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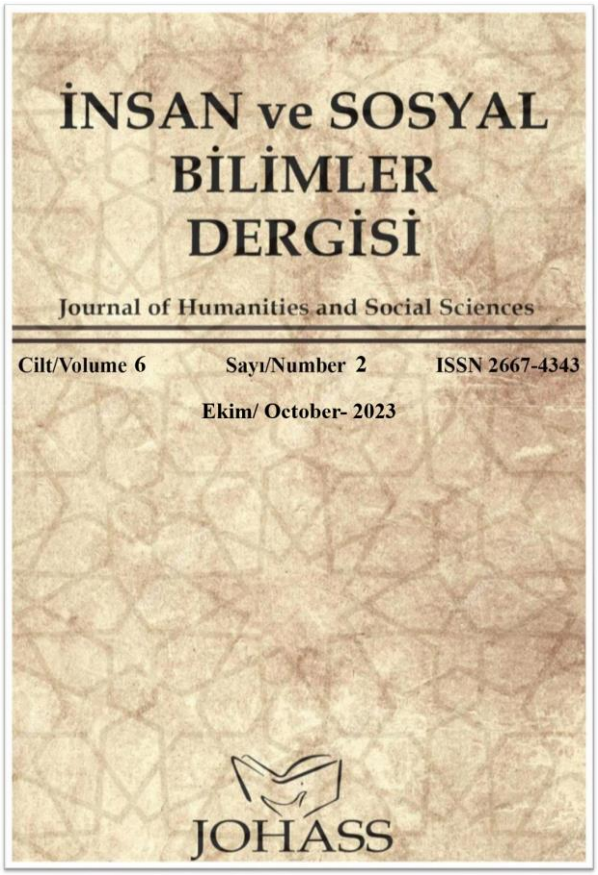

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Content Analysis of Master's and PhD Thesis on Climate: Studies Conducted in The Field of Education in Türkiye

İbrahim DEMİRBAŞ[1]
Kastamonu University, Faculty of Education, Department of Social Studies Faculty Asst. Prof.
idemirbas28@gmail.com
Orcid ID: 0000-0002-8692-1059

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Content Analysis of Master's and PhD Thesis on Climate: Studies Conducted in The Field of Education in Türkiye

İbrahim DEMİRBAŞ[1]

Kastamonu University, Faculty of Education, Department of Social Studies Faculty

Abstract

Through geography education, students make connections between natural phenomena, environment and behavior, and climate and climate change. Climate Science is positioned as "a sub-branch of geography classified under physical geography as a basic field of study". Climate; It is expressed as the average condition of weather conditions such as precipitation, temperature, pressure, humidity and wind as a result of long-term observations in a place. When the literature is examined, there are many studies on climate in the field of education. These studies differ in terms of research topic, method and sample. It has been determined that there are no studies aimed at determining the direction of master's and doctoral theses on climate in the field of education. The aim of our research is to reveal the current situation by evaluating the content of master's and doctoral theses on climate in the field of education. Document review method was used in the research. The data were analyzed through content analysis. As documents, 73 studies, including master's and doctoral theses on climate in the field of education in our country, were examined. According to the results obtained, it is seen that the postgraduate studies on climate in the field of education are predominantly on master's thesis and the majority of the studies were conducted in 2022. In addition, it was seen that most of the climate theses were made at Gazi University. In the studies, climate change and global warming were mostly discussed, and it was determined that the method used was mostly descriptive scanning method. In the studies, the preferred sample group was students.

