phenomena, the concept of sustainability will remain an abstract concept that cannot be put in practice and experienced in a holistic manner. For such efforts to be successful, it is inevitable for countries to develop joint policies and strategies and provide university students with comprehensive educational support. This is because universities are among the institutions at the last stages of education to equip future generations with consciousness, awareness, and the capacity for change and transformation (Güney Örmeci, 2023). In the context of sustainability communication, institutions should put transparent communication with large audiences at the center of their sustainable practices. The target audience should be persuaded to adopt sustainable processes and encouraged to take part in these processes actively (Özgen, 2022). It is indeed a fact that higher education institutions are responsible for raising generations with high awareness for a sustainable future. Nevertheless, it is not reasonable to lay the entire burden on the training of prospective teachers receiving education at the education faculties of universities. In awareness-raising processes, all stages of education from preschool to higher education should take equal responsibility (Korkmaz, 2020). Considering all this information and the results of this study, further studies can investigate the awareness of students regarding sustainability communication on campuses by implementing the methodology of this study, whose results are limited to students of an art teaching program, at other faculties and departments of universities. A map of sustainability communication levels can be created by conducting similar studies on a national scale in Türkiye.

Thematic workshops on sustainability can be implemented, and projects can be developed with undergraduate and postgraduate students at the Department of Arts Education. The subject of sustainability communication on campuses can be included in the content of undergraduate and postgraduate courses, and social responsibility implementation studies can be carried out. Information seminars, congresses, workshops, and trainings can be organized for academics working at universities on campus sustainability communication. The sustainability communication levels of students and teachers can be investigated at every level of education ranging from preschool to higher education, and the effectiveness of communication channels can be studied. Social responsibility projects on sustainability can be developed with students studying in educational institutions. Sustainability can be included in the course content, and implementation studies can be carried out. In-service training on sustainability can be provided to administrators, teachers, and employees working in educational institutions. The data to be obtained as a result of such studies and suggestions will inform the sustainability communication strategies of universities and other educational institutions on their way toward reaching the 2030 Sustainable Development Goals.

Genişletilmiş Özet

Giriş

Sürdürülebilirlik kavramı, 21. yüzyıl dünyasında giderek artan bir önemle çeşitli disiplinlerde hassasiyetle ele alınan bir konu olmuştur. Sürdürülebilirlik; çevresel, ekonomik ve sosyal boyutlarıyla var olan ihtiyaçları karşılarken gelecek nesillerin ihtiyaçlarını da koruma altına alarak karşılayabilme faaliyetlerini kapsamaktadır.

Çevresel sürdürülebilirlik; doğal kaynakların ve biyolojik çeşitliliğin korunması, iklim değişikliği ile mücadele, atık yönetimi gibi konuları içermektedir. Ekonomik sürdürülebilirlik; ekonomik büyüme ile birlikte kaynakların tükenmesi arasındaki dengeyi sağlama, gelir adaleti ve kalkınma gibi konuları kapsamaktadır. Sosyal sürdürülebilirlik ise; toplumsal adalet, eşitlik, sağlık, eğitim ve insan hakları gibi konular üzerine odaklanmaktadır. İnsanlığın karşılaştığı bu temel sorulara karşı çözüm sağlama konusunda önemli rol üstlenen kurumların başında şüphesiz yükseköğretim kurumları gelmektedir. Sürdürülebilir bir dünya için kritik bir öneme sahip bu kurumlarda

yapılan araştırmalar ve bünyelerinde gerçekleştirdikleri uygulamalar kıymetli bir alanı temsil etmektedir. Sadece bilgi aktarmak ve üretmekle kalmayıp aynı zamanda sürdürülebilir uygulamaları ile öğrencilerine ve personeline yayma görevini de üstlenmektedirler. Bu bağlamda yükseköğretim kurumları; stratejik planlarına, ders içeriklerine ve kampüs içi uygulamalarına sürdürülebilir yaşamı entegre etmektedirler. Özellikle kampüslerdeki pratik uygulamalar öğrencilere sürdürülebilirlik konusunda gerçek dünya deneyimi sunmaktadır. Geleceğin mimarı olacak öğrencilerin sürdürülebilirlik konusunda bilinçli toplum üyeleri olarak yetiştirilmesi 21. yüzyıl eğitiminin ana hedeflerinden biri hâline gelmiştir.

