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Research Article | Araştırma Makalesi

Changes in the Knowledge of Journalism Students Participating in the Climate Journalism Course on the Climate Crisis

İklim Gazeteciliği Dersine Katılan Gazetecilik Öğrencilerinin İklim Kriziyle İlgili Bilgilerindeki Değişimler

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Abstract

The climate crisis, which scientists have been trying to explain to people with various warnings, is now showing results worldwide. Hurricanes, floods, droughts, extreme weather events, and the natural disasters that come with them are among the most significant problems. As a crucial tool, climate journalism is responsible for raising awareness about the climate crisis and providing information on ways to combat it. The significance of this role is underscored by the fact that as the level of knowledge of climate journalists on this issue increases, the knowledge of the public will increase. This study is about the climate journalism course in the education program of Erciyes University, Faculty of Communication, Department of Journalism. The study, conducted using a pre-test and post-test design, examines the significant contribution of the climate journalism course to students' knowledge about the climate crisis. According to the study's findings, students' knowledge of the climate crisis increased after taking the course, and their concepts about the climate also varied. After taking the course, students could define the causes and consequences of the climate crisis more accurately. As students' knowledge increased, their concern about the climate crisis increased, highlighting the importance of climate journalism education in increasing public awareness and understanding.

Keywords: Climate Crisis, Climate Journalism, Climate Education, Journalism Students, Awareness.

Öz

Uzun yıllardır bilim insanları tarafından çeşitli uyarılarla insanlara anlatılmaya çalışılan iklim krizi, artık dünyanın her yerinde sonuçlarını göstermektedir. Kasırgalar, seller, kuraklık, aşırı hava olayları ve bunlarla birlikte gelen doğal afetler insanlığın baş etmek zorunda olduğu en büyük problemler arasında yer almaktadır. İnsanlara iklim krizi hakkında farkındalık kazandırmak ve iklimle mücadele yöntemleri hakkında bilgi sağlamak açısından, iklim gazeteciliği önemli bir sorumluluk yürütmektedir. İklim gazetecilerinin bu konudaki bilgi seviyeleri arttıkça, kamunun da bilgisi artacaktır. Bu çalışma, Erciyes Üniversitesi İletişim Fakültesi Gazetecilik Bölümü öğrencilerinin eğitim programı içinde yer alan, iklim gazeteciliği dersinin, öğrencilerin iklim krizi hakkındaki bilgilerine olan katkısını incelemektedir. Öğrencilere uygulanan ön anket ve son anket, öğrencilerin bilgilerindeki değişimleri karşılaştırmayı sağlamıştır. Çalışma bulgularına göre; iklim krizi dersini aldıktan sonra, öğrencilerin iklim krizi bilgi seviyelerinde artış gözlenmekle birlikte, iklimle ilgili kullandıkları kavramlar da çeşitlilik göstermektedir. Dersi aldıktan sonra öğrenciler, iklim krizinin nedenlerini ve sonuçlarını daha doğru tanımlayabilmişlerdir. Öğrencilerin bilgileri arttığında, iklim kriziyle ilgili endişe düzeyleri de artış göstermiştir.

Anahtar Kelimeler: İklim Krizi, İklim Gazeteciliği, İklim Eğitimi, Gazetecilik Öğrencileri, Farkındalık.

Introduction

For many years, humans have disregarded scientists' warnings about the climate crisis, and now we are in the midst of it. Across the globe, natural disasters such as excessive rainfall, extreme drought, floods, fires, and other related calamities threaten human life. Fueled by technology, humans are depleting the world's resources at an alarming rate and causing irreparable damage to the planet through their activities. Deforestation and releasing greenhouse gases into the air from human activities are the primary culprits of the climate crisis. According to an ongoing temperature analysis led by scientists at NASA's Goddard Institute for Space Studies (GISS), the average global temperature on Earth has increased by at least 1.1° Celsius (1.9° Fahrenheit) since 1880. In other words, the climate has changed rapidly over approximately 250 years, and the need for immediate action to combat this crisis is more pressing than ever. (NASA's Goddard Institute for Space Studies (GISS), 2023). In other words, the climate has changed rapidly over approximately 250 years.

Climate change pressures livelihoods and habitats through excessive rainfall, extreme drought, rising sea levels, and other consequences, which cause many political, economic, and sociological problems. According to previous studies, three-quarters of the 40.5 million people who had to be displaced in 2020 were displaced due to meteorological and geological disasters. According to the IPCC (IPCC, 2022) report, climate change has negatively affected people's physical and mental health. In all regions, extreme temperatures have led to human death and various diseases, and the degree of water and food-based diseases has increased at elevated levels. High temperatures, increased rainfall, and floods have caused gastrointestinal infections and diarrheal diseases, including cholera. In addition, exposure to atmospheric dust and aeroallergens from forest fires has been linked to climate-sensitive cardiovascular and respiratory diseases.

