Journal of Teacher Education and Lifelong Learning (TELL)

Volume: 5 Issue:1 Year: 2023 Research Article ISSN: 2687-5713

High School Students' Evaluations on the Reflections of Geographical Information on Daily Life[1]

Ufuk Sözcü [1] Abdullah Türker [2] Erkan Dündar [3]

[1] Tokat Gaziosmanpaşa University, Faculty of Education, Division of Social Studies Education, Tokat, Türkiye
usozcu@hotmail.com

[2] Gazi University, Gazi Facult of Education, Divison of Geography Education, Ankara, Türkiye
abdullahturker82@gmail.com

[3] Ministry of National Education, Directorate General for Special Education and Guidance Services, Ankara, Türkiye
e_dundar84@hotmail.com

Article Info

Article History
Received: 13/01/2023
Accepted: 01/05/2023
Published: 30/06/2023

Keywords:
Geographic information, daily life, geography education

ABSTRACT

Geography is a critical tool for understanding the physical, social, economic, and political characteristics of places around the world and is important for grasping the various factors that shape people's lives and decisions. Knowledge of geography directly or indirectly affects people's daily lives by determining the characteristics of settlements, natural resources, climatic conditions, economic activities, natural disasters, or cultures and societies around the world. This research was carried out with 10th grade students who tried to gain geographical knowledge systematically through a geography course. The aim of the research is to reveal how the students' geography knowledge is reflected in their daily lives. A semi-structured interview form created by the researchers was used to collect data in the study that employed phenomenology design, one of the qualitative research methods. The obtained data were analyzed using the descriptive analysis approach, and results were gathered with regard to the students' level of interest in the geography course, the factors affecting this level of interest, the definition of geography knowledge and the future contribution of geographic knowledge, and the use of this knowledge in daily life. The main conclusion of the study is that one-third of students don't use geography in their daily lives. In light of this circumstance, it could be advised to design geography topics based on activities, using real-world examples in a practical way.

Citation: Sözcü, U., Türker, A. & Dündar, E. (2023). High school students' evaluations on the reflections of geographical information on daily life. *Journal of Teacher Education and Lifelong Learning*, 5(1), 275-294.

[1] If there is an explanation about the study (thesis, project, paper, etc.), it should be written here. Please state this information in the title page during the article submission.

INTRODUCTION

The contribution of geography science to the acquisition of basic information for recognizing, understanding, planning, and organizing the planet we live on is undeniable. By fusing remnants from the past with geographic knowledge acquired through formal and informal learning processes, the science of geography, which examines the relationship between the natural and human environment and its impact on daily life, helps people live in the present and create the future. Akınoğlu (2006) emphasizes that geography, which he defines as social science, allows individuals to learn about their environment and become more aware of it. He claims that geographical knowledge enables us to form a relationship between the past and the present, analyse and assess the events and phenomena we encounter on a daily basis, and assist our future objectives. Doğanay (2012) defines knowing the science of geography or having knowledge of geography, both of which have political power, as "seeing the world". We can better fulfill our responsibility to protect nature and benefit from it in a controlled manner with the help of the knowledge of geography. Individuals or societies that fail to refrain from engaging in activities that go against nature, due to their inability to internalize geographical information, are bound to suffer harm from nature.

It is obvious that geography is the course we need most in order to prevent the environmental problems that have increased in recent years. Some of the problems caused by the increasing world population and the losses caused by the increase in the number of disasters experienced. Geography education in Türkiye starts at the preschool level with basic ground direction and spatial perception studies in formal education institutions (MoNE, 2013). At the 1st, 2nd, and 3rd grades in primary school, some topics such as the structure and movements of our planet, sketches and maps, management units, and direction finding are included in the social studies courses starting with the immediate environment we live in (MoNE, 2018a). In order to acquire elements connected to a number of geographical abilities, such as map use at the secondary school level, strategies to prevent disasters, human and economic activities, topics were included in the social studies course up to the seventh 7^{th} grade (MoNE, 2018b). Geography course is taught as a compulsory subject in the ninth and tenth grades, and as an elective in the eleventh and twelfth grades (MoNE, 2018c).

Geography, which includes all social and human sciences, plays an important role in developing a comprehensive approach to the world's growing environmental problems. As a result, geography education is a tool that assists people of all ages in achieving sustainable development goals and making sense of the future (Meadows, 2020). According to Kubiatko, Janko and Mrazkova (2012), geography knowledge is undervalued in comparison to other disciplines because it is perceived as being able to tell the location of countries on a map and knowing the capitals of the countries. The most important reason for this situation is the geography curriculum. At the secondary education level in Türkiye, constructivist approach has been involved in geography curricula since 2005. The curriculum, and textbooks, as well as the teaching methods, are of great importance for geography knowledge to contribute to the acquisition of analysis and evaluation abilities. According to Dikmenli (2015), having geographical knowledge is not enough; one must also be able to analyze and synthesize this information in order to become geography literate. Geographic literacy is defined as the ability to transform information into a skill after reaching a level of understanding and comprehension of geographical information. Indeed, in order to increase the number of people who can apply their geographical knowledge and turn it into a skill, all components such as the curriculum, textbooks, teacher training, and central placement exams must be improved and developed. Gökçe (2009) also emphasizes that the cornerstones of geography education—curricula, textbooks, the learning-teaching process, and pre-service teacher education—should be reviewed first in order to qualify geography education and increase the geographical knowledge and awareness levels of individuals who receive geography education.

Beneker and Schee (2015) emphasize that geography education has the potential to facilitate the future, given the field of study and the subjects it covers. Geography, which is at the intersection of natural

sciences and social sciences, generates information that can be used to help society solve its social, economic, and technical problems (Akınoğlu & Akarsu Bakır, 2003, cited from Doğanay, 1989). Geographic science, which has an interdisciplinary position, should be taught by giving the necessary importance at all levels of education and gaining geographical skills. Otherwise, it will be impossible to reduce the number of people who do not use their knowledge, do not know how to use it, or are unable to apply their knowledge in real life. Butt and Lambert (2014) emphasize the necessity of teaching geography to young people in order to increase their knowledge and competitiveness in the global knowledge economy in the future. Geographical knowledge is needed to gain a critical perspective on the world and to achieve freedom of enquiry (Winter, 2013). People often use geographical information while verbally expressing their experiences in their relations with nature or telling their life stories (Balcı, 2018).