Üniversitelerin bu etkileyici rolü ve ölçülebilir etkileri sistematik iletişime bağlıdır. Ayrıcalıklı konumlarından dolayı üniversiteler, sürdürülebilirlik konusundaki taahhütlerini uygulamaya koyması ve bu uygulamalara uyulması konusunda toplumu uyarabilir, bilgilendirebilir. Ancak bu tür faaliyetler bireylerle olan iletişim kanalları sayesinde gerçekleşebilmektedir (Filippo vd., 2023). Dünya Kalkınma ve Çevre Komisyonu 1987 yılında aldığı kararda, öncelikle sürdürülebilir tasarım eğitimi konusunun tartışılarak yeni metodojilerinin geliştirilmesine işaret ettiğini ifade etmiştir. Hiçbir kaynak sonsuz değildir ve bu sebeple tasarımda sürdürülebilirlik yaklaşımı acil ele alınması gereken bir konudur. Temel olarak sürdürülebilirlik bilincinin öğretilmesi, yerleştirilmesi ve teşvik edilmesi komisyonun tavsiye kararları arasındadır. Sürdürülebilirlik sanat eğitimine konu olması, doğa ve çevre temelli sanat hareketleri ve sürdürülebilirlik düşüncesi eğitimde çevre, toplum, ekonomi bileşenine yapılan vurgunun bir uzantısıdır (Mamur ve Köksal, 2016). Bu doğrultuda; evrensel bir dile sahip olan sanatın/tasarımın öğretildiği, sanatsal/tasarım uygulamalarının yapıldığı ve sanat eğitiminin yarınını şekillendiren "Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencilerinin öğrenim gördükleri üniversite ile sürdürülebilirlik iletişimini sayısal olarak tespit etmek amaçlanmıştır.

Yöntem

Araştırma, nicel araştırma yöntemlerinden ilişkisel tarama yaklaşımında tasarlanmıştır. Araştırmanın evrenini, Türkiye'de bir devlet üniversitesinde öğrenim gören "Eğitim Fakültesi Güzel Sanatlar Eğitimi Bölümü Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencilerinin tamamı oluşturmaktadır. Katılımcıların belirlenmesinde seçkisiz olmayan örnekleme yöntemlerinden amaçsal örnekleme yöntemi kullanılmıştır. Araştırmanın örneklemini ise;

"Eğitim Fakültesi Güzel Sanatlar Eğitimi Bölümü Resim-İş Eğitimi Ana Bilim Dalı"nda öğrenim gören 128 lisans ve lisansüstü öğrencisi oluşturmaktadır. Bu sayı ile evrenin büyük bir bölümüne ulaşılmaya çalışılmıştır. Araştırmada, "Yükseköğretim Kurumlarında Sürdürülebilirlik İletişimi Ölçeği" veri toplama aracı olarak kullanılmıştır. Araştırmanın verisini oluşturan ölçek, 2023-2024 eğitim öğretim yılı bahar döneminde Google Form aracılığıyla öğrencilere uygulanmıştır. Araştırmada elde edilen veriler SPSS 26.0 paket programı kullanılarak analiz edilmiştir.

