

# Geographic Consciousness in Sustainable Education: Students' Views

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## Abstract

The aim of this study is to find out effectiveness of the education given on this study by means of the mediating role of geographic consciousness for the management dimension of natural resources. The study is a qualitative research designed as a case study. Study participants consist of a total of 50 students attending the 11th and 12th grades in Sivas province. Participants were selected with sampling method. Study data were collected with a semi-structured interview form. The data collected in the interviews with the students were analyzed using content analysis and descriptive analysis techniques. It was found out that students associate the concept of geographic consciousness with geographical knowledge; whereas other associated expressions including understanding and prediction of the universe and consciousness were seen to receive far less emphasis. The resources referred to by students to increase geographic consciousness were listed in an order of importance starting with subject teacher followed by geography lesson. In this connection, effective teaching of geography by teachers can play a role in increasing geographic awareness. As another sub-topic of study, benefits of geographic consciousness were reported by students as having knowledge of geography, increasing the general knowledge and developing environmental consciousness.

**Keywords:** geography education, geographic consciousness, sustainable education

## 1. Introduction

Sustainable education is a type of education which makes it possible to bring up students who are able to face the risk, uncertainty and astonishing conditions in future, integrate and internalize the necessary mediators and able to cope with challenges in a changing social-ecological system (Sterling, 2010). Lenz (2013) thinks that education has an impact on the cohabitation conditions of our society as well as next generations and it is an investment in the future of the society. Sustainable education can be referred to as a new transformative education that determines the educational system and learning experiences that match the changing world truths. Towards ensuring sustainable education, educational philosophy brings with it different applications of content and method. Wheeler and Bijur (2000) investigated the content and needed mediating characteristics including gaining the ability to think about things that affect the future regarding sustainable education; gaining knowledge, skills and values in creating sustainable society; the ability to deal with management of natural resources; and interpreting the awareness of balanced economic and globalization towards sustainable economy.

In ensuring sustainable education; various disciplines such as economics, sociology, education and geography and other interdisciplinary sciences are thought to have an mediating role for sustainable education. Management of natural resources is directly related to geographic consciousness, and this consciousness is naturally realized through education because geography science provides people with the necessary information to keep their lives in peace with nature and the content changes according to the needs (Demirci, Sekin and Ünlü, 2002). Geography education reveals knowledge, skills and concepts to better understand our being, our universe and our relationships with other people (Haas, 1989). In the scope of educating individuals who can overcome uncertainty, possible threats and irregularity as a part of sustainable education; geographic awareness is too important and indispensable to be denied for management of natural resources. Girgin (2001) states that it is possible to predict order, uncertainties, crisis and chaos beforehand thanks to geographical data. Therefore, it can be suggested that geographic consciousness can play a positive role in sustainable education. It is also clearly associated with management of natural resources more than any other dimension of sustainable education.

Stringer's (2010) criticism 'we have generally been educated for consumption and competition rather than conservation and preservation (care)' aiming to attract attention onto sustainable education reveals itself in geography in certain aspects. For example, some of the freshwater resources have become polluted and thus unusable. Overuse of fossil fuels has increased the rates of carbon dioxide, methane and other greenhouse gases in the atmosphere, the ozone layer has been depleted, global air temperature has increased, natural vegetation has been extensively destroyed mainly including tropical forests, a lot of plant and animal species have been extinct, and fertile agricultural areas as well as water resources have become unusable because of various chemical substances and nuclear wastes (Demirci, Sekin and Ünlü, 2002). Classical economists' assumption that natural resources have a self-generating and unlimited availability has caused insensitivity to environmental problems for a long time (Kaypak, 2011). Mankind has always interacted directly with the environment in every phase of