Türkiye, located in the Mediterranean Basin, is experiencing many impacts of the climate crisis, which is expected to increase (Kurnaz, 2023). In the last four years, Türkiye has experienced many disasters, and many people have lost their lives due to extreme weather events. Floods affecting Adıyaman, Şanlıurfa (2023), Ankara (2022), Bartın, Kastamonu, and Sinop (2021) were recorded in history as disasters. Many habitats were lost in Antalya, Muğla, and Mersin due to approximately 299 forest fires in July-August 2021. In July 2023, consecutive heat records were broken in the world and Türkiye, with temperatures exceeding 44 degrees Celsius. Forests and their species burned in Muğla, Manisa, Gaziantep, and Hatay (Şahin Hassan, 2023).

According to the IPCC report (IPCC, 2022), Türkiye is the most vulnerable country in Europe to extreme weather events. Extreme heat will cause loss of lives and significant economic losses. The sea heat will damage biodiversity and significantly affect the fisheries sector. The report predicts that 10% of Mediterranean fish species will be lost by 2060, and this rate could rise to 60% if temperatures increase. Soil erosion will increase as excessive rainfall and droughts affect soil quality, threatening 30% of agricultural land. Sea level rise will threaten coastal cities. If emissions are high, Lake Beyşehir could dry up entirely by 2070. In addition, the negative impact of climate change on international supply chains, markets, the financial sector, and trade will restrict access to products in Türkiye, increasing prices and damaging the national export market. Climate change-induced economic shocks, such as declining agricultural yields, damage to critical infrastructure, and increased commodity prices, could lead to financial instability. To avoid these climate crisis-induced problems, Türkiye must develop policies, create climate-adapted cities,

build nature-based societies with socio-ecological resilience, have highly aware, conscious individuals, and contribute to solutions (Cop27, 2022). Studies have shown that when the media frames its coverage of climate change, it increases public interest and engagement and contributes to developing measures and ways to cope with crises (Berglez et al., 2017; Hackett et al., 2017; Nisbet, 2009). The media is vital for the public to establish a cause-and-effect relationship with the climate crisis, pressure policymakers to reduce emissions, and contribute to reducing the anthropogenic impact of the crisis (Bord et al., 2000)218 Americans, the key determinant of behavioral intentions to address global warming is a correct understanding of the causes of global warming. Knowing what causes climate change, and what does not, is the most powerful predictor of both stated intentions to take voluntary actions and to vote on hypothetical referenda to enact new government policies to reduce greenhouse gas emissions. Identifying bogus causes (e.g., insecticides.

According to survey data from 40 countries, the media is the most widely used source of information. In addition, in the report, individuals in 15 countries state that they learn about climate from television (35%), the websites of major news organizations (15%), special publications on climate (13%), and alternative media sources such as social media and blogs (Newman et al., 2020). Therefore, it can be said that individuals rely on the media to inform them about the risks of the climate crisis and that the media have a substantial direct influence on the audience (Dunwoody & Peters, 1992).

However, some studies conducted in Türkiye have shown that mainstream media do not bring climate change to the agenda, even during significant climate disasters and international conferences. Studies have suggested that mainstream media has failed to connect climate change with its relationship with issues such as economics and politics (Şahin, 2014). A study that analyzed 11 news websites concluded that "the climate crisis could not be reported sufficiently and as it should be due to reasons such as the lack of a distinction between environmental and climate journalism, the lack of editorial policies, the lack of trained journalists to report and report the climate crisis as it should be, the budget and resource constraints of newsrooms, and the intensity of the current political agenda" (Uzunoğlu & Karaca, 2021).

In addition to these, in the research investigating the coverage of the fires that broke out in Australia between 2019 and 2020 in the Turkish press, it was stated that 77% of the news items analyzed did not mention global warming/climate change at all (Şahin, 2020). The study, which also focused on the discourse of climate crisis news in the Turkish press, revealed that 70% of the analyzed news items did not reference anthropogenic impacts related to the climate crisis (Baykal Fide, 2022). All these academic studies show that in Türkiye, especially in the mainstream media, the issue of climate change is not given enough attention, the link between the news and the climate is not established, and the climate crisis news lags behind political and economic ones. Therefore, the news media cannot place the relationship between climate change and human life in social and environmental contexts. The main reason is journalists' lack of knowledge and education on the climate crisis. For journalists, workshops and similar training are organized by various institutions or organizations that can be seen as supportive activities to increase their awareness and knowledge. However, increasing the level of expertise of journalism students about the climate crisis contributes primarily to their understanding of the issue as citizens. It also supports them in reporting more on the climate crisis in their news

production practices, establishing the climate-related contexts of events, and conveying warnings from climate scientists to the public on a scientific basis.

Although there are courses under titles such as 'environmental and health journalism', 'environmental journalism', and 'urban and environmental journalism' in the journalism departments of communication faculties at some universities in Türkiye, there is a course on climate journalism only in Erciyes University Faculty of Communication, Department of Journalism. Courses on the environment include climate, but the necessary skills needed for climate journalism, such as mastering the language of news, reading the language of climate science, knowing about and accessing news sources on climate, and writing climate news stories, are not taught. Therefore, the climate journalism course is vital in increasing the knowledge of journalism students on climate journalism, reflecting on the practices of the journalism profession, and contributing to climate communication.