Bulgular

Araştırmanın birinci alt problemi olan lisans ve lisansüstü öğrencilerin öğrenim gördükleri üniversite ile sürdürülebilirlik iletişimi düzeylerinin "çok zayıf" olduğu tespit edilmiştir. Araştırmanın ikinci alt problemi olan lisans ve lisansüstü öğrencilerin sürdürülebilirlik iletişim düzeylerinde (p>.05) cinsiyetlerine göre istatistiksel olarak anlamlı bir farklılık görülmemiştir. Araştırmanın üçüncü alt problemi olan lisans ve lisansüstü öğrencilerin eğitim düzeyi ile sürdürülebilirlik iletişim düzeyleri (p>.05) arasında istatistiksel olarak anlamlı bir farklılık olmadığı tespit edilmiştir. Araştırmanın dördüncü alt problemi olan lisans ve lisansüstü öğrencilerin öğrenim gördükleri sınıf seviyesine göre sürdürülebilirlik iletişim düzeyleri arasında; sınıf seviyesi ile çevresel sürdürülebilirlik iletişimi (p>.05), sosyal sürdürülebilirlik iletişimi (p>.05) ve iletişimin sürdürülebilirliği (p>.05) düzeyleri arasında istatistiksel olarak anlamlı bir farklılık olmadığı tespit edilmiştir. Öğrencilerin öğrenim gördükleri sınıf seviyesi ile ekonomik sürdürülebilirlik iletişimi (p<.05) düzeyi arasında istatistiksel olarak anlamlı bir fark olduğu görülmüştür.

Tartışma, Sonuç ve Öneriler

Araştırmada elde edilen verilere göre; öğrencilerin öğrenim gördükleri üniversite ile sürdürülebilirlik iletişim düzeylerinin "çok zayıf" aralık değerinde olduğu sonucuna ulaşılmıştır. Bu durum "Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencilerinin üniversitede gerçekleştirilen çevresel, sosyal, ekonomik ve sürdürülebilirliğin iletişimi konusundaki faaliyetlerden haberdar olmadıklarını göstermektedir. Benzer bir sonuca ulaşan Şahin, Ertepınar ve Teksöz (2009) üniversite öğrencileri ile gerçekleştirdikleri çalışmada, öğrencilerin sürdürülebilir kalkınma kavramını bildiklerini ancak bütüncül bir bakış açısı ile sürdürülebilir dünya davranışı geliştiremediklerini göstermişlerdir.

Araştırmada elde edilen verilere göre öğrencilerin cinsiyetlerinin sürdürülebilirlik iletişim düzeyi üzerinde istatistiksel olarak anlamlı bir farklılaşma oluşturmadığı sonucuna ulaşılmıştır. Öğrencilerin, cinsiyet farkı gözetmeksizin üniversitede gerçekleştirilen çevresel, sosyal, ekonomik ve sürdürülebilirliğin iletişimi konusundaki faaliyetlerden haberdar olmadıklarına dair benzer görüş bildirdikleri görülmüştür. Ortaya çıkan bu sonucun her ne kadar tam olarak karşılığı olmasa da Koyuncuoğlu (2022) Türkiye'de sürdürülebilir üniversite konusunda 2004-2020 yılları arasında yazılmış lisansüstü tezleri incelemiş ve kadın araştırmacıların erkek araştırmacılara göre yaklaşık iki kat daha fazla ilgi gösterdiğini tespit etmiştir. Lisansüstü öğrencilerinin danışman hocalarının yönlendirmesiyle sürdürülebilirliği tez çalışmalarına konu olarak aldıkları söylenebilir.

Araştırmada elde edilen verilere göre öğrencilerin eğitim düzeyi ile sürdürülebilirlik iletişim düzeyi arasında da istatistiksel olarak anlamlı bir farklılık görülmemiştir. Öğrencilerin eğitim düzeyi ne olursa olsun üniversitede gerçekleştirilen çevresel, sosyal, ekonomik ve sürdürülebilirliğin iletişimi konusundaki faaliyetlerden haberdar olmadıklarına dair benzer görüş bildirdikleri görülmüştür. Şendurur'da (2020) "İktisadi ve İdari Bilimler Fakültesi"nde muhasebe eğitimi alan öğrenciler ile yapmış olduğu araştırmada, öğrencilerin sürdürülebilirlik raporlaması hakkındaki farkındalıklarının cinsiyet, öğrenim gördüğü bölüm, okuduğu sınıf ve staj yapıp yapmama durumu arasında anlamlı bir fark olup olmadığını tespit etmeye çalışmıştır. Araştırma sonucunda değişken gruplar arasında anlamlı bir fark bulunamamıştır.