life, used the resources it contains, benefited from them, lived compatibly with the environment for many years, but never appreciated it at all (Tıraş, 2012). Further environmental degradation and entropy can have dangerous consequences as much as disappearance of nature. It is likely that sustainability of nature depends on sustainability of the society and on the individuals cultivated with this consciousness in that society. The Lucerne Declaration (2007), which is expected to play an important role for sustainable education, the geographical competencies required for sustainable development are described as follows: i) the basic systems on earth to understand the interactions within and between ecosystems; ii) spatial concepts peculiar to geography that help students understand the Earth – main ideas: position, distribution, distance, movement, region, scale, spatial associations, spatial interactions and change over time; iii) using communication, thinking and practicing skills and social skills to explore geographical issues from local to global scale; iv) commitment to seek solutions for local, regional, national and international problems based on the Universal Declaration of Human Rights. In sustainable education, it is understood that systems and tools are needed at certain levels in order to adapt future generations to changing conditions of the future. This study deals with ensuring geographic consciousness, which plays a role in sustainability for being able to live ecologically with the changing conditions and saving the ecological balance. Geographic consciousness education can increase students' awareness of the environment and have a positive impact on management of natural resources as a dimension of sustainable education. This research was conducted to find out at what extent geographic consciousness is among students and what ways can be taken to increase that extent since it is expected to ensure sustainability in education as an extension of research describing students and teachers' views on geography (Bradbeer, Healey and Kneale, 2004, Catling, 2004; Öztürk and Alkış, 2009; Akinoğlu, 2005; Kılcan and Çepni, 2015).

The aim of present study was to find out the effectiveness of the education given within the scope of the study by making geographic awareness an instrument for management of natural resources as a dimension of sustainable education. To this end; attempt was made to explore the effects on students the education about environment and development, population, soil degradation, pollution, status of agricultural lands, water resources, energy resources and international environmental organizations as a part of management of natural resources.

Thus, answers were sought for following research questions:

1. As a student who has taken geography education/course, what is your "geography consciousness" perception? How do you define it?
2. Who do you apply to increase your geographic awareness?
3. What benefits do you think having geographic awareness would offer?
4. What would you do to improve geographic awareness if you were a geography teacher?

## **2. Method**

### *2.1 Research Design*

This is a qualitative study designed as a case study. This pattern was selected because case study explores participants' perceptions, reactions or specific situations. It aims to reveal participants' perspectives to determine their perceptions or reactions (Fraenkel, Wallen and Hyun, 2011).

### *2.2 Participants*

It was seen that the topics to be covered in this research are included in 11th and 12th grade geography curriculum. The study was carried out with a total of 50 students attending the 11th and 12th grades in Sivas province. The participants were selected with sampling method of purposeful sampling methods according to the criteria of voluntariness and enrollment in the 11th or 12th grade. Informed consent was obtained from participants placing emphasis on voluntariness. As a result, only those who were willing to take part were included in the survey.

### *2.3 Data Collection Tool*

Study data were collected with a semi-structured interview form developed by researchers as a result of reviewing the relevant literature review and taking expert opinion. To make sure about clarity and content of the interview questions, two experts, one on geography and the other on educational sciences, were asked for their opinion in a way to meet the criterion of harmonious unity. The interview questions were revised for the final version after the pilot study implementation with 20 students following the literature review and obtaining expert opinion. The data were collected with focus group interviews. During the interviews, voice recordings were made only if agreed by students.

### *2.4 Data Analysis*

The data obtained from the interviews were analyzed using descriptive analysis and content analysis techniques. Content analysis involved the steps of coding the collected data, categorizing them, and classifying the

categories into main themes. The participants followed these stages and checked category-theme fit. In the descriptive analysis, it was tried to clarify the analyzes by giving direct quotations from the interviews. The participants were coded as S.1, S.2, ....., and S.50 and results were discussed by using the same numbers.