In the climate journalism course at Erciyes University Faculty of Communication, developments in every field affected by the climate crisis, from ecological collapse to the threat of rising sea levels, are conveyed as information. In the content of the course, what the climate crisis is, its definition, scope, causes, and effects are explained, and the aims of climate journalism are taught. Topics such as the areas affected by the climate crisis in the world and Türkiye and climate policies, scientific news sources to be used in climate news stories, terms related to the climate crisis, rules, and suggestions to be considered in the news are included. In addition, examining climate news examples and news production studies are also carried out. Thus, informed journalists specialising in climate can increase the public's knowledge and awareness, and their participation in solution processes can be ensured.

The climate journalism course aims to inform students about the causes, consequences, and level of destruction on the planet caused by climate change accelerated by the Anthropocene effect, teach climate terminology, and raise awareness. In addition, it aims to enable them to analyze the causes and consequences of the climate crisis and to have an idea about the reflections of the results in all political, economic, and socio-cultural areas of society. This study aims to understand the contribution of the climate journalism course to the students who chose it in the 2023-2024 academic year. It examines whether there is a change in students' level of knowledge about the climate crisis after taking the course. Thus, it aimed to obtain information about the level of contribution of the course to the students.

Method

Research Method:

This study was designed as a single group pre-test post-test weak experimental design model to determine the effect of a climate journalism course on students' knowledge and awareness levels about climate change (İlhan & Gezer, 2021). In the pre-test, post-test, and single-group design, measurements of the dependent variable were taken before and after the experimental procedure, and the difference between the post-test and the pre-test was interpreted as the effect of the intervention applied.

Ethics Committee Permission

Within the framework of the decision taken during the meeting by Erciyes University Social and Human Sciences Ethics Committee dated 31/10/2023 and numbered 455; the study does not contain any ethical issues.

Universe / Sample :

The study group of this research consists of 55 students who participated in the climate journalism course in the fall semester of the 2023-2024 academic year. The course is given as a 4th-year elective course in the journalism department. The age range of the students varies between 18-25, and the information about the gender variable is given in Table 1.

Table 1. *Gender Distribution of Students*

Gender	Frequency	Percent
Female	35	63,6
Male	20	36,4
Total	55	100,0

Data Collection Tools:

Within the scope of the research, the researcher conducted a literature review and created a semi-structured questionnaire consisting of 10 questions. One field expert and one measurement and evaluation expert discussed the form, and the questionnaire was finalized by making the necessary changes according to the suggestions. The questions in the questionnaire are presented below. Questions 1, 5, 9, and 10 are structured questions, and the other questions are open-ended. The purpose of asking open-ended questions is to obtain qualitative data. Open-ended questions allow students to reflect their knowledge in their answers. Open-ended questions provide a complete understanding of the student's level of knowledge on the subject.

The questions in the questionnaire form are presented below.

1. Do you think that you are informed about the climate crisis?

2. What image, concept or expression comes to your mind when you hear the term climate crisis?

3. Name 3 things that are causing the climate crisis.

4. What are the things affected by the climate crisis?

5. Are you familiar with the agreements signed on the climate crisis?

6. Which climate agreements do you know?

7. Do you think that Türkiye is facing a climate crisis problem? If yes, what climate problems is Türkiye facing? Please specify.

8. What are possible solutions to the climate crisis? Please specify.

9. How concerned are you about the climate crisis?

10. When do you think the climate crisis will affect the world?

Data Analysis:

Frequency and percentage distributions of the answers in the response categories for the structured questions in the questionnaire form are presented. Open-ended questions were categorized according to the students' answers and analyzed and interpreted using the content analysis method. The questionnaire form was applied to the students before and after the course, and the results were presented comparatively before and after the course. The SPSS package program was used in the analysis of the structured questions.

Findings

The research findings are presented respectively based on the questions in the questionnaire.

- The students' responses to the question "Do you think you have information about the climate crisis?" are shown in Table 2.

***Table 2**. Students' Level of Knowledge About The Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
I don't have any information	8	14,5	I don't have any information	1	1,8
I have some knowledge	27	49,1	I have some knowledge	32	58,2
I am not sure of my knowledge	15	27,3	I am not sure of my knowledge	2	3,6
I am well-informed	5	9,1	I am well-informed	19	34,5
I am very well-informed.	-	-	I am very well-informed	1	1,8
Total	55	100	Total	55	100

In the pre-survey, 14.5% of the students admitted not knowing about the climate crisis, and 27.3% were unsure about their knowledge. However, after the course, the number of students who claimed not to know decreased to 1.8%, and those who were uncertain about their knowledge decreased to 3.6%. The course significantly increased the number of students who stated they were well-informed, from 9.1% in the pre-survey to 34.5%. This substantial increase in students' knowledge about the climate crisis after the course demonstrates the effectiveness of the climate journalism course in enhancing students' awareness of the topic.