Keywords: Education, master's thesis, doctoral thesis, climate, content analysis

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[1] Corresponding author:
Asst. Prof.
idemirbas28@gmail.com
Orcid ID: 0000-0002-8692-1059

Introduction

Geography is "a collection of sciences consisting of many branches of science that investigates and examines the mutual interactions between human beings and the natural environment, adhering to the principles of distribution, relation, comparison, causality of situations with the activities that develop as a result of these interactions, and by applying various research methods, and presenting the results in a synthesis" (Özçağlar, 2009). Within the subject area of geography, climatic events such as precipitation regime and temperature distribution, which are included in the physical characteristics of the environment we live in from near to far, are also included (Atalay, 1994; Doğanay & Sever, 2011; Unfamous, 2014). Geography is essential to "a real education as a way of thinking." As individuals living on Earth, "the main purpose of our lives is to understand the world and the processes and tendencies of the activities on it" (Arı, 2010). Through geography education, students make connections between natural phenomena, the environment and behavior, and climate and climate change (De Blij, 2005). Climatology or climate science is a sub-branch of geography classified under physical geography as an essential field of study. As one of the branches of physical geography, climate science examines the weather conditions of the natural environment (Yakar, 2019).

The concept of climate is generally defined as "the combination of the average characteristics of all weather conditions observed in any part of the world for many years, as well as the frequency of these events, their temporal distribution, observed extreme values, severe events, and variability types" (Türkeş, 2001). What is known about Earth's climate is based on observations of the atmosphere, oceans, and land surface, including the hydrological and carbon cycles and the cryosphere (all frozen places on Earth). Using regular weather observations over some time, long-term average conditions can be measured, and information about the climate of a region can be obtained. Climatologists use climate normals (average 30-year historical averages of variables such as temperature and precipitation) as a shorthand to place the magnitude of the current heatwave or rainstorm in a historical context (Word Meteorological Organization [WMO], 2023).

One of the most important factors affecting human life has always been climate. Especially settlement; Industry, transportation, agriculture, scientific studies, and city planning are essential fields of study carried out by evaluating climate information and data. When talking about climate, which is vital for human life, the first thing that comes to mind is

the atmosphere, which causes the concepts of weather and climate to be confused (Çalış, 2022). Weather describes short-term natural phenomena such as fog, rain, snow, blizzards, wind and thunderstorms, tropical cyclones, etc., at a specific place and time (WMO, 2023). In other words, the atmospheric conditions experienced or observed in any part of the world for a short time (within twenty-four hours at most) are the weather, while the average characteristic of the weather conditions experienced or observed for a long time is the climate (Erlat, 2016). As can be understood from the definition, the most critical feature distinguishing weather and climate is time (Çalışır, 2022). The climate must be in a particular state of equilibrium. Maintaining this balance means maintaining life balance. In addition, climate is not inherently fixed and permanent but can change naturally over time or due to human activities (Sabancı, 2023). Throughout the approximately 4.5 billion years of life of our world, changes in the climate have always been experienced as a result of natural conditions without human influence caused by "changes in the radiation rate from the Sun, continental movements and volcanic eruptions " (Atalay, 2005), and "increases in some periods and decreases in some periods" have occurred in global temperature (Yuva, 2020). In addition to naturally occurring climate change, a period has begun since the 19th century in which human activities have also played a role in climate change. For this reason, today, the concept of climate change is defined by considering the increasing accumulation of greenhouse gases as a result of human activities (Doğru & Yüzbaşıoğlu, 2023). Accordingly, climate change is defined as "long-term and slow-developing changes in climatic conditions with large-scale and significant local effects, regardless of the cause" (Türkeş et al., 2000).

With climate change, "changes that will occur in the form of temperature increases, irregularities in the precipitation regime, periodic increases or decreases in snow and rain events, melting of glaciers due to increasing in temperature and the resulting rise in sea level, extinction of species in the ecosystem or proliferation of harmful species" can occur socially and socially changes are expected (Harvey, 2008). Global warming, on the other hand, is defined as "the increase in the earth's temperature as a result of the proliferation of greenhouse gases in the atmosphere as a result of various activities of humans" (Doğan, 2005). Human-induced greenhouse gases are the most important factor that "causes global warming and consequent climate change." Greenhouse gas formation is primarily caused by the use of fossil fuels, garbage, wastes, and agricultural activities in transportation, industry, and energy production (Öztürk, 2002; Doğru & Demirbaş, 2020). In the studies conducted by

scientists, it is stated that global warming and climate change are largely caused by humans (Anderegg et al., 2010; Cook et al., 2013).