Every student who attends a school brings their knowledge and understanding of the world with them, whether they gained it directly or indirectly. They improve their geographical knowledge and awareness by combining their personal spaces and geographical environments with the information they have learned in school (Matthews, 1992; Catling, 2005; Spencer & Blades, 2006). In addition to the differences such as the natural environment of the regions in which they live, food culture, climate, and plant characteristics, their personal geographies develop as they grow older, thanks to the information they learn from stories, toys, information and communication tools, and the people around them (Roberts, 2014). One of the biggest tasks of geography teachers is to be able to integrate the different personal geography experiences of their students into the lesson and geography subjects. Because the path to developing individuals with good geography knowledge and the ability to apply geography knowledge at the analysis-evaluation level passes here. Şahin & İnce (2020) emphasize that geography subjects taught in primary education are important for people to perceive and benefit from the environment they live in correctly. According to Beneker and Schee (2015), geography should be a compulsory subject as it provides more knowledge and skills about how the world works. The reason for selecting 10th grade students for this study is that the 10th grade represents the final year where geography is mandatory within secondary education. It was discovered that several studies on this subject had been carried out when the literature was searched (Yiğit, 2003; Akınoğlu, 2006; Tomal, 2009; Keçeci, 2010; Kenger, 2010; Kocalar & Demirkaya, 2014; Dikmenli, 2015; Şahin & İnce, 2020; Dere & Aktaşlı, 2022). However, no qualitative research was found that directly examined geographic information in daily life.

The problem for our research has been determined in this context: "How is the use of geography knowledge by high school students in daily life? The following sub-problems were investigated considering this problem statement:

- What is the level of interest in geography lessons among high school students?

- What factors influence high school students' interest in geography lessons?

- How do high school students define geography knowledge?

- How do high school students think the geography knowledge will contribute them in the future?

- How do high school students apply their geographic knowledge (physical geography and human geography) in everyday situations?

METHOD

This part contains information about research design, the data collection process and analysis.

Research Design

Phenomenology design, a qualitative research technique, was used for this research. In the phenomenology design, it is tried to reveal the common meanings of the experiences of the participants about a phenomenon. In order to do this, information is gathered from individuals having experience with the determined

phenomena, and a holistic description is made to highlight the essence of these individuals' perceptions of the phenomenon (Creswell, 2015). The phenomena, studied in this study is "students' use of geography knowledge".

Thanks to the information obtained from factual studies, in addition to making definitions related to the phenomenon that the research centers on, various meanings are revealed based on the participants' experiences and feelings related to this phenomenon. These meanings also enable us to bring very useful and rich information to the field's literature while creating theories (Özmen & Karamustafaoğlu, 2019).

Study Group

It should be studied with a working group that has an experince related to the phenomenon being studied and can reflect the data related to this exprerience (Creswell, 2015). Therefore, the research's study group is made up of 153 students in the 10^{th} grade who are studying geography in Kastamonu. The main reason for choosing tenth-grade students is that it is their final year of taking the geography course as a mandatory subject, both under the name of the geography course and within other lessons at primary and secondary school.

The study group consisted of 56.86% (87 students) of females and 43.13% (66 students) of males. "Convenience sampling," one of the non-random sampling methods, was used to form the study group. The study group is chosen from easily accessible units using this method (Yıldırım & Şimşek, 2018).

Research Instruments and Processes

An interview form was used in this research as a tool for collecting data. First, draft questions for the interview form were developed by looking through local and foreign literature and taking into account the problem situation and related sub-problems. These questions were written concisely and simply as possible, while avoiding being overly generic or abstract. The fact that the questions were open-ended prevented the participants' responses from being limited to "yes" or "no". Following the development of the draft interview form, it was assessed by two experts with experience in qualitative research and a language expert to evaluate the questions in terms of grammar, and necessary adjustments were made in response to the feedback received. At the final stage, the interview form was administered to 12 people who matched the characteristics of the group to which the main application would be made, and the final version of the interview form was formed based on the information gathered. There are questions on the interview form about the participants' gender status, their interest in the geography lesson and its subjects, the definition of geography knowledge, the contribution of geography knowledge to people, and its use in daily life.

The research data was gathered by the researchers in the final week of the 2021–2022 academic year by providing necessary explanations to 10th-grade students studying in the project schools in Kastamonu province.

Data Analysis

Descriptive analysis method was used in this study. The descriptive analysis approach categorizes and interprets the available data based on predetermined themes. These themes can be determined based on the research questions or by considering the data collection questions. The primary purpose of this approach is for the reader to see the findings obtained in an organized and interpreted way. Following the systematic and clear description of the data obtained, these descriptions are explained, comments are made, and the results are reached by providing the cause-effect relationship (Yıldırım & Şimşek, 2018, pp. 239–240).

Analyzing the data, a framework was created by using interview questions first. Accordingly, five categories have been created as “Geography lesson and the level of interest towards its subjects”, “Factors affecting the level of interest in geography”, “What comes to mind when it comes to geography knowledge”, “The state of contribution of geography knowledge in the future” and “The state of using geography knowledge in daily life”.

The second stage involved reading all of the study data and matching it with the relevant ones in the designated categories. At the third stage, the relevant data matching these designated categories was supported with direct quotes, ensuring that the readers could easily understand and define the findings. Making a direct quotation,

students were identified by their gender and their placement in the ranking. The results presented to the reader in a methodical manner were then explained, a connection between them was created, and a comparison with other studies in the field of literature was made.

To ensure the research's reliability, two geography educators who are field experts were asked which of the five predetermined categories should correspond to the data obtained. The experts' matches were compared with the authors' matches. As a result of this comparison, the cases of consensus and disagreement were examined one by one, and the research's reliability was calculated using Miles and Huberman's (1994) formula (Reliability = Consensus / Consensus + Disagreement). As a result, the research's reliability rate was determined to be 92%, indicating that the research is reliable.

FINDINGS

The findings related to the research's problem statements were provided in this section.

What is the level of interest in geography lessons and its subjects?

Table 1 displays their responses to questions regarding their interest in high school geography and the geography they were most interested in.

Table 1. *Level of Interest in geography and area of interest*

State of interest	f	**%**
Low	24	15.7
Medium	96	62.7
High	33	21.6

The interest levels of the high school students shown in Table 1 towards the geography course and subjects: 24% of the students stated that they had low interest, while 62.7% showed moderate interest. 21.6% of the students stated that they had a high level of interest in geography lesson and its subjects. These findings indicate that students have a moderate interest in geography lesson and its subjects in general.