- Table 3 shows the answers to the questions aimed at understanding the image formed in students' minds when they hear the term climate crisis.

Table 3. Image/Word/Phrase Formed in The Mind Regarding The Concept of Climate Crisis

Pre-survey	Frequency	Percent	Post-survey	Frequency	Percent
Seasonal transitions/ weather	25	45,5	Drought	10	18,2
Global warming	9	16,4	Melting glaciers	8	14,5
Melting glaciers	7	12,7	Seasonal changes	7	12,7
Disasters, bad influences, crises	6	10,9	Extreme weather events	6	10,9
Countries-cities	3	5,5	Global warming	5	9,1
Drought	3	5,5	Greenhouse gases	3	5,5
Sun, rain, snow	2	3,6	Natural disasters	3	5,5
-	-	-	Humans impact on the climate	3	5,5
-	-	-	Extinction of species	3	5,5

Pre-survey	Frequency	Percent	Post-survey	Frequency	Percent
-	-	-	Depletion of natural resources	2	3,6
-	-	-	Water wars	2	3,6
-	-	-	I don't know	3	5,5
Total	55	100	Total	55	100

In the pre-survey, 45% of the students understood seasonal transitions as a climate crisis issue. Apart from these, students made definitions such as the melting of glaciers (12.7%), global warming (16.4%), and disasters (10.9%). However, students' statements about the climate crisis vary when we look at the final survey data. After taking the course, students started to define climate crisis not only in terms of changing seasonal conditions but also in terms of drought (18.2%), extreme weather events (10.9%), human impact (5.5%), greenhouse gases (5.5%), extinction of species (5.5%). Therefore, the climate journalism course diversified and enriched students' concepts of climate crisis.

- In the 3rd question, students were asked to rank three concepts that cause the climate crisis. Table 4 shows the categories created according to the students' rankings.

Table 4. *3 Concepts Identified as Causes of Climate Crisis*

	1. Concept		2. Concept		3. Concept	
Pre-Survey	**Frequency**	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Technology	2	3,6	-		-	-
Factories, waste	4	7,3	7	12,7	4	7,3
Fossil fuels/oil/ gasoline	2	3,6	3	5,5	2	3,6
Forest fires and deforestation	1	1,8	3	5,5	2	3,6
Air pollution	5	9,1	3	5,5	1	1,8
Deodorant and makeup	3	5,5	4	7,3	-	-
Chemical substances	1	1,8	1	1,8	1	1,8
Global warming	17	30,9	4	7,3	3	5,5
Environmental pollution	3	5,5	1	1,8	1	1,8
Ozone depletion	2	3,6	4	7,3	1	1,8
Exhaust gases	1	1,8	2	3,6	3	5,5
People	4	7,3	8	14,5	6	10,9
Geographical location	2	3,6	-	-	-	-
Globalization	2	3,6	1	1,8	-	-
Melting glaciers	1	1,8	2	3,6	-	-
Drought	2	3,6	1	1,8	-	-
Greenhouse gases	1	1,8	-	-	-	-

Pre-Survey	1. Concept Frequency	Percent	2. Concept Frequency	Percent	3. Concept Frequency	Percent
Natural disasters	-	-	1	1,8	-	-
Sun	-	-	1	1,8	1	1,8
Individual vehicle use	-	-	-	-	1	1,8
I don't know	2	3,6	9	16,4	29	52,7
Total	55	100	Total	55	100	Total

Accordingly, in the pre-survey, the students first associated the climate crisis with global warming (30.9%). Air pollution (9.1%) was another reason that came to students' minds first. This was followed by factories and wastes (7.3%), people (7.3%), deodorant and makeup (5.5%) and environmental pollution (5.5%). In the pre-survey, people (14.5%) and factories and wastes (12.7%) were most frequently identified as the second concept. Then ozone depletion (7.3%) and deodorants and makeup (7.3%) were identified. As the third reason, people (10.9%), factories and wastes (7.3%) were identified. However, in the post-survey, students demonstrated an improved ability to Identify the causes of the climate crisis, showing a more comprehensive understanding of the issue.

- Table 5 shows how students defined and ranked the three concepts causing the climate crisis in the post-survey.

Table 5. *3. Concepts Identified as Causes of Climate Crisis*

Post-Survey	1. Concept Frequency	Percent	2. Concept Frequency	Percent	3. Concept Frequency	Percent
Cows	1	1,8	-	-	1	1,8
Methane	3	5,5	3	5,5	3	5,5
Carbon dioxide	-	-	4	7,3	3	5,5
Greenhouse Gases	22	40,0	6	10,9	2	3,6
Global warming	4	7,3	5	9,1	7	12,7
Fossil fuels	4	7,3	8	14,5	5	9,1
Livestock farming	1	1,8	-	-	-	-
Factory Waste	5	9,1	4	7,3	2	3,6
Deforestation	1	1,8	2	3,6	2	3,6
Human Activities	4	7,3	7	12,7	4	7,3
Unconscious Consumption	3	5,5	10	18,2	3	5,5
Extreme weather events	2	3,6	2	3,6	7	12,7
Drought	1	1,8	1	1,8	3	5,5
Melting glaciers	1	1,8	-	-	1	1,8
Failure to fulfill climate agreements	2	3,6	-	-	-	-
Increase in glass structures	1	1,8	-	-	-	-
I don't know	-	-	3	5,5	12	21,8
Total	55	100	55	100	55	100