Harvey (2008) stated that climate change is the most important of the consequences of global warming. The concepts of global warming and global climate change are similar and can be used interchangeably by humans. The climate of the world we live in is changing, and the reason for this change is considered to be the warming of the atmosphere and the increase in temperature due to global warming (İklimbu, 2023). Global warming refers to the increase in the world's average temperature values that can lead to climate change. On the other hand, climate change refers to changes in seasonal temperature, precipitation, and humidity values in a certain region (ISU, 2023). Global climate change, which has emerged with the combination of these two concepts in recent years, refers to "the increase in the average surface temperatures of the earth and the changes in the climate as a result of the rapid increase in greenhouse gas accumulations released into the atmosphere by human activities such as burning fossil fuels, land use changes, deforestation, and industrial processes, strengthening the natural greenhouse effect." Global climate change is a change that is "caused by human activities in addition to the natural variability of the climate experienced throughout the long geological history of the earth" (General Directorate of Meteorology [MGM], 2023).

When the literature is examined, it is seen that there are many studies on climate in the field of education (See Table 1). However, it has been determined that there needs to be research to determine the trends of graduate theses on climate in the field of education in Türkiye. Based on this situation, it aims to examine and compare the graduate theses on climate in Türkiye's education field in terms of different variables. This review is important in revealing the preference of graduate theses on climate in the field of education in Türkiye, comparing graduate theses, guiding new research on climate in the field of education in the future, and drawing attention to the use of less preferred variables in theses. Along with graduate education, it aims to provide students with the ability to access information by using scientific research methods to interpret and evaluate it. In doctoral education, it is aimed to provide the student with the necessary skills to interpret scientific events independently from a broad perspective and to reach new results (Karaman & Bakırcı, 2010). It aims to interpret the findings obtained by the content analysis method by combining the study with graduate theses. However, it is also expected that researchers who want to use the content analysis method will contribute to using this method.

This research aims to evaluate the content of master's and doctoral theses on climate in our country's education field and to reveal the current situation. The research answered the following questions:

Within the scope of this purpose, the following sub-problems have been identified:

1. What are the types of master's and doctoral theses on climate in education?
2. In which years were the master's and doctoral theses on climate in the field of education completed?
3. In which universities have the master's and doctoral theses on climate in the field of education been made?
4. What topics do master's and doctoral theses on climate in the field of education include?
5. What are the research methods of master's and doctoral theses on climate in the field of education?
6. With which sample/study group were the master's and doctoral theses on climate in the field of education made?

Method

Model

A qualitative research design was used in this study to examine master's and doctoral theses on climate in the field of education. Yıldırım & Şimşek (2018) defined qualitative research as a research process in which perceptions and facts are revealed realistically and holistically by using data collection techniques such as observation, interview, and document analysis (Boğdan & Biklen, 1992). In this study, Karasar (2008) used "document analysis," which is one of the qualitative research methods, "because it focuses on analyzing existing records and documents, allows the finding, examining and interpretation of documents related to the subject, the data collection process is more economical and reliable, and it is suitable for the research." Document analysis is a "systematic method used to examine and evaluate all documents, including printed and electronic materials that can be accessed" (Wach, 2013 cited in Kıral, 2020).

Data Collection Tools

In this study, the following steps were followed while collecting the data. First of all, the database to be used during data collection was decided. Since national theses will be preferred, it is thought that the Council of Higher Education YÖK National Thesis Center will be the most accurate database to achieve the goal. While scanning the database, it was researched with the help of keywords such as "climate, climate education, climate change, global warming, air, humidity, atmosphere, natural disaster, primary school, primary education, geography education, life science, social studies, science/sciences." No year interval was determined during data collection, and all documents obtained as a result of the scan were included in the research. This situation also reveals the limitation of the research. Then, some criteria were decided for content analysis. These criteria are 6: "type," "year," "university," "subject," "method," and "sample." Along with master's and doctoral education, students are given the ability to access information through scientific methods. At the same time, it is aimed to provide students with the necessary skills to independently interpret scientific events from a broad perspective and reach new results. It was thought that studies with these qualifications would contribute to science.

