PERCEPTIONS ON THE UNIVERSITY STUDENTS' ENVIRONMENTAL AWARENESS

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Abstract

Aim: The aim of this study is to determine the conceptual framework related to environmental awareness of university students.

Methods: The data of the study, the Environmental Information has been obtained by independent testing to associate the word applied to 63 students who took the course. The obtained data are classified by the researchers were collected in 4 categories according to their semantic relationships. Frequencies and percentages were calculated according to these categories.

Results: The categories examined, the frequency and percentage, environmental awareness, organizations concerned with the environment, combating climate change and environmental issues to be considered waste has come to the fore.

Results and Discussion: Environmental information is reflected in the results of the students have received the impact of the course. The phrases used to indicate that a high overall level of environmental awareness of students' cognitive point. There are partly expressed in the statement in which unrelated.

Key words: *environment, teacher candidate, awareness, perception*

1. INTRODUCTION

Environment is all the biological, geographical and social factors which affect a person directly or indirectly at a particular time, determines the individual's material and spiritual development and living conditions. (Cansaran & Yıldırım, 2014). According to the definition that ecologs are in agreement "environment is all the physical, chemical and biological processes which enable the development of life-forms and keep them constantly under the influence. According to sociologist "environment is a collection of factors which affect the state and the development of the human and originates from the human's surroundings" (Çepel, 2006). According to Cansaran & Yıldırım (2014), environment is today considered as a whole, consisting of natural, economic and cultural values. It is also considered as all the physical, chemical and social influences which affect the living and non-living things together with human and all the actions and behaviours of living beings.

In short, environment is a setting in which living beings lead their lives and have physical, chemical and biological features. The important environment for living beings is the natural environment in which they live. It is necessary that the structure and features of this natural environment should be taught, saved and maintained. And this is possible when the individual develops a positive attitude towards the environment. The changes in attitudes of individuals and creating environmental awareness are only possible with environmental education. With environmental education, people can be sensitized by creating awareness on environmental issues.

Environmental problems' being seen more on the global agenda, the attitude and awareness of the people who are the basic factors has become more questionable in the emergence of these problems. With understanding the importance of the development of consciousness and environmental awareness for the solution and reduction of environmental problems, the role of environmental education within the context of sustainability has gained importance (Oğuz et al. 2011). The basis of the environmental education is about protecting the nature and natural sources. Besides giving information, environmental education must also affect human behaviours. Getting people gain positive and lasting behaviour changes and ensure active participation of individuals in solving the problems is a primary

objective of environmental education (Şimşekli, 2004). Education for the environment, in short, is to educate the individual for the environment in which he will take place in the future. In this context the consequential objective of environmental education is to include the individual to the process of preparing the environment, in which he will take place in the future, meeting the needs of individuals and society with protecting the environment, showing the way to maintain the relationship with the environment by considering environmental strings and creating behavioural changes in this direction (Şengül, 2001). One of the main ways of protection from future dangers awaiting our world is to validate a sustainable environmental policy all over the world. However, such awareness is not only just enough at the governmental level but also environmental awareness should be created in the social and individual levels (Kutay & Şafaklı, 2013). In addition to his eco-friendly behaviours, individual with environmental awareness is the one who is not unbiased and insensitive to the deterioration of the environment, doesn't behave egoistically and doesn't convert his personal gains to his personal ambitions (Erten, 2004).

At this point while creating environmental awareness, Natural History Museums also serve like educational institutions. However, this function is not limited to only the children of school age, and they maintained their existence as institutions in which the life-long learning activities can be sustained.

The development of environmental awareness means the transformation of a technical language which belongs to a natural science or a related discipline to terms and ideas which can be understood easily by a person who is not a scientist (Minkova, 2002). The necessity of environmental education is undisputable for people's creating environmental conscious, acting it as behaviour and having information about the effects of his daily behaviours to the environment. Keeping our world and environment liveable and leaving it to the future generations is only possible with environmental education (Ünal et al. 2001).

Some methods and techniques can be applied to understand how students configure environmental awareness in their minds. One and most important of them is word association test. With the word association test, students' conceptual structures about environmental awareness can be demonstrated.

Word association test is one of the techniques used for determining the students' cognitive structures and the connections between the concepts of this structure in other words unrolling the information network and identifying if the relations between the concepts in long-term memories are enough or meaningful (Bahar & Özatlı, 2003). In this technique student gives the concepts as an answer brought to his mind by key-concept given for any subjects at a certain period of time. The response to any key concept from long-term memory of student is assumed that it reveals the connections between concepts in cognitive structure and shows semantic proximity. According to the semantic proximity or semantic distance influence, how closer two concepts in semantic memory to each other in terms of distance, more tightly related they are and during the recall, answers related to both concepts will be faster due to mental research's being faster (Bahar, et al. 1999).