When the data was analyzed, it was noteworthy that students used concepts close to climate terminology. 40% of the students cited greenhouse gases as the cause of the climate crisis. This was followed by factory wastes (9.1%), global warming (7.3%), human activities (7.3%) and fossil fuels (7.3%). It is also remarkable that students used methane gas (5.5%) and failed to fulfill climate agreements (3.6%). The use of these concepts is only possible with information about the climate crisis. The expressions used by the students in second place are unconscious consumption (18.2%), fossil fuels (14.5%), human activities (12.7%), greenhouse gases (10.9%) and global warming (9.1%). The third-ranked causes are global warming (12.7%), extreme weather events (12.7%), fossil fuels (9.1%), human activities (7.3%), methane (5.5%) and carbon dioxide (5.5%). According to Table 5, it is observed that students associate the causes of the climate crisis mostly with greenhouse gases, unconscious consumption, fossil fuels and global warming. Table 4 establishes this relationship with global warming, factories, and air pollution.

- Table 6 includes students' knowledge about the effects of the climate crisis.

*T**able 6.** Things Affected by Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
Ecosystem	9	16,4	Disruption of natural life	22	40,0
Nature/Life	8	14,5	Extinction of living things	9	16,4
Air temperature	8	14,5	Degradation of fertile agricultural land	6	10,9
Seasons	6	10,9	Health	4	7,3
People	6	10,9	Plants	3	5,5
Quality of life	4	7,3	Declining water resources	3	5,5
Vegetables, fruits	3	5,5	Atmosphere	2	3,6
Animals	2	3,6	Seas	1	1,8
Glaciers	2	3,6	Decreased quality of life	1	1,8
Agriculture	1	1,8	Economy	1	1,8
Diseases	1	1,8	Disruption of the food chain	1	1,8
Plants	1	1,8	Forest fires	1	1,8
Market	1	1,8	-	-	-
Ozone layer	1	1,8	-	-	-
I don't know	2	3,6	I don't know	1	1,8
Toplam	55	100	Toplam	55	100

In the pre-survey, students used general terms such as ecosystem (16.4%), nature/life (14.5%), air temperature (14.5%), seasons (10.9%), people (10.9%), and glaciers (3.2%). In the post-survey, it is seen that they were able to give more detailed information, such as the deterioration of natural life (40.0%), extinction of living things (16.4%), deterioration of fertile agricultural lands (10.9%), human health (7.3%) and decrease in water resources (5.5%). In addition, students also used expressions such as decrease, degradation and depletion, which are also included in climate terminology. According to this result, the climate journalism course contributed to the students' mastery of climate-related concepts and their ability to describe the consequences of the climate crisis with information.

Various efforts are being carried out worldwide to minimize the negative impacts of the climate crisis and combat the crisis. These efforts also provide binding obligations on countries through various agreements. International agreements such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and

the Paris Agreement ensure that all countries collaborate to combat the climate crisis. Türkiye took part in these agreements. In addition, the annual Conference of the Parties (COP) meetings are crucial in combating the climate crisis, and Türkiye participates in these meetings. Table 7 shows the students' responses to their level of knowledge about these agreements, and Table 8 shows which of these agreements they know. Therefore, the two tables are related to each other.

Table 7. *Information on Agreements Signed on The Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
I don't have any information	47	85,5	I don't have any information	6	10,9
I have some knowledge	4	6,9	I have some knowledge	29	52,7
I am not sure of my knowledge	4	6,9	I am not sure of my knowledge	2	3,6
I am well-informed	-	-	I am well-informed	15	27,3
I am very well-informed.	-	-	I am very well-informed	3	5,5
Toplam	55	100		55	100

According to Table 7, 85.5% of the pre-survey students said they did not know about the agreements. The rate of those with some knowledge and those who are unsure about their understanding is 6.9%. However, when Table 8 is analyzed, 98.2% of the students did not mention any agreements. In other words, most of those who needed clarification about their knowledge and those who said they were somewhat knowledgeable did not know about agreements.

When Table 8 is analyzed, it is seen that all but 16.4% of the students know at least one of the climate agreements. Notably, students are most knowledgeable about the Paris Agreement (49.1%). This is followed by COP (10.9%) and UNFCCC (10.9%). The rate of those who know the Kyoto Protocol is 9.1%. According to the results of Table 8, it can be said that students' knowledge about climate agreements increased by approximately 80% after the climate journalism course. The post-survey results are different from the pre-survey. 52.7% of the students say they are somewhat knowledgeable, and 27.3% say they are well-informed. In other words, most students show they know about climate agreements.