Analysis of Data

The data collected in the study were analyzed with the help of content analysis. Several methods are recommended in qualitative data analysis. The researcher, who uses the first method, descriptive analysis, content analysis, and thematic analysis, should analyze the data by including his own interpretations in addition to these techniques. Secondly, while obtaining the data, the data should be presented with a descriptive approach by adhering to the original version or, when necessary, by directly quoting the discourses of the individuals participating in the research. The third method is using some themes in addition to the descriptive approach. Themes suitable for the subject should be determined, and relationships should be established between these themes. These methods can be used separately, or the data can be analyzed by using all three methods together in the same research (Yıldırım & Şimşek, 2018). The researcher is obliged not to disturb the reality of the subject he is researching while making a description. When making interpretations, events and facts should not be separated from their reality, and their originality should not be distorted (Miles & Huberman, 1994). As the reasons for using content analysis in research; It is due to its features such as "focusing on identifying certain words or concepts in the document being

studied and allowing the words and concepts in the document to be systematically analyzed with smaller content categories in line with certain rules" (Büyüköztürk et al., 2008). In the descriptive analysis, "the data summarized and interpreted are subjected to a deeper processing in content analysis, and concepts and themes that cannot be noticed with a descriptive approach" can be discovered as a result of this analysis (Yıldırım & Şimşek, 2018). While analyzing the data, "explicit content coding, which is one of the content coding types, was based on the direct determination of various features of the theses (subject, method, etc.)". As a result of the coding process, the data were expressed as "frequency (f) and percentage (%)".

In qualitative research, "since subjectivity is slightly higher, it is sometimes exposed to criticism about validity and reliability" (Arastaman, Fidan & Fidan, 2018). Therefore, in qualitative research, "reporting the collected data in all details and explaining in detail how the results were reached increases the study's validity." In qualitative research, it is accepted from the very beginning that "the researchers cannot give the same results since it is known that everyone's methods of perceiving and interpreting events are different" (Yıldırım & Şimşek, 2018). This study ensured reliability and validity by paying attention to these issues. The study's results, which are formed by handling master's and doctoral theses on climate in education, are compatible with the conceptual framework. The data collected in the research were collected and reported in "all details." The studies conducted between 2006 and 2023 were scanned, and the data were collected in detail under the type of studies, years, universities where the theses were done, subjects, methods, and samples of the studies. The part about how the results are obtained is explained in detail in the "data source and data collection" section. The results reflect reality. The results are consistent with the research questions and related theories. Doing all these contributes to the validity of the research. With all these applications, measures have been taken for validity and reliability.

Compliance with Ethical Standard

In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The research is not included in the study group that requires ethics committee permission.

Findings

In this research, which was carried out to evaluate the content of master's and doctoral theses on climate in the field of education in Türkiye, some findings were reached.

Findings on the First Sub-Problem

In the research, "What are the types of master's and doctoral theses on climate in the field of education? The types of studies that emerged according to the first sub-problem are given in Table 1:

Table 1

Types of Master's and Doctoral Theses on Climate in the Field of Education

Type	Frequency (f)	Percent (%)
Master's Thesis	64	87.8
Ph.D. Thesis	9	12.2
Sum	**73**	**100**

Information on the types of master's and doctoral theses on climate in the field of education in Türkiye As can be seen from the table above, a total of 73 theses have been reached, 64 (87.8%) of which are "master's and doctoral theses" and 9 (12.2%) are "doctoral theses" of the "master's and doctoral theses" on climate in the field of education.