### 2.5 Reliability and Validity

In qualitative research, it is preferred to consider the terms credibility, transferability, and verifiability for describing the concepts of validity and reliability (Lincoln and Guba, 1985). In order to ensure credibility in this research, all interviews were voice recorded with students' permission to be replayed along with the interview notes so that participants could make confirmation, adding or changing before starting data analysis. The researchers were attentive to be objective without any guidance by addressing as clear and open questions as possible to the participants. Regarding transferability, researchers explained all research steps to the participants in details. Also demographic data about the participants, study content and method were reported. In order to ensure verifiability of the study, views of the participants were quoted directly without any comments as applicable in this paper. In addition, all of the study data were analyzed by researchers by coding at the same time and reaching consensus on compatibility of the codes with the themes. Consequently, the two researchers reached 92 % consensus in analysis of the qualitative study data. The groupings with a participation rate of and over 70 % were considered in the analysis % 70. In this scope, participation rate of 0.61 to 0.80 between experts was regarded sufficient for reliability (Landis and Koch, 1977; Wheelock, and et al., 2000).

## 3. Results

In this part, study results are listed in an order of the research questions.

### 3.1. Results under Research Question One

Students' responses to the question "As a student who has taken geography education/course, what is your "geography consciousness" perception? How do you define it?" are displayed in Table 1.

Table 1. Student views regarding geographic consciousness

Theme	Categories	f	%
Being conscious	Giving importance to nature and environment	5	9,25
	Necessity of living with nature within each other	2	3,70
	Total	7	12,96
Having geographic knowledge	Knowing geographical characteristics of the place of living	17	31,48
	Knowing geographical characteristics of the world countries	13	24,07
	Having mastery of the earth events and general geographical concepts	8	14,81
	Total	38	70,37
Interpreting and predicting the universe	Orientation	3	5,55
	Drawing cause-effect relationship	4	7,40
	Domination	2	3,70
	Total	9	16,66

As seen in Table 1, students reported their views on geographic awareness in three different themes. It was found out that 70.37 % of the students (f=38) defined geographic consciousness in relation with having geographic knowledge, 16.66 % (f=9) with interpretation and prediction of the universe, and the rest of 12.96 % (f=7) defined in relation with being conscious.

Having geographic knowledge was found to have the highest frequency with three categories as knowing geographical characteristics of the place of living (f = 17); knowing geographical characteristics of the world countries (f = 13), and having mastery of the earth events and general geographical concepts (f = 8). Secondly, the theme of interpreting and predicting the universe consisted of three different categories as orientation (f = 3); drawing cause-effect relationship (f = 4), and domination (f = 2). Lastly, the theme of being conscious was drawn with two categories as giving importance to nature and environment (f= 5) and the necessity of living with nature into each other (f = 2).

Some of the student opinions on the definition of geographical awareness are quoted below.

*"To give the necessary attention to nature, to the environment. It is not to harm nature and not to prevent the cycle dominant in nature"* (S.1. The theme of being conscious).

*"Geographic consciousness is the knowledge of geography, I suppose. Knowing the geography of the countries in the world"* (S.2. Having geographic knowledge).

*"The ability to understand and interpret what is happening in our environment"* (S.37. Interpreting and predicting the universe).

It is understood that the students predominantly perceive geographic consciousness as having

geographical knowledge. In addition, the opinions recalled by students in relation with geographic consciousness include performing of conscious behaviors towards nature and environment, and interpretation and prediction of the universe.

### 3.2. Results under Research Question Two

The students' responses to the question "Who do you apply to increase your geographic awareness?" are presented in Table 2.

Table 2. People applied by students to improve their geographic consciousness

Theme	Category	f	%
School stakeholders	Geography Teacher	25	35,21
	Geography Lesson	17	23,94
	School Administrators	4	5,63
Social components	Family	10	14,08
	Community	15	21,12

As seen in Table 2, students reported teachers (f=25); geography lesson (f=17); and school administrators (f=4) under the theme of school stakeholders as main resources they apply for improving their geographic awareness (f=46). Under the social theme, the categories of family (f=10) and community (f=15) were found (f=25).

Some of the student opinions on the resources used to increase geographical awareness are given below.

"I especially have benefited from our geography teacher in our lessons" (S.3. The theme of school stakeholders).