Table 8. *Information on Agreements Signed on Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
No information	54	98,2	No information	9	16,4
I have some knowledge	1	1,8	I have some knowledge	2	3,6
			Paris Agreement	27	49,1
			KYOTO Protocol	5	9,1
			Conference of the Parties (COP)	6	10,9
			UNFCCC	6	10,9
Total	55	100	Total	55	100

- Table 9 shows the students' knowledge of whether Türkiye has any climate crisis problem.

Table 9. *Information on Whether Türkiye Has A Climate Crisis Problem*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
Yes	42	76,4	Yes	52	94,5
No	6	10,9	No	2	3,6
No information	7	12,7	No information	1	1,8
Total	55	100	Total	55	100
Drought	5	9,1	Drought increase	10	18,2
Seasonal changes	17	30,9	Seasonal changes	10	18,2
Agriculture issues	1	1,8	Decline in agricultural production	2	3,6
Natural disasters	4	7,3	Increase in natural disasters	7	12,7
Environmental issues	2	3,6	Decrease in precipitation	6	10,9
Mucilage in the Sea of Marmara	1	1,8	Water problem	5	9,1
Global warming	1	1,8	Temperature increase	4	7,3
Air pollution	2	3,6	Declining fish stocks	1	1,8
Decreased quality of life	1	1,8	Decreased quality of life	8	14,5
Everything is a problem	1	1,8	-	-	-
No explanation	20	36,4	No explanation	2	3,6
Total	55	100	Total	55	100

In the pre-survey, 76.4% of the students stated that Türkiye has a climate crisis, while 10.9% pointed out that Türkiye does not have such a problem. 12.7% of the students indicated that they had no opinion. Those who said that Türkiye has a climate crisis problem defined the problems as seasonal changes (30.9%), drought (9.1%), natural disasters (7.3%), air pollution (3.6%) and environmental problems (3.6%). In the post-survey, the results changed slightly. The rate of respondents who said that Türkiye has a climate crisis problem increased to 94.5%. The rate of respondents who said that Türkiye does not have such a problem decreased to 3.6%. In the post-survey, definitions of the crisis also varied. Students used expressions such as seasonal changes, increased drought, reduced quality of life, decreased rainfall, water problems, and decreased fish stocks. These expressions are similar to the comments made by climate scientists about Türkiye.

- Climate journalism is vital in identifying and showing problems, presenting solutions, and involving individuals in solutions. In this respect, Table 10 shows the solutions that students know about the climate crisis.

Table 10. *Information on Practices That Can Be A Solution To The Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
No information	15	27,3	No information	8	14,5
Organizing education for individuals	12	21,8	Reducing the use of fossil fuels	15	27,3
Improving conscious consumption	9	16,4	Raising public awareness	14	25,5

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
Reducing pollution	7	12,7	Complying with climate agreements	6	10,9
Increasing forests and tree areas	3	5,5	Sustainability	4	7,3
Reducing the use of fossil fuels	2	3,6	Reducing methane gas emissions	3	5,5
Using public transportation	2	3,6	Fulfillment of differentiated but typical responsibilities	2	3,6
Increasing the use of electric vehicles	2	3,6	Awareness of water consumption	1	1,8
Using renewable energies	1	1,8	Reducing the use of petroleum	1	1,8
Reducing the use of perfume/deodorant	1	1,8	Educating children	1	1,8
Waste sorting	1	1,8	-	-	-
Total	55	100	Total	55	100

In the pre-survey, 27.3% of the students needed more information. In the post-survey, this rate decreased to 14.5%. In the pre-survey, statements such as organizing education for individuals (21.8%), developing conscious consumption (16.4%), reducing pollution (12.7%), and increasing forest and tree areas (5.5%) were used as solution suggestions. In the post-survey, statements such as not using fossil fuels (27.3%), raising public awareness (25.5%), complying with climate agreements (10.9%), sustainability (7.3%), reducing methane gas emissions (5.5%), and fulfilling differentiated but common responsibilities (3.6%) stand out. The statements used in the post-survey include the most emphasized issues in the climate terminology and the climate crisis.

- Table 11 shows students' concerns about the climate crisis.

Table 11. *Concern About The Climate Crisis*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
not worried at all	3	5,5	not worried at all	1	1,8
a little worried	19	34,5	a little worried	5	9,1
quite worried	20	36,4	quite worried	29	52,7
very worried	13	23,6	very worried	20	36,4
Total	55	100	Total	55	100

In the pre-survey, 36.4% were very concerned. Those who were a little worried were 34.5%, while those who were anxious were (23.6%). In the post-survey, the rate of those who were quite worried increased to 52.7% and those who were anxious increased to 36.4%. As students' knowledge about the climate crisis increased, their concern increased as they learned about the problems and consequences. Therefore, having information about the crisis contributed significantly to their awareness.

- Table 12 shows the responses regarding when the climate crisis will affect the world.