What are the factors affecting high school students' level of interest in Geography?

The factors affecting high school students' level of interest in geography were presented in Table 2.

Table 2. *Factors affecting the level of interest in geography*

Factors affecting interest	**f**	**%**
Style of narration	2	1.2
Topics	29	17.6
Exam grade	4	2.4
The teaching style	12	7.3
Course content	11	6.7
Associating with daily life	20	12.1
Liking the lesson	6	3.6
Curiosity about the environment	9	5.4
Term redundancy	5	3
Memorization	10	6
Teacher's personality	6	3.6
Density of topics	3	1.8
Future benefit	3	1.8

Factors affecting interest	**f**	**%**
Course material	4	2.4
My interests	11	6.7
Enjoying travelling	2	1.2
The difficulty of the lesson	4	2.4
Curiosity	2	1.2
Other (Textbook, my choice of field, family factors, political events, the effect of other courses, social media, exploring nature, getting to know my country, psychological state, exams, Google Earth)	11	6.7
No comment	11	6.7
Total	165	100

Examining Table 2, it was seen that geography subjects had the highest percentage (17.6%) among the factors affecting students' interest. Following, which is also related to the subjects, was the status of associating with daily life (12.1%). The most often discussed subjects included the course's content (6.7%), the teaching style (7.3%), and the interest level (6.7%). 6.7% of students in high school did not provide a factor influencing their interest in geography. Factors such as the intensity of the subjects, course material, curiosity, liking to travel, future usefulness also affected the students' interest status at least slightly.

The explanations made by the high school students were evaluated in three groups and quoted as example sentences.

Sample sentences in which high school students expressed their high interest in geography:

M12: This lecture is engaging and fascinating.

F15: Asking random questions in the lesson prevents me from sleeping and increases my interest in the lesson.

F67: I learn better and am more interested when there are visual components involved.

M45: The subjects are enjoyable and interpretive.

F23: Geography subjects intrigue my interest; I'm curious to travel to the places we've learned about in class.

F55: Learning about the many geographical features of the places I live and learning about the physical and human geographical features both in terms of Türkiye and the world are the most important factors that positively affect my interest in geography.

M56: I guess because I am in touch with nature in the village and these subjects are easy for me.

F21: Map skills are fun for me, geographic information is fun for me; it is like a riddle.

M39: The fact that geography knowledge can be used in daily life and that what is learned can be easily observed increases my interest in geography lesson.

F59: I have a curiosity about the beginning of life. When I do research in line with this curiosity, we intersect with geography.

Q59: I have a curiosity about the beginning of life. When I do research in line with this curiosity, we intersect with geography. My interest in geography is confirmed by my curiosity about how early humans lived and how these habitats have changed.

F28: My curiosity is what influences my interest in geography. I want to know where I am geographically and what progress has been made.

Examples of sentences in which high school students express that their interest in geography is variable are given below:

F33: My interest in the lesson is influenced by the way our teacher lectures.

M51: It changes depending on the memorization or interpretation level of the subject.

M43: It affects which subject we deal with. The emotions I felt that day also affected my interest in the lesson.

F78: Getting low or high scores in the exams held to measure success in the course.

F70: When there are subjects that will help me in real life and make my life easier, my interest in the course increases if practical information is given with certain causalities rather than memorization.

Examples of sentences in which high school students express a low level of interest in geography are given below:

M46: I am not interested in geography in general, or it is not very productive for me in terms of teaching it as a course.

F60: Too many terms in geography make me less interested in the course.

F57: I am not particularly interested. Only certain subjects interest me.

F34: There is a great deal of conceptual density and detail.

F27: The fact that the subjects are very detailed and complicated made me lose interest.

M2: Geographical topics have not intrigued me since middle school.

F23: The dominance of other courses…

F55: I have trouble memorizing things.

F61: The course is boring because I'm in the science-maths field.

F82: Learning geography is boring.

M58: The geography course has too much unfamiliar vocabulary, which makes it challenging for me. I'm compelled, so I can't. It sounds monotonous as a result.

M60: I have no broad interest in geography. It is also beneficial that this is only taught to us in schools with a knowledge-based emphasis.

What comes to mind when it comes to geography knowledge?

Information on how high school students defined their knowledge of geography was presented in Table 3.

Table 3. *The status of defining geography knowledge*

Geography Knowledge	***f***	**%**
Map Skills	55	23.2
Geographic Environment	9	3.8
Landforms	38	16
Disaster	5	2.1

Geography Knowledge	***f***	**%**
Seas	3	1.3
Streams	4	1.7
Soil	8	3.4
The Structure of the Earth	2	0.8
Flora	11	4.6
Learning About the Earth	17	7.2
Stones	2	0.8
Geological Features	9	3.8
Environmental Knowledge	2	0.8
General knowledge	8	3.4
Location	8	3.4
Country	12	5
Climate	18	7.5
Population	4	1.7
Society	2	0.8
Human and Environmental Interactions	6	2.5
Waters	2	0.8
Other (tourism, country forces, physical characteristics, economic activities, nature, seasons, the biology of the world, living life, lakes, cities, transportation, culture)	12	5
Total	237	100

According to Table 3, when geography knowledge was mentioned, 23.2% of the students understood map knowledge. 16% of high school students answered "landforms" after mentioning map skills. 7.5% of high school students connected geography to climate, 7.2% to knowing the world, and 4.6% to flora. The fewest associations were made with the words "tourism, country forces, physical characteristics, economic activities, nature, seasons, the biology of the world, living life, lakes, cities, transportation, and culture. Some examples of geography knowledge given by students were given below:

F72: I see it as an important tool for getting to know the world. There is a geographical explanation for almost every event that occurs around the world, which is extremely valuable.

M65: Recognizing the locations of countries, continents, and seas in the world, the geography of these places, and their characteristics such as climate and landforms. Maybe the ability to interpret the landform of a rock we see, maybe even the ability to interpret that beyond knowledge.

F83: What I've learned is what I see when I look around, and that is general knowledge for me.

M67: Understanding what is going on around us, being prepared, and acting accordingly.

F5: Knowing the places in the world, that is, consciously examining them.

F11: Everything about the world we live in.

M6: The first thing that comes to mind is countries, their potential, their position in the world, their power, water resources, natural beauties, national parks, and touristic places. I also love learning the scientific facts behind natural phenomena and getting to know explorers.