Araştırmada elde edilen sonuçlardan biri de öğrencilerin öğrenim gördükleri sınıf seviyesi ile çevresel, sosyal ve iletişimin sürdürülebilirliği düzeyleri arasında istatistiksel olarak anlamlı bir farklılık görülmemiş olmasıdır. Öğrencilerin, sınıf seviyesi ne olursa olsun üniversitede gerçekleştirilen çevresel, sosyal ve sürdürülebilirliğin iletişimi konusundaki faaliyetlerden haberdar olmadıklarına dair öğrenciler benzer görüş bildirmişlerdir. Ancak öğrencilerin öğrenim gördükleri sınıf seviyesine göre ekonomik sürdürülebilirlik iletişimi düzeyi arasında istatistiksel olarak anlamlı bir fark olduğu görülmüştür. Ölçeğin diğer alt boyutlarının aksine öğrencilerin sınıf seviyelerine göre ekonomik sürdürülebilirlik iletişimi konusunda farklı görüşlere sahip olduğu ortaya çıkmıştır.

Araştırmanın sonuçları doğrultusunda; "Resim-İş Eğitimi Ana Bilim Dalı" öğrencileri ile sınırlı tutulan bu araştırmanın üniversitenin diğer fakültelerinde ve bölümlerinde uygulanarak fakülteler arası veya bölümler arası ilişki incelenerek öğrencilerin sürdürülebilir kampüs iletişimi konusunda farkındalıkları incelenebilir. Araştırma daha geniş çapta Türkiye'de bulunan tüm üniversiteler arasında uygulanarak öğrencilerin sürdürülebilirlik iletişim düzeylerinin haritası çıkartılabilir. "Resim-İş Eğitimi Ana Bilim Dalı" lisans ve lisansüstü öğrencileri ile sürdürülebilirlikle ilgili tematik atölye uygulamaları yapılabilir ve projeler geliştirilebilir. Lisans ve lisansüstü verilen derslerin içeriğinde sürdürülebilir kampüs iletişimi konusuna yer verilebilir, sosyal sorumluluk uygulama çalışmaları yaptırılabilir. Üniversitelerde görev yapan akademisyenlerin sürdürülebilir kampüs iletişimi hakkında bilgilendirme seminerleri, kongreler, çalıştaylar ve eğitimler düzenlenebilir. Okul öncesi eğitim kurumlarından yükseköğretim kademesine kadar olan her eğitim kademesinde öğrencilerin ve öğretmenlerin sürdürülebilirlik iletişim düzeyleri incelenebilir, iletişim kanallarının etkililiği araştırılabilir. Eğitim kurumlarında öğrenim gören öğrenciler ile sürdürülebilirlik konusunda sosyal sorumluluk projeleri geliştirilebilir. Derslerin içeriğinde sürdürülebilirlik konusuna yer verilebilir ve uygulama çalışmaları yapılabilir. Eğitim kurumlarında görev yapan idareciler, öğretmenler ve çalışanların sürdürülebilirlik konusunda hizmet içi eğitim almaları sağlanabilir.

Ethics Statement: I declare that this study complies with the rules specified in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" and that we have not taken any action based on "Actions Contrary to Scientific Research and Publication Ethics". At the same time, we declare that all authors contributed to the study, that there is no conflict of interest between the authors, and that all responsibility for all ethical violations belongs to the authors of the article.

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