"My geographic awareness is increasing by seeing places we visit with our family" (S.10. Social components).

It is seen that students often apply to school actors for gaining geographic awareness, as well as social components.

### 3.3 Results under Research Question Three

The students' responses for the question "What benefits do you think having geographic awareness would offer?" are given in Table 3.

Table 3. Benefits of geographic consciousness for students

Theme	Category	f	%
Having knowledge	Having geographic consciousness	16	36,36
	General knowledge	11	25
Being conscious	Acquiring environmental consciousness	11	25
	Appreciating the environment	6	13,63

As seen in Table 3, the benefits of having geographic awareness were summarized under the themes of having knowledge (f = 27) and being conscious (f = 17) according to student opinions. The first theme covered the categories of having geographic consciousness (f=16) and general knowledge (f=11); and the other theme included acquiring environmental consciousness (f=11) and appreciating the environment (f=6).

Some of the student views on benefits of having geographic awareness are cited below.

"If we know the climate of a place, we will set ourselves according to it when we go there" (S.12. The theme of having knowledge).

"It makes contribution to be beneficial to future generations and live in a better, more beautiful and understandable way" (S.11. Being conscious).

It was seen that students interpreted the benefits of having geographic awareness as having knowledge, while some others considered it as being conscious.

### 3.4 Results under Research Question Four

The student views on "What would you do to improve geographic awareness if you were a geography teacher?" are given in Table 4.

Table 4. Students' suppositional actions to increase geographic consciousness as a geography teacher

Theme	Category	f	%
Out-of-class activities	Organizing excursions	19	38
	Project and social events (camping, survey, seminar, conference, etc)	8	16
	Teaching in natural environment	6	12
In-class activities	Using materials (photos, videos, maps, etc.)	12	24
	Lecturing	5	10

As seen in Table 4, the students' suppositional behaviours to increase geographic awareness were collected under two themes as out-of-class activities (f = 33) and in-class activities (f = 17). The first theme was divided into the categories of organizing excursions (f=19), running projects and social events (f=8), and teaching in natural environment (f=6). The theme of in-class activities were found to be related with using materials (f=12) and

lecturing ( $f=5$ ).

Below are some of the opinions of the students about they would do to increase geographic awareness if they were geography teachers:

*"I'd take my students to city tours"* (S.17. The theme of out-of-class activities).

*"I'd teach lessons in a natural environment"* (S.40. Out-of-class activities).

*"I'd teach the lesson with interesting photos, videos, and other tools"* (S.4. In-class activities).

The participants pointed out that they would increase geographic consciousness with out-of-class activities such as engaging in projects and social events like sightseeing and trips, camping, seminars or conferences, and teaching in the natural setting. They also noted in-class activities such as using materials (smart boards, maps, visual samples, etc.) and lecturing.

#### 4. Discussion and Conclusion

This part presents the conclusions regarding opinions of students on geographic consciousness for providing education sustainability. Also the results are reported in a comparative way with the related studies in the literature. Finally, recommendations are brought in the light of the study results related to geographic consciousness.

It was seen that the students mostly associated the concept of geographic consciousness with owning geographical knowledge. However, the other expressions associated with the concept of geographic consciousness, which are interpretation and prediction of the universe and consciousness, were found to receive far less emphasis from the students. Öztürk and Alkış (2009) carried out a study to describe prospective students' understanding of geographical knowledge and they found out that the students often referred to 'the attempt to understand the characteristics of the world in the frame of physical and human themes'. The findings of the mentioned study seem to be in parallel with ours in certain aspects since the latter revealed that students explain geographic consciousness with knowledge of geography. Also Kolosov (2014) states that having geography knowledge is of importance for all humans to be able to survive and ensure sustainability, and geography education is important in the same way to keep up with the world and understand the changing world characteristics. Geography knowledge and topics have an appeal to not only those who will study geography at universities. These topics include the most important information that students will need in every field of work and their life regardless of their branch or department as long as they live (Demirci, Sekin and Ünlü, 2002). Apart from that, Yeung (1995) reported a positive relationship between geography education and geographic consciousness. So, it implies that it did not come as surprise that the students explained geographic awareness with geographical knowledge in our study.