F86: It is a branch of science that tries to comprehend the workings of the earth and investigates the earth.

F19: It is information that contains various information in various areas of life and teaches its correct use.

M3: For me, geography knowledge means the environment we live in. When I think of geography, everything I see when I go out comes to mind.

How will geography knowledge contribute to you in the future?

High School Students' Views on the Contribution of Geography Knowledge to the Future

The opinions on how high school students would contribute to their geography knowledge in later years were presented in Table 4.

Table 4. *Opinions on the future contribution of geography knowledge*

Contribution of geography knowledge to the future	*f*	%
In disaster-emergency situations	11	6.2
As general knowledge	66	37
Places you want to visit	10	5.6
Getting to know where you live	11	6.2
Recognizing plants	5	2.8
On the way to work	2	1.1
In my chosen profession	10	5.6
In finding location	6	3.4
Curiosity	3	1.7
Patriotism	2	1.1
Preparing for exams	7	3.9
Being conscious	10	5.6
In map usage	6	3.4
In friend chats	3	3.4
In the things that happen to us	4	2.2
I don't know	4	2.2
No comments	6	3.4
It's of no use to me	3	1.7
Other (in nature, scientific thinking, recognizing cultures, understanding natural beauties, traveling, projects, academic knowledge, choosing clothes, in all areas of life)	9	5
Total	178	100

The fact that high school students thought that geography knowledge would contribute to them mostly as general knowledge (37%) in the future is examined in Table 4. The rate of high school students who thought that they would contribute to disasters and emergencies by getting to know the place they live was 6.2%. Following that, 5.6% of high school students stated that they would contribute to their knowledge of places they wanted to visit, the profession they would pursue, and being conscious. The rate of students who said they had no knowledge of the subject was 2.2%, the rate of students who said they did not assume the course would contribute was 3.4%, and the rate of students who said it would not work for them was 1.7%. The views of high school students on whether geography would contribute to the future were cited by dividing them into two groups.

The example sentences in which high school students stated that geography would contribute to them are given below:

M22: It contributes in every way because it helps us throughout our lives and develops us culturally.

F24: It will help us become more competent and prepared.

M31: I believe that while exploring and traveling, my knowledge of geography will be useful.

M64: It can help if I want to study in a geography-related department at the university.

F73: I believe that my knowledge of geography will elevate me to a higher level than others.

F83: Not understanding my surroundings better and failing to take appropriate precautions in the face of danger.

M59: My knowledge of geography is important to me. Because it's general knowledge. This is something I need to understand and learn thoroughly. Knowing my country's geographical location allows me to better understand the threats it will face in this geography and the policies it will implement.

F51: Knowledge of geography helps us in almost every aspect and stage of our lives.

M49: We may require geography knowledge regardless of our area of employment. I will continue to live my life as a person of high general knowledge.

F26: It's nice to know something while chatting, watching the news, or traveling.

F40: It is a field that is not relevant to the profession I want to pursue, but it can provide me with information about places I want to visit and see.

M20: We visit various cities in Türkiye. These trips allow me to better explore my surroundings. It also helps me learn about the climate of my city.

F28: I'll also respond with an example from the lesson. 'Little Tinny' foresaw the tsunami and purposefully saved people's lives.

F50: Knowing where the countries are helps me both as general knowledge and in establishing the cause-and-effect relationship between the events that occurred.

F24: When we travel in the future, we will have a better understanding of the region.

F42: Knowing a little about some regions will help me understand the circumstances in which people from those regions will grow up in the future. This will help me improve my communication with those individuals.

F9: I believe it will be beneficial to general knowledge. I learned a lot of things that will help me in my daily life.

M7: I am curious about the world, especially Canada, Poland, and Finland. I'd like to visit Africa. I believe the knowledge I gained will be useful to me if I ever have the opportunity to visit. I believe that these courses on cultures and countries provided me with preliminary information and a cornerstone for myself.

F5: If someone stops me and shows me the soil in our area, I can tell them what type it is.

F77: Knowing geography makes us conscious. For example, it is critical that we have advanced knowledge of natural disasters. It allows us to save the lives of many, including our own.

F63: Even if knowing the geographical features I live in does not directly contribute to me, it will be easy enough for me to have an idea about most situations and to determine my plans or the places and periods I will go.

Below are examples of sentences in which high school students stated that geography would not contribute or that the contribution would be low:

F52: I don't think it will contribute except for the exams.

M32: If I do not forget what I have learned—and I will probably forget—it will have accumulated

knowledge.

M35: The limited map skills I acquired and my understanding of this location's climate may have an effect on my general knowledge in the future.

F55: I don't think it will provide much benefit other than exams and academic success.

M38: Just knowing what I see in the places I go will make me happy, that's all.

F59: As a normal citizen, I don't consider it to be a significant issue.

F78: I don't think it will make much of a difference, but it will help us become more cultured. Aside from that, what should I do with knowing the types of scrub, etc?

M66: "I don't believe so." My profession will most likely have nothing to do with geography.

What are the examples of the use of geography information in daily life?

The examples given by high school students for using their knowledge of climate, plants and soil, which are physical geography subjects, in daily life were analyzed and shown in Table 5.

Table 5: *Examples of the use of physical geography knowledge (climate-plant-soil) in daily life*

Use of Climate-Plant-Soil Information	***f***	**%**
Weather	3	1.8
Recognizing soil types	14	8.2
Choosing places to go	4	2.3
When visiting new locations	7	4.1
Selecting weather-appropriate clothing	9	5.3
Inspecting the region	4	2.3
In plant cultivation	18	10.6
In the selection of the place of settlement	5	2.9
In agricultural production	23	13.5
In recognizing plants	10	5.9
In informing people	2	1.2
In recognizing the climate	17	10
Creating a travel itinerary	5	2.9
In friend conversations	4	2.3
I don’t use it	42	24.7
Other (In solving puzzles, dispersal of waters, animal husbandry)	3	1.8
Total	170	100

According to Table 5, it was seen that 24.7% of high school students did not use the information about climate, vegetation, and soil, which are physical geography subjects in their daily lives. The area that high school students used most in daily life or expressed that they would use was agricultural production with 13.5%. Agricultural production was followed by plant cultivation with 10.6%, climate recognition with 10%, and soil type recognition with 8.2%. The subject that they said they used least in daily life was informing people with 1.2%.