Findings on the Second Sub-Problem

In the research, "What are the publication years of master's and doctoral theses on climate in education? The years of the studies that emerged according to the second sub-problem are shown in Table 2:

Table 2

Publication Years of Master's and Doctoral Theses on Climate in the Field of Education

Year of Publication	Master's Thesis Frequency (f)	Ph.D.Thesis Frequency (f)	Percentage (%)
2006	2	2	5.5
2007	2	-	2.7
2008	1	1	2.7
2009	2	-	2.7
2010	4	-	5.5

2011	2	-	2.7
2012	1	1	2.7
2013	2	-	2.7
2014	6	1	9.6
2015	1	-	1.4
2016	1	-	1.4
2017	1	-	1.4
2018	5	2	9.6
2019	10	-	13.7
2020	6	1	9.6
2021	4	-	5.5
2022	10	1	15.1
2023	4	-	5.5
Sum	**64**	**9**	**100**

Table 2 shows the publication years of "master's and doctoral theses" on climate in the field of education in Türkiye. Accordingly, the first studies that can be accessed were published in 2006. The highest number of thesis were completed in 2022 (15.1%), 10 (13.7%) in 2019, and 7 (9.6%) in 2020, 2018, and 2014, respectively.

Findings on the Third Sub-Problem

In the research, "In which universities were the master's and doctoral theses on climate in the field of education made? Universities where the studies are carried out according to the third sub-problem" are as follows:

Table 3

Universities where Master's and Doctoral Theses on Climate in the Field of Education are Made

Universities	**Frequency (f)**	**Percent (%)**
Gazi University	12	16.5
METU	6	8.2
Kirsehir Ahi Evran	4	5.5
Aksaray	3	4.1
Ataturk	3	4.1
Ondokuz Mayıs	3	4.1
Ankara	2	2.7
Alanya Alaaddin Keykubat	2	2.7
Burdur Mehmet Akif Ersoy	2	2.7
Giresun	2	2.7
Hacettepe	2	2.7
Inonu	2	2.7
Marmara	2	2.7
Necmettin Erbakan	2	2.7

Ankara Yildirim Beyazit	1	1.4
Agri Ibrahim Chechen	1	1.4
Aydin Adnan Menderes	1	1.4
Bahcesehir	1	1.4
Boğaziçi	1	1.4
Bursa Uludag	1	1.4
Dokuz Eylul	1	1.4
Erciyes	1	1.4
Erzincan Binali Yildirim	1	1.4
Fırat	1	1.4
Gumushane	1	1.4
Istanbul Bilgi	1	1.4
Istanbul	1	1.4
Istanbul Technical	1	1.4
Kastamonu	1	1.4
Kirikkale	1	1.4
Manisa Celal Bayar	1	1.4
Nigde Omer Halisdemir	1	1.4
Recep Tayyip Erdogan	1	1.4
Sakarya	1	1.4
Suleyman Demirel	1	1.4
Tokat Gaziosmanpasa	1	1.4
Van Yuzuncuyıl	1	1.4
Yildiz Technic	1	1.4
Bülent Ecevit (Zonguldak Karaelmas)	1	1.4
Sum	**73**	**100**

In Table 3, the universities where "master's and doctoral theses" on climate in the field of education were made, and their rates are as follows: Gazi University 12 (16.5%), Middle East Technical University 6 (8.2%), Kırşehir Ahi Evran University 4 (5.5%), Aksaray University, Atatürk University and Ondokuz Mayıs Universities 3 (4.1%).

Findings on the Fourth Sub-Problem

In the research, "What topics do master's and doctoral theses on climate in the field of education include? The topics included in the studies that emerged according to the fourth sub-problem are shown in Table 4:

Table 4

Topics of Master's and Doctoral Theses on Climate in the Field of Education

Topics	**Frequency (f)**	**Percentage (%)**
Climate Change and Global Warming	41	55.4
Climate, Seasons, Rainfall, etc. Topics	11	16.2
Teaching Climate with Multiple Intelligences, GIS, Active Learning, Google	10	13.5

Earth, Material-Supported Teaching, Argumentation, Extracurricular Activities, etc.		
Misconceptions About Climate and Concept Teaching	9	12.2
Climate Literacy and Scale Improvement	2	2.7
Sum	**73**	**100**

From Table 4, the studies mainly focus on climate change, global warming, climate, seasons, precipitation, etc.; teaching climate through multiple intelligences, GIS, active learning, Google Earth, material-supported teaching, argumentation, extracurricular activities, etc.; It is seen that there are issues related to climate-related misconceptions and concept teaching, climate literacy, and scale development.