The resources used by students to increase their geographic consciousness were listed in an order of importance attached by students, according to which, geography lesson and geography teacher have the highest frequency. So, effective teaching by geography teachers can play a role in increasing geographic awareness. Akinoğlu (2005) thinks that for effective geography education/instruction, geography teachers must have geographical consciousness above all. In other words, they must be qualified to access to, use and produce knowledge instead of rote learning. Öztürk (2015) suggested that geography education should be addressed in the framework of information and communication technologies in the changing world, environmental sensitivity and sustainability, social change and globalization, and skills. The message intended to convey in geography education that people must be sensitive to the environment and teachers must aim teaching seems to support our hypothesis that one of the mediating variables of sustainability in education requires geographic consciousness (Akinoğlu, 2005).

As another sub-topic of the study, benefits of gaining geographic awareness were appraised by students particularly as having knowledge of geography, increasing general knowledge in some way, and as environmental-consciousness gaining. Within the scope of sustainability in education, increase of the environmental consciousness by geographic consciousness can be considered as contribution made by geographic consciousness. The research on the content and purpose of geography course demonstrates that geography education is mostly perceived as examination of physical and human characteristics of the Earth (Akinoğlu, 2005; Öztürk and Alkış 2009; Bradbeer, Healey and Kneale, 2004). In a world with limited change and resources, the content and purpose of education may also require transfer of geographical information into life for change and self-renewal in the same way. Although our results seem to be similar to those from the research referred to above, it can be considered as a desired result to carry acquisition of geographic consciousness beyond having geographical knowledge and to build consciousness. In the context of education, gaining geographic consciousness can be employed as a key to sustainability. Catling's study (2004) on classroom teachers revealed that the participants associated geography lessons with environmental awareness, which seems divergent from our findings. This may be caused by distinct study groups as well as the teaching program used in geography course.

In our study, it was found out that students will prefer to organize excursions and then use visual



materials to increase geographical awareness if they are to teach geography. The fact that geography is a scientific discipline based on field trips and observation methods (Üçışık, Ünlü and Özey, 2002; Garipoğlu, 2001; Gök and Girgin, 2001) may have been a factor causing students to choose geography teaching methods in this way. As the second priority, students' preference for using various materials (video, map, slide, table-graph, etc.) for teaching geography can be regarded as an element required by the geography teaching program favoured by students.

According to Demiralp (2007), since geography education actually covers the whole environment as the learning setting, the tools and materials used in lessons may be many objects including living or non-living things around us, provided that they are pedagogical, as well as the teacher and the student's own primary resources. One of the best ways to facilitate learning in geography teaching is to use tools, instruments and materials (Öztürk, 2002). It could be suggested that there is consensus in the literature that the use of tools in geography teaching will provide effective learning (Ateş, 2010; Turan, 2002; Demiralp, 2007; Özşahin, 2009; Meydan, 2001; Hill, 1994; Trigwell, 2006).

## 5. Recommendations

In the light of the results reached in this research, the following recommendations are proposed: We think that geographic consciousness is, in fact, about raising geographic awareness far beyond knowledge of the subject as a sign of sustainability in education. In this direction, we suggest creation of teaching settings by teachers whereby they can put theoretical information into practice besides transferring such information. Teachers, who are the origin of acquisition of geographic consciousness, can plan a tree hugger and sustainable education by means of various activities outside geography lesson (camping, sightseeing, observation-examination etc.). Again to pursue the goal of sustainability in education; seminars, conferences, etc. should be held to address to not only students studying that subject but also for all adults as a means of increasing geographic consciousness. Lastly, it would help provide learning by living in geography teaching to organize trips and enhance visuality with various materials to stimulate the mind.

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