Some examples of high school students' use of physical geography knowledge in daily life were given

below:

M62: When moving from a place, the climate of the place is taken into consideration.

M84: We cultivate the plant according to the fertility level of the soil in the environment.

M7: It led me to learn about where and how plants grow. For instance, the hazelnuts we grow in the interior of Trabzon are smaller than those my aunt grows on the shore.

M64: I can learn more about the environment when we take a walk in the outdoors.

M86: When my father and I disagree on certain matters, I sometimes utilize it.

M4: When I go to the fields, I comment that this soil is fertile or unproductive.

M8: It helps with the care of flowers and so on. For example, I can determine what kind of soil a plant I will put in a pot needs and the frequency of watering.

M12: Going to a picnic according to the weather.

M53: Cultivation of plants according to the soil type of the regions.

M14: I'm commenting while looking at the forests. Coniferous trees increase as altitude increases, etc.

M39: Determining the climate of a place and knowing the characteristics of these climate types are very important in the future development and planning of that region. It is important to determine which of the agricultural, industrial and similar activities to be carried out in this region are suitable or not, and how the settlement will be made in this region.

F7: If I go on vacation to a place I have never been to before, I will have information about the climate and vegetation of that place and go prepared accordingly.

M9: I look at the trees and examine how they are.

M33: Even when talking to my family and acquaintances, I can comment on a tree or landform that I see around me. I can also understand the types of mines. I think these are very important things. I find it a bit strange that these are measured by exams and memorized just for the exam. The important thing was to acquire that skill.

M48: To be able to know whether the crop to be grown in agriculture is suitable there or not.

F17: I can tell more or less what type of soil the soils I see are.

F16: For example, when we go to Canada, we know what kind of clothes to bring because we know the cold climate there.

F56: I love growing flowers and I know how the soil should be thanks to geography.

M1: When I go somewhere, I buy clothes according to the climate. I give information about the soil to those who do agriculture in the villages.

M49: I know how the flowers I have can grow in which soil, in which season, and how they can be more productive.

F2: I went to a village recently. The soil is close to orange red. According to what we learned this year, I made the statement that the iron oxide rate is high.

F82: I can use my knowledge about soil. Since my family is engaged in farming, I sometimes talk to them about it.

The examples given by high school students for their daily use of their knowledge of internal forces, external forces and rocks, which are physical geography subjects, were analyzed and shown in Table 6.

Table 6. *Examples of the use of physical geography knowledge (internal-external forces, rocks) in daily life*

Internal-external forces and use of rock information	***f***	**%**
As general culture	8	5.2
Use of stones	12	7.8
Learning volcanic terrains	2	1.3
Learning rock structure	4	2.6
Ground analysis in house construction	2	1.3
Understanding landforms	19	12.4
Tectonic awareness	8	5.2
Understanding geological features	3	2
Determining the settlement	3	2
I don't know	17	11.2
I don't use it	68	44.5
Other (Soil structure, importance of the river, construction, formation of the world, nature walks, coastal formations, conversation)	7	4.6
Total	153	100

Table 6 shows that 44.5% of high school students never used their knowledge of internal-external forces and rocks in their daily lives. Similarly, 11.2% of high school students stated that they did not know how to use these subjects in their daily lives. The rate of students who stated that they use internal and external forces and rocks in their daily lives to understand landforms was 12.4%. Following this, 7.8% of high school students stated that they used their knowledge of the use of stones; 5.2% of them used it to create tectonic awareness and a general culture about internal-external forces and rocks.

Some examples of high school students' use of physical geography knowledge in daily life were given below:

F2: I evaluate my knowledge of the properties of mountains and rocks when traveling by car.

M12: Prediction of earth movements according to regression-transgression situations.

F67: Recognize the rocks used in industry and for making goods.

M54: I benefit from the natural stone collection I made from my knowledge of rocks. Again, I benefit from my knowledge of internal and external forces in recognizing the places I have seen and visited.

F15: I love stones, and it helps me research them.

F42: Thanks to the rocks, we learn the structure of the soil and whether it is fertile or not. We learn about how our world was formed and volcanic places.

F46: For example, when we learn that the stream creates fertile soil, we pay more attention not to pollute it.

M6: It allows us to have information about the ground in that area when building a house.

F10: It can enable us to have more information about the formations in the places we visit and see.

F36: It helped me to better understand the rocks and the shapes formed in the places I visited and the geography I lived in.

M10: To know how the world is formed in general and to understand how it is formed when we encounter these events.

F83: Since I know which rock is where when I go to a place, I can easily know things such as the soil structure of the place.

M64: With this information, I can know how the natural structures (such as travertine) were formed and how these lands were in previous years.

F70: I have information about natural stones and have researched which stones treat what.

M16: Actually, I don't use it in many areas, but my knowledge on these subjects allows me to examine the environment more carefully when traveling in a car.

M45: I love and am interested in natural stones. I have an idea about the source of these.

The examples given by high school students regarding the use of their knowledge on disasters, environment, population, and migration, which are among the subjects of environment and society, in daily life were analyzed and shown in Table 7.

Table 7. *Examples of the use of environment-society issues (disasters, environment, population and migration) in daily life*

Use of disasters, environment, population and migration information	***f***	**%**
Disaster attitude	2	1.1
Environmental awareness	12	6.5
Preparedness for disaster	67	36.4
Country interpretation in population structure	12	6.5
Disasters	11	6
Migration	14	7.6
Selection of settling to live	4	2.2
Geographical analysis	10	5.4
Awareness of current issues	6	3.3
Information about countries	2	1.1
Family-friends chat	4	2.2
I don’t use.	38	20.6
Other (Conscious citizen, country problems)	2	1.1
Total	184	100

Examining the use of environmental-society knowledge in daily life, 36.4% of high school students stated that they used this information for disaster preparedness, 1.1% for disaster attitude, and 6% for disasters in general. In addition, 7.6% of the students stated that they used migration, 6.5% environmental awareness, and 5.4% geographical analysis in their daily lives. High school students stated that they did not use environmental and social issues in their daily lives at a rate of 20.6%.

Some of the appropriate examples given by high school students regarding the use of environmental and social information in daily life were given below:

M57: It allows me to reflect on the country's problems.

F74: I don't know where it is used for myself in daily life, but we have had a lot of conversation with the knowledge of my dear grandfather.

F77: Making development, production, and consumption plans based on population information.

M55. Taking precautions against natural disasters in accordance with the information obtained.