Table 12. *When The Climate Crisis Will Affect The World*

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
affecting now	31	56,4	affecting now	39	70,9
will soon affect	12	21,8	will soon affect	9	16,4

Pre-Survey	Frequency	Percent	Post-Survey	Frequency	Percent
will affect the next 100 years	11	20,0	will affect the next 100 years	6	10,9
will affect the next 1000 years	1	1,8	will affect the next 1000 years	1	1,8
will never affect	-	-	will never affect	-	-
Total	55	100	Total	55	100

In the pre-survey, 56.4% of the students thought the crisis was currently affecting the world. In the post-survey, this rate increased to 70.9%. In the pre-survey, 21.8% of respondents said it would affect the world soon, whereas this rate decreased to 16.4% in the post-survey. In the pre-survey, while 20% of the students thought the impacts would be seen in the next 100 years, this rate was halved in the post-survey, and 10.9% agreed. When Table 12 is analyzed, it can be seen that the climate journalism course has contributed to students' awareness of the effects of the climate crisis and to finding the existence of the climate crisis at the root of many problems experienced worldwide.

Conclusion

The climate crisis and its consequences are among the biggest problems of the 21st century. Climate journalism training is essential to consider the crisis an urgent global issue. First, it is necessary to understand climate science and to be able to analyze the causes, effects, and solutions of the climate crisis. It can be effectively communicated to the masses only when this information is well-known. The climate crisis is a multifaceted issue. It intersects with science, politics, economy, social justice, and culture. Therefore, the primary mission of climate journalism is to connect the issues, raise public awareness, empower individuals during the climate crisis, and realize collective action for a sustainable future.

This study analyzed how the climate journalism course contributed to students' knowledge and awareness. The pre-and post-survey administered to the students enabled a comparison of the change in students' understanding. According to the study's findings, students' knowledge of the climate crisis increased, and their concepts about the climate varied. After completing the course, students could describe the causes and consequences of the climate crisis more accurately. The rate of using concepts in climate terminology increased after taking the course. Students' knowledge and awareness about climate agreements, climate problems in Türkiye, and solutions to the climate crisis have increased. When students' knowledge increased, their concern about the climate crisis increased.

The findings of this study demonstrate that the education provided in the climate journalism course contributed significantly to students' knowledge about the climate crisis and supported students in developing their awareness. Therefore, this study shows that students' deficiencies in climate crisis should be addressed through education.

One of the biggest problems in journalism is the need for more specialization. Journalists need more specialization in many fields, such as science, education, politics, and the economy, which affects how they handle news topics. A journalist's lack of knowledge also leads to deficiencies, errors, or inadequacies in informing the public. As the level of knowledge and education on a subject increases, specialization in that subject will also increase. Therefore, expanding the scope, depth, and frame of the taught courses in faculties of communication, which are essential schools in the training of journalists,

to support the specialization of students will positively affect their production in their professional lives. The climate crisis is among the most critical issues requiring accurate information worldwide. For this reason, there is a clear need for specialized journalists who can evaluate the events in the climate crisis from a scientific perspective, obtain appropriate news sources, and provide realistic information to the public. Therefore, to train journalists specialized in the climate crisis, it is recommended that the number of climate journalism courses and their content be enriched in depth and scope.

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Changes in the Knowledge of Journalism Students Participating in the Climate Journalism Course on the Climate Crisis

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Extended Abstract

The climate crisis, which scientists have been trying to explain to people with various warnings, is now showing results worldwide. Hurricanes, floods, droughts, extreme weather events, and the natural disasters that come with them are among the most significant problems. As a crucial tool, climate journalism is responsible for raising awareness about the climate crisis and providing information on ways to combat it. The significance of this role is underscored by the fact that as the level of knowledge of climate journalists on this issue increases, the knowledge of the public will increase.

In the climate journalism course at Erciyes University Faculty of Communication, developments in every field affected by the climate crisis, from ecological collapse to the threat of rising sea levels, are conveyed as information. In the content of the course, what the climate crisis is, its definition, scope, causes, and effects are explained, and the aims of climate journalism are taught. Topics such as the areas affected by the climate crisis in the world and Türkiye and climate policies, scientific news sources to be used in climate news stories, terms related to the climate crisis, rules, and suggestions to be considered in the news are included. Thus, informed journalists specialising in climate can increase the public's knowledge and awareness, and their participation in solution processes can be ensured.

The climate journalism course aims to inform students about the causes, consequences, and level of destruction on the planet caused by climate change accelerated by the Anthropocene effect, teach climate terminology, and raise awareness. In addition, it aims to enable them to analyze the causes and consequences of the climate crisis and to have an idea about the reflections of the results in all political, economic, and socio-cultural areas of society. This study aims to understand the contribution of the climate journalism course to the students who chose it in the 2023-2024 academic year. It examines whether there is a change in students' level of knowledge about the climate crisis after taking the course. Thus, it aimed to obtain information about the level of contribution of the course to the students.