Findings on the Fifth Sub-Problem

In the research, "What are the research methods of master's and doctoral theses on climate in the field of education? The research methods of the studies that emerged according to the fifth sub-problem are shown in Table 5:

Table 5

Methods of Master's and Doctorate Theses on Climate in the Field of Education

Methods	**Frequency (f)**	**Percent (%)**
Descriptive Survey Method	29	39.7
Experimental Method	20	27.4
Case Study	16	21.9
Phenomenology (Phenomenology)	5	6.9
Document Review	2	2.7
Action Research	1	1.4
Sum	**73**	**100**

Accordingly, "the experimental method," "document analysis," "case study," "action research," "phenomenology," and "descriptive survey methods" were used in the studies. The most preferred methods were "descriptive survey method" (39.7%), "experimental method" (27.4%), "case study" (21.9%) and "phenomenology" (6.9%), while the least preferred methods were "document analysis" (2.7%) and "action research" (1.4%)

Findings on the Sixth Sub-Problem

In the research, "What are the samples/study groups of master's and doctoral theses on climate in the field of education? The sample/study groups of the studies that emerged according to the sixth sub-problem" are shown in the table below.

Table 6

Sample/Study Groups of Master's and Doctoral Theses on Climate in the Field of Education

Sample/Study Groups	Frequency (f)	Percent (%)
Student	44	60.8
Pre-service teachers	19	26.5
Teacher	7	9.9
Curriculum	1	1.4
Domain Expert	1	1.4
Medical Staff	1	1.4
Sum	**73**	**100**

When 73 studies on climate in the field of education are examined in Table 6, it is seen that the most studied group is students (60.8%). It was determined that the second group was pre-service teachers (26.5%), and the third group was teachers (9.9%).

Discussion and Results

In the study, graduate theses on climate in the field of education were evaluated. Accordingly, a total of 73 thesis, 64 of which are master's theses and 9 of which are doctoral theses, have been reached among the graduate theses on climate in the field of education. Among the reasons for the low number of doctoral theses reasons for the high number of doctoral studies can be explained as the fact that it requires expertise, is more challenging to write, is comprehensive, and takes more time, there are few doctoral programs, the number of master's programs is high and the master's degree is the first step of an academic career. In addition, it can be shown by the low number of faculty members in the relevant field, and the number of doctoral staff needs to be higher. On the other hand, the fact that only nine doctoral theses have been made in the relevant field reveals that there is a need for more doctoral theses on climate in the field of education. There needs to be a study examining graduate theses on climate in education. However, the same results were obtained in the studies examining graduate theses in the literature (Bektaş & Karadağ, 2013; Çiçek & Yeşilbursa, 2019; Demirbaş & Aydınözü, 2022; Güven & Sword, 2017; Kaymakcı, 2017; Yavuz, 2016).

The first climate study in the field of education was completed in 2006. The most studies were conducted in 2022, 10 in 2019, and 7 in 2020, 2018, and 2014, respectively. Looking at the publication years of the studies it varies between 2006 and 2023. While most studies were conducted in 2022, the most minor studies were conducted in 2015, 2016 and 2017. Considering that the studies discussed in the research are only climate studies in the

field of education, it is seen that there has been a relative increase since 2019. However, there has been a decrease or increase in graduate thesis studies. It is necessary to raise students' awareness about global climate change, which is seen as one of the most critical problems of recent times, and turn this awareness into behavior (Budak, 2021). It can be stated that the increase in this way has started to raise awareness about climate education. In addition, it can be said that the concerns caused by the rapid increase in the effects of climate change in recent years have increased the number of studies on climate in the field of education. Studies in the literature support this (Papadimitriou, 2004; Groove and Gutter, 2007; Ayvacı & Şenel Çoruhlu, 2009; Bozdoğan & Yanar, 2010; Karışan, 2011; Aydin, 2014; Emli & Afacan, 2017; Gürer & Sakız, 2018; Koca, 2019; Mahanoğlu, 2019)