M18: I think that this information will create a big problem in the future, if not today. I think people's lack of knowledge will bring us to an end.

M26: Taking precautions against disasters that may happen to us in our daily lives can be useful for us, and at the same time, population and migration can be good conversation topics. Other than that, I don't think there is any benefit.

F30: I feel more secure after getting information about disasters.

M62: We can calculate whether the place we live is risky in terms of disasters and take precautions.

M39: Knowing why Syrians are here.

F5: By looking at the population structure of different countries, I can make comments on behalf of that country.

F38: It helps me to be informed about events such as earthquakes and helps me to take precautions.

F66: It helps to take precautions as it raises awareness of the environment.

M25: We can decide on the development of a place according to the disaster situation, population, and migration status and determine the place we will go accordingly.

M47: I have learned what I can do in disaster situations; even if I have not used it so far, I think it will be useful for me in the future. I say that everyone should learn this information.

F74: It taught me to plan my life and to take precautions against dangers. I learned what to do when I'm in trouble. I became more conscious about world powers.

F84: I can learn about the development of any city or country by looking at the population.

M37: I can interpret why migrations happen and what kind of policy we should follow.

F37: We can choose the city we will live in according to disasters and population distribution.

F81: Since this issue is especially important for our country, it will be beneficial to get information about all kinds of disasters that we may encounter and to learn the precautions.

M44: We can know whether the place we will go will be crowded, what the living conditions are like, and whether it is risky or not.

F29: I can understand the reasons for the political and social events that are on the world agenda.

F54: It enables us to have accurate information about migrations and population changes in our country.

DISCUSSION, CONCLUSION, RECOMMENDATIONS

This study was conducted to determine the use of geography information in the daily lives of 153 high school students studying in the 10th grade in schools that accept students by exam in Kastamonu, the city center of Türkiye. According to the problem statements of the research, the following results emerged:

While 15,7% of high school students stated that they had a low interest in geography courses and subjects, 62.7% stated that they had an intermediate level of interest, and 21.6% stated that they had a high level of interest. These results indicate that the students' level of interest in geography is average. The most important conclusions that emerged from the opinions of students with low interest levels are that the subjects are boring, they are educated in different fields, and there are too many terms and concepts. The low interest of the students can generally be evaluated as the lesson becoming boring as a result of the term- and concept-oriented teaching in the course and directing them to the memorization method. In the research conducted by Kocalar and Demirkaya (2014), it was determined that 70% of science high school students and 65% of anatolian high school students

liked geography, and 63% of social sciences high school students did not like geography. It was observed that among the students at the Social Sciences High School, those who emphasized that the geography lesson was boring were in majority. Gökçe (2009) stated that in order to increase the interest of high school students in geography lessons and to develop a positive attitude, the learning environments should be arranged by the teachers according to the interests, levels, and expectations of the students.

The factors that caused variability in the interest status of the students were expressed as the teacher's course operating style, the level of interest in the subject covered, the status of the exam grades, and the usefulness of the information. These conditions point to the importance of student-teacher interaction. The use of materials in the course, its openness to interpretation, curiosity about the world, and settlement expressions stood out when the main reasons why students were interested in geography lessons were examined. Most of these statements were seen as student-induced factors. In this context, it was seen that planning would be useful by considering the issues within the framework of the principle of student relativity. According to Akınoğlu (2006), the perspective of individuals who have experienced active learning in geography teaching changes with social events. Geographical information, which enables us to realize the potential of the country, gives us the ability to question domestic and inter-country issues. In this way, geography education contributes to the education of individuals who understand the world.

High school students first defined geography knowledge as map knowledge. Considering the importance that geography attaches to space and distribution, this result can be seen as pleasing. In addition to the map, the widespread expression of landforms, climate, country, and vegetation also pointed to the main parts of the geography. However, it was seen that the definitions emphasizing human-environment interaction, which refer to the holistic definition of geography, were not enough. This situation also contributes to the perception that geography has a density of terms and concepts. However, geography brings a holistic view of the world far beyond terms and concepts.

Students who state that the most important contribution of geography in the future will be general culture have a significant proportion. This result coincides with the opinions of science high school students who participated in the research conducted by Kocalar and Demirkaya (2014). However, it contradicts the results of the study conducted with secondary school students by Akınoğlu and Akarsu Bakır (2003). While 62% of secondary school students stated that they do not use geographical information in their daily lives, only 10% emphasized that learning geography subjects is necessary for daily life. It could be said that geography has a side that contributes to the general culture of people with its social science aspect and enables the use of information in conversations. However, evaluating geography only within the general knowledge of culture will not be an approach in accordance with the philosophy of geography. Apart from this, students who express that geography will contribute to disasters and emergencies, to be conscious, to know the place where they live, and to research the places they want to visit and see, have an important rate. This information to be used constitutes the desired responses in the application phase of geographical information.

The fact that there are very few students who thought that geography knowledge would not contribute to the future shows that the objectives in the curriculum were achieved in general. Those who thought that geography knowledge would not contribute explained the reason why they would not choose a profession related to geography stating that they would forget the information they learned. These explanations can also be analyzed using individual approaches. Students who stated that geography would make an important contribution to their lives explained this situation by pointing out that geography existed in all areas of life and contributed directly to their lives. They stated that they could benefit in many areas, from holiday plans to disaster preparedness and curiosity about the formation of the world. These expressions can be considered expressions in accordance with the essence of geography, which we can express as a guide to understanding and using the world.

Cloke, Crang and Goodwin (2005) advise undergraduate students studying geography to relate their academic knowledge to their daily lives. The ability to establish the integration of geographical information with daily life will increase the retention of information. According to Beck (2013), he emphasizes the importance of

the connection with everyday experiences in the learning of academic geography.

The knowledge students will gain from the geography lessons they take in secondary school will be greatly influenced by the geography infrastructure at the primary education level. The geography infrastructure at the primary education level has a great impact on the knowledge to be gained from geography courses to be taken in secondary education. According to Şahin and İnce (2020), the active participation of the students is important in the teaching of geography subjects at the primary school level, with the student-centered teaching adopted away from memorization. On the other hand, Dere and Aktaşlı (2022) underline the necessity of emphasizing concept teaching in order to fulfill geography-related objectives within the context of a social studies course. In order to teach geography at the high school level in line with the objectives of the curriculum, the foundation of geography knowledge constructed at the primary level is also essential.