This study was designed as a single group pre-test post-test weak experimental design model to determine the effect of a climate journalism course on students' knowledge and awareness levels about climate change (İlhan & Gezer, 2021). In the pre-test, post-test, and single-group design, measurements of the dependent variable were taken before and after the experimental procedure, and the difference between the post-test and the pre-test was interpreted as the effect of the intervention applied.

Within the scope of the research, the researcher conducted a literature review and created a semi-structured questionnaire consisting of 10 questions. Questions 1, 5, 9, and 10 are structured questions, and the other questions are open-ended. The purpose of asking open-ended questions is to obtain qualitative data. Open-ended questions allow students to reflect their knowledge in their answers. Open-ended questions provide a complete understanding of the student's level of knowledge on the subject.

The course significantly increased the number of students who stated they were well-informed, from 9.1% in the pre-survey to 34.5%. This substantial increase in students' knowledge about the climate crisis after the course demonstrates the effectiveness of the climate journalism course in enhancing students' awareness of the topic.

In the pre-survey, 45% of the students understood seasonal transitions as a climate crisis issue. Apart from these, students made definitions such as the melting of glaciers, global warming, and disasters. However, students' statements about the climate crisis vary when we look at the final survey data. After taking the course, students started to define climate crisis not only in terms of changing seasonal conditions but also in terms of drought, extreme weather events, human impact, greenhouse gases, extinction of species. Therefore, the climate journalism course diversified and enriched students' concepts of climate crisis.

According to Table 5, it is observed that students associate the causes of the climate crisis mostly with greenhouse gases, unconscious consumption, fossil fuels and global warming. Table 4 establishes this relationship with global warming, factories, and air pollution.

In the post-survey, definitions of the crisis also varied. Students used expressions such as seasonal changes, increased drought, reduced quality of life, decreased rainfall, water problems, and decreased fish stocks. These expressions are similar to the comments made by climate scientists about Türkiye.

When Table 12 is analyzed, it can be seen that the climate journalism course has contributed to students' awareness of the effects of the climate crisis and to finding the existence of the climate crisis at the root of many problems experienced worldwide.

The findings of this study demonstrate that the education provided in the climate journalism course contributed significantly to students' knowledge about the climate crisis and supported students in developing their awareness. Therefore, this study shows that students' deficiencies in climate crisis should be addressed through education.

One of the biggest problems in journalism is the need for more specialization. Journalists need more specialization in many fields, such as science, education, politics, and the economy, which affects how they handle news topics. A journalist's lack of knowledge also leads to deficiencies, errors, or inadequacies in informing the public. As the level of knowledge and education on a subject increases, specialization in that subject will also increase. Therefore, expanding the scope, depth, and frame of the taught courses in faculties of communication, which are essential schools in the training of journalists, to support the specialization of students will positively affect their production in their professional lives. The climate crisis is among the most critical issues requiring accurate information worldwide. For this reason, there is a clear need for specialized journalists who can evaluate the events in the climate crisis from a scientific perspective, obtain appropriate news sources, and provide realistic information to the public. Therefore, to train journalists specialized in the climate crisis, it is recommended that the number of climate journalism courses and their content be enriched in depth and scope.

The climate crisis, which scientists have been trying to explain to people with various warnings, is now showing results worldwide. Hurricanes, floods, droughts, extreme weather events, and the natural disasters that come with them are among the most significant problems. As a crucial tool, climate journalism is responsible for raising

awareness about the climate crisis and providing information on ways to combat it. The significance of this role is underscored by the fact that as the level of knowledge of climate journalists on this issue increases, the knowledge of the public will increase. This study is about the climate journalism course in the education program of Erciyes University, Faculty of Communication, Department of Journalism. The study, conducted using a pre-test and post-test design, examines the significant contribution of the climate journalism course to students' knowledge about the climate crisis. According to the study's findings, students' knowledge of the climate crisis increased after taking the course, and their concepts about the climate also varied. After taking the course, students could define the causes and consequences of the climate crisis more accurately. As students' knowledge increased, their concern about the climate crisis increased, highlighting the importance of climate journalism education in increasing public awareness and understanding.

Keywords: Climate Crisis, Climate Journalism, Climate Education, Journalism Students, Awareness.

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In this study, the rules stated in the **"Higher Education Institutions Scientific Research and Publication Ethics Directive"** were followed.

Araştırma tek bir yazar tarafından yürütülmüştür.

The research was conducted by a single author.

Çalışma kapsamında herhangi bir kurum veya kişi ile **çıkar çatışması** bulunmamaktadır.

There is no **conflict of interest** with any institution or person within the scope of the study.

Etik Kurul İzni | Ethics Committee Permission

Within the framework of the decision taken during the meeting by Erciyes University Social and Human Sciences Ethics Committee dated 31/10/2023 and numbered 455; the study does not contain any ethical issues.

Erciyes Üniversitesi Sosyal ve Beşeri Bilimler Etik Kurulu'nun 31/10/2023 tarihli toplantısında alınan 455 sayılı karar çerçevesinde çalışma etik açıdan bir sakınca içermemektedir.