According to the universities where graduate theses are made, Gazi University ranks first, and 12 theses have been made. It is seen that similar results have been obtained in various studies conducted in the field of education (Adlığ, 2021; Akgün & Akgün, 2021; Güleç & Hüdavendigar, 2020; Şimşek, 2019; Oğuz Haçat & Demir, 2019; Tarman et al., 2010; Uzun & Çakmak, 2021). Middle East Technical University was determined as 6. Among the reasons for the overstudy in these universities compared to other universities it can be related to the fact that "master's" and "doctorate programs" were opened in previous years, the high number of lecturers and graduate students, and the fact that they have a well-established structure in terms of practical and establishment dates. On the other hand, Kırşehir "Ahi Evran University" was determined as 4, "Aksaray University," "Atatürk University" and "Ondokuz Mayıs University" were determined as 3. Another striking finding is that all universities where the theses were completed, except for Bahçeşehir University, are state universities.

According to the subject content of the graduate theses on climate in the field of education, the studies that directly deal with climate change and global warming (55.4%) are the most. Secondly, topics such as climate, seasons, precipitation, etc. (16.2%) were examined in theses. On the other hand, multiple intelligences teaching of climate, climate teaching with GIS, climate teaching with active learning method, climate teaching with Google Earth, climate with material-supported teaching, teaching climate with argumentation, extracurricular activities, etc. (13.5%) are also the topics included in the theses. In addition, topics related to climate-related misconceptions and concept teaching (12.2%) and climate literacy and scale development (2.2%) were also included.

Preferred methods in theses are “experimental method,” “document analysis,” “case study,” “action research,” “phenomenology,” and “descriptive survey methods.” The most preferred methods were descriptive survey method (39.7%), experimental method (27.4%), case study (21.9%), and phenomenology (6.9%), while the least preferred methods were document review (2.7%) and action research (1.4%). The researchers prefer Quantitative research methods, and the descriptive survey method is mostly used. When the qualitative research methods used are evaluated, it can be said that the case study method is the most preferred. Similarly, Koçoğlu & Gökalp (2021) stated in their study that the most preferred quantitative research methods are the survey method and the case study for qualitative research. Again, in the studies conducted in the literature for the analysis of graduate theses, the scanning method has been the most used (Akaydın & Kaya, 2015; Güleç & Hüdavendigar, 2020; Daytime, 2022; Shrewd, 2021; Lightning, 2019)

When 73 studies on climate in education are examined, it is seen that the most studied group is students (60.8%). The second group (26.5%) is pre-service teachers. Considering that the teacher candidates are also university students, it is as high as 87.3%. It will be seen that the majority of the studies are students. The focus on this group may be because it is easier to reach and work with university students. Most of the studies in the literature have been conducted for students (Oğuz Haçat & Demir, 2018; Güleç & Hüdavendigar, 2020; Gürkan, 2023; Blackbird, 2020; Karakuş, 2020; Koçoğlu & Gökalp, 2021; Sevgili, 2023; Long & Lighter, 2021). The third group studied in the study was teachers (9.9%). In the literature reviews, Şahin, Calp, Bulut, & Kuşdemir (2013) determined the sample as students and teachers in their studies. In another study, the sample was primary school students, then classroom teachers, and textbooks were in third place (Şimşek, 2019; Guven & Sword, 2017). Altay’s (2020) article review study also shows that the sample group consists of students and teachers.

Recommendations

Based on the results of the research, the following suggestions can be made:

When we look at the studies on climate in the field of education, it is seen that the studies need to be more comprehensive. Therefore, more work should be done to raise awareness about the climate issue.

This research, which reveals the current situation of the studies on the climate issue in the field of education in Türkiye, may allow a comparative study with various research that will reveal the current situation in different countries.

Academic studies on climate in education should be increased in graduate education, especially in doctoral education.

In general, the studies were applied to the students. Therefore, studies can be carried out to examine climate issues and climate change from the perspective of adults.

In the research methods, mostly (67.1%) quantitative research methods such as screening and experimental methods were used. Qualitative research methods can be emphasized in new studies.

Compliance with Ethical Standard

In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The research is not included in the study group that requires ethics committee permission.

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