It was questioned whether high school students used the information they learned in their daily lives based on the subject they studied in line with the curriculum in the 9th and 10th grades. It was concluded that the information they learned about climate-plant-soil issues in physical geography can be used in agricultural production in daily life. Again, there are students who expressed that they used it in plant cultivation and in recognizing climate and soil types. They stated that they learned the growing conditions of plants grown in small-scale gardens such as hobby gardens, which have become widespread today, and that they grew plants suitable for this. These statements are examples of the practical use of geographic knowledge. The fact that they are used to discover new places, chat with friends, and make vacation plans can also be considered in the same category. However, 25% of high school students stated that they never used their knowledge of climate, plant, and soil issues in their daily lives. In the research conducted by Kenger (2010), it was found that students used subjects related to the movements of the place, local time calculations, and maps more in their daily lives and did not use topics such as vegetation, pressure, and wind in their daily lives. This ratio indicates that there are problems associating geographical information with daily life. It is a truth that using this knowledge can significantly improve daily living on a personal and a societal level, particularly in the current world where global climate change, drought, and associated water issues are encountered.

Internal and external forces and rocks were among the physical geography subjects that high school students used the least in daily life. It was concluded that these issues are most useful in understanding landforms in daily life. In addition, recognizing stones, collecting by knowing their properties, developing tectonic awareness, and, more importantly, researching the rock structure in the selection of settlements attracted attention. These are positive examples of the acquisition of geographical consciousness. However, more than half of high school students either did not use or did not know the subjects of internal and external forces and rock in their daily lives. It is very important for the science of geography to comprehend the internal and external forces that form the basis of the evolution of the world and are the main field of struggle. The assimilation of this information and its adaptation to daily life are two of the basic conditions for geography. At this point, it would be appropriate to say that the deficiency is excessive.

In the research conducted by İbret, Aydın and Turgut (2018) with geography teachers, it is emphasized that geography is life itself and that geography knowledge and education are important in order to make sense of their countries and the universe they live in. It is also stated by Keçeci (2010) that the geography course is effective in raising environmental awareness.

It was concluded that high school students used their knowledge of environmental and social issues in their daily lives, mostly for disaster preparedness. In Türkiye, which is an earthquake country, it is seen as an important result that students used the information, they learned for disaster preparedness. This result supports Yiğit (2003)'s view that with geography education, individuals will realize the possible negativities they will experience if they do not take into account the characteristics of the environment they live in. It is important that they expressed in detail in their explanations what they did and would do at the point of disaster preparedness. In addition, the fact that they stated that they made geographical analyses on population and migration and their behavior towards environmental awareness were also remarkable results. However, it is also a problem that 1/5

of high school students do not use their knowledge of these subjects in their daily lives.

In light of the results obtained, the most striking point is that approximately 1/3 of the students do not use their geographical information in their daily lives. As a result of the research conducted by Aydın (2012) with social sciences high school students, it was determined that 55% of the participants did not use the geography information they learned in the courses in their daily lives. It was suggested that geography teachers can use more examples from daily life to solve this situation. Tomal (2009) also determined that students are partially competent in applying the knowledge they have gained in geography courses in their daily lives. When the students' interest levels were examined, this result is expected to be lower. Again, when the results of the students' explanations of their interest situations were analyzed, it was seen that they emphasized that geographical issues should be related to life and should not be drowned in terms and definitions. Combining all these points, it is clear that geography issues should be planned in an effective-based, daily-life example-based, and practical way. These plans can be made throughout the country, taking into account local conditions. Geography has much more meaning than the number of questions in the exams held throughout the country and the score obtained from the exams held in school. This meaning should be taken into consideration by all education stakeholders. As highlighted by Prajapati, Sharma and Sharma (2017), individuals can survive with the daily living skills they possess. At this point, the science that can offer the greatest contribution to geography should be carried to the point where it deserves to be.

Akınoğlu (2006) highlights the importance of effectively imparting geographical knowledge and shaping individuals' perspectives on the world. To achieve this, geography teaching should prioritize the principle of relevance to everyday life, and the curriculum should be designed to raise awareness of our country's geopolitical and geostrategic position and significance. In the research conducted by Balcı (2018), it was determined that information on most sub-branches of geography was used in life stories. In order to realize a geography education that will provide the opportunity to make sense of and structure the planet we live on, an improvement is needed that includes all components such as curriculum, textbooks, and teacher training. Geography educators play a significant role in the application of geographical knowledge in everyday life and transforming it into a practical skill. In this process, it is more important to make changes and updates to the training program for geography teachers. In addition to teacher education, it is suggested that geography knowledge should be designed to enhance the life skills of individuals, and necessary adjustments should be made to deliver this knowledge in educational environment.

REFERENCES

Akınoğlu, O. & Akarsu Bakır, S. (2003). İlköğretim öğrencilerinin sosyal bilgiler dersinde coğrafya konularını öğrenmeleriyle ilgili durum analizi. [Situation analysis of primary school students' learning about geography in social studies course]. *Marmara Coğrafya Dergisi, 8*. 83-106. https://dergipark.org.tr/tr/download/article-file/3074

Akınoğlu, O. (2006). Coğrafya eğitimi ve toplum. [Geography education and society]. *Marmara Coğrafya Dergisi, 13* (Ocak), 25-48. https://dergipark.org.tr/tr/download/article-file/3111

Aydın, F. (2012). Sosyal bilimler lisesi öğrencilerinin coğrafya dersinin öğretimine yönelik görüşleri. [Social sciences high school students opinions towards teaching of geography course]. *Kastamonu Eğitim Dergisi, 20*(3), 189- 203.

Balcı, A. (2018). Geographical knowledge in life stories: Oral geography. *International Journal of Geography and Geography Education, 38*, 40-57.

Beck, J. (2013). Powerful knowledge, esoteric knowledge, curriculum knowledge. *Cambridge Journal of Education, 43*, 177–193.

Béneker, T. & Schee, J. (2015) Beneker Future geographies and geography education, *International Research in Geographical and Environmental Education, 24*(4), 287-293, DOI: 10.1080/10382046.2015.1086106.

Butt, G & Lambert, D. (2014). International perspectives on the future of geography education: an analysis of national curricula and standarts. *International Research in Geographical and Environmental Education, 23*(1). 1-12. http://dx.doi.org/10.1080/10382046.2013.858402

Catling, S. (2005). Children's personal geographies and the English pri mary school geography curriculum. *Children's Geographies, 3*, 325–344. https://doi.org/10.1080/14733280500353019

Cloke, P., Crang, P., & Goodwin, M. (2005). *Introducing human geographies* (2nd ed.). London: Hodder Arnold.

Creswell, J. W. (2015). Nitel araştırma yöntemleri. [Qualitative research methods]. (M. Bütün & S. B. Demir, çev. ed.). Ankara: Siyasal Kitabevi.

Dere, İ. & Aktaşlı, İ. (2022). Ortaokul öğrencilerinin iklimle ilgili kavramlara ilişkin bilişsel yapıları [Cognitive Structures of Middle School Students Regarding Climate-Related Concepts]. *Ahmet Keleşoğlu Eğitim Fakültesi Dergisi (AKEF) Dergisi, 4*(2), 182-198. https://dergipark.org.tr/tr/download/article-file/2666161

Dikmenli, Y. (2015). Öğretmen adaylarının coğrafya okuryazarlığı algı düzeylerinin farklı değişkenlere göre incelenmesi. [Examination of teacher candidates' geography literacy perception levels according to different variables]. *Turkish Studies - International Periodical for the Languages, Literature and History of Turkish or Turkic, 10* (3), 353-368.

Doğanay, H. (2012). Anlamı, tanımı, konusu ve felsefesi bakımından coğrafya ilmi hakkında bazı düşünceler, [In terms of ıts meaning, definition, subject and philosophy some opinions on science of geography], *Doğu Coğrafya Dergisi 16*(25), 1-44.

Gökçe, N. (2009). Türkiye'de öğretmen yetiştirmede coğrafya eğitiminin sorunları ve öneriler. [The problems of geography education and some suggestions]. *Kuram ve Uygulamada Eğitim Bilimleri, 9*(2), 721-768.

İbret, B. Ü., Aydın, F. & Turgut, T. (2018). The role of geography education in educating individuals. [The role of geography education in educating individuals]. *International Journal of Geography and Geography Education, 38*, 1-19.

Keçeci, Ö. T. (2010). *Ortaöğretim coğrafya derslerinin çevre bilinci oluşturmadaki rolünün öğrenci görüşlerine göre değerlendirilmesi*. (Yüksek Lisans Tezi, Atatürk Üniversitesi, Sosyal Bilimler Enstitüsü, Erzurum). [*Tthe evulation of "the role of secondary education geography courses in formıng environmental consious" according to students" opinions (Example of Aydın city)].* https://tez.yok.gov.tr/UlusalTezMerkezi/ adresinden edinilmiştir.

Kenger, G. (2010). *9. Sınıf öğrencilerinin coğrafya dersinde öğrendikleri coğrafi kavramların günlük yaşamda ilişkilendirme düzeylerinin belirlenmesi*. *[9th grade students, capability of using geographic concepts which are learned at scholl on daily life]*. (Yüksek Lisans Tezi, Marmara Üniversitesi, Eğitim Bilimleri Enstitüsü, İstanbul). https://tez.yok.gov.tr/UlusalTezMerkezi/ adresinden edinilmiştir.

Kocalar, A.O. & Demirkaya, H. (2014). Coğrafya öğrenmek niçin önemlidir? Lise öğrencilerinin algıları. [Why is geography important to learn? Perception of high school students]. *Doğu Coğrafya Dergisi, 19*(32). 123-144.

Kubiatko, M., Janko, T. & Mrazkova, K. (2012). Czech student attitudes towards geography. *Journal of Geography, 111*(2), 67-75. http://www.kubiatko.eu/clanky_pdf/czech_student_attitudes_towards_geography.pdf

Matthews, M. (1992). *Making sense of place: Children's understanding of large scale environments*. Hemel Hempstead: Harvester Wheatsheaf.

Meadows, M. E. (2020). Geography education for sustainable development. *Geography and Sustainability, 1*, 88-92.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis an expanded source book*. California: Sage Publications

MoNE (Ministry of National Education), (2013). Okul öncesi eğitimi programı. Ankara: Talim ve Terbiye Kurulu Başkanlığı.

MoNE(Ministry of National Education), (2018a). Hayat bilgisi dersi öğretim programı (İlkokul 1, 2 ve 3. sınıflar). Ankara: Talim ve Terbiye Kurulu Başkanlığı. http://mufredat.meb.gov.tr/Programlar.aspx

MoNE (Ministry of National Education), (2018b). Sosyal bilgiler dersi öğretim programı (İlkokul ve ortaokul 4, 5, 6 ve 7. sınıflar). Ankara: Talim ve Terbiye Kurulu Başkanlığı. http://mufredat.meb.gov.tr/Programlar.aspx

MoNE (Ministry of National Education), (2018c). Ortaöğretim coğrafya dersi öğretim programı (9, 10, 11 ve 12. sınıflar). Ankara: Talim ve Terbiye Kurulu Başkanlığı. http://mufredat.meb.gov.tr/Programlar.aspx

Prajapati, R., Sharma, B. & Sharma, D. (2017). Significance of life skills education. *Contemporary Issues in*

Education Research, 10(1), 1-5.

Roberts, M. (2014). Powerful knowledge and geographical education. *The Curriculum Journal, 25*(2). 187-209.

Spencer, C., & Blades, M. (Eds.). (2006). *Children and their environments*. Cambridge: Cambridge University Press.

Şahin, V. & İnce, Z. (2020). Geography education in 2018 primary school instruction schedule. *International Journal of Geography and Geography Education (IGGE), 41,* 1-12. https://dergipark.org.tr/en/download/article-file/939705

Tomal, N. (2009). Coğrafya derslerinde edinilen bilgilerin günlük hayatta kullanılma durumları. [Application of the knowledge acquired in geography lessons in daily life]. *Kastamonu Eğitim Dergisi, 17*(1), 229-240.

Winter, C. (2013). Geography and education III update on the development of school geography in England under the coalition government. *Progress in Human Geography, 37*(3), 442–451.

Yıldırım, A. & Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma yöntemleri*. *[Qualitative research methods in the social sciences]*. (11.baskı). Ankara: Seçkin.

Yiğit, F. (2003). *Toplumsal sorunların çözümünde coğrafya eğitiminin yeri ve önemi [Geography educations location and importance on the social problems solution].* (Yüksek Lisans Tezi, Marmara Üniversitesi, Eğitim Bilimleri Enstitüsü, İstanbul). https://tez.yok.gov.tr/UlusalTezMerkezi/ adresinden edinilmiştir.