2. OBJECTIVE OF THE RESEARCH

The objective of the study is to determine the perception of geography students about the key concept "Environmental awareness" and the appropriate conceptual framework about "Environmental awareness" in their minds. Additionally, the objective is to allow different definitions and explanations in accordance with the opinions students put up against the environmental problems and to is to determine what should be done to develop environmental awareness and environmental consciousness. An another objective of the study is to reveal the misconceptions of students about the concept of "Environmental awareness". With this aspect, this study has an original character.

3. MATERIAL AND METHOD

3.1. Research Model. In this study, qualitative research method and case study design were used. According to Islamoğlu (2009), qualitative research makes it possible to see the event with the perspective, eyes and senses of an individual. The most basic feature of qualitative case study is to research one or a few cases deeply. In other words, factors related to a condition (environment, individuals, events, processes etc.) are researched with a holistic approach and focused on how they affect the related situation and how they are affected by the related situation (Yıldırım and Şimşek, 2011)

3.2. Working Group. Working group consists of 4th and 5th grade students in the Geography Teaching Department of Ahmet Keleşoğlu Faculty of Education, in Necmettin Erbakan University in 2015-2016 academic year. 63 students who participated in the study took the geography field courses and they were selected voluntarily.

3.3. Data Collection. Free word association test was used in this research. The main purpose in using the word association test is to collect detailed information about cognitive structures of geography students on Environmental awareness.

Word association tests (WAT) is one of the oldest techniques used for analyzing the student's cognitive structure and connections between concepts in this structure, in other words used for analyzing the information network. In this technique student gives the concepts as an answer brought to his mind by key-concept given for any subjects at a certain period of time (Bahar & Özatlı, 2003).

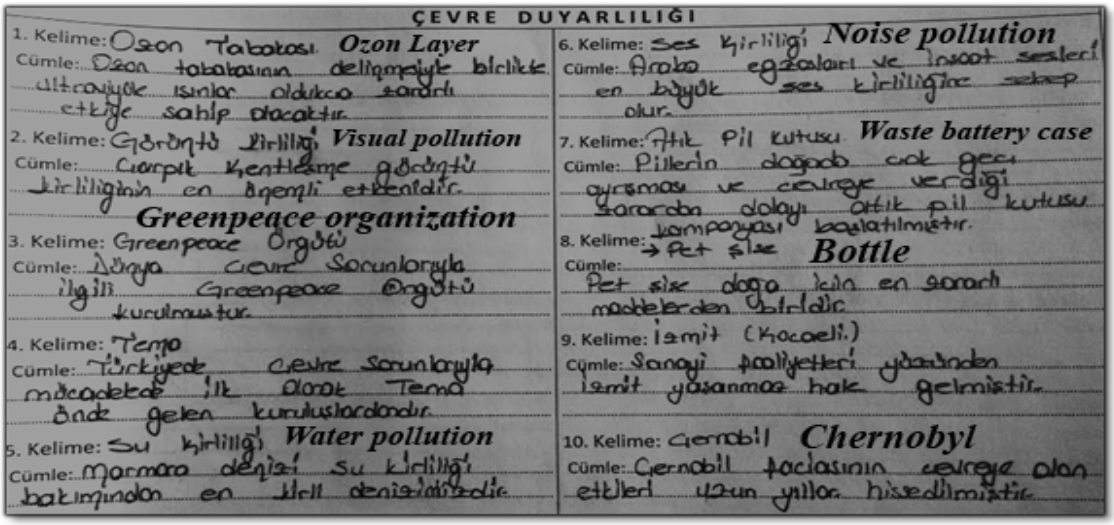


Figure 1. Environmental awareness sample statement

Participants in the free word association test must answer the concepts brought to mind by the cautionary word within a certain period of time. In this study, "Environmental awareness" as a key concept was given to geography students to complete the free word association test. Environmental awareness key concept test was presented to students in the following format. Key concept was written 10 times on a page and they were all under the other. A sample page layout about the key concept “environmental awareness” is given below.

Environmental awareness

Word ----------

Word ----------

Related sentence ----------

Writing the key word 10 times under the other is to ensure student's returning to key word again after writing each word. Bahar and Özatlı (2003) explained the reason of writing key concept 10 times under the other as preventing the risk of chain responses. Because if the students don't turn back to key concept after writing each concept, he will write the words that are brought to his mind by his own response not by key concept. And this will damage the purpose of the study.

Before applying the word association test, students were informed about WAT and 30 second-time which was adopted by Bahar & Özatlı (2003) was used.

Then in the implementation phase of the test, students were requested to write meaningful sentences between the key concept and words that connotes it. In the phase of data analysis, response words and sentences that were written for response words were analyzed one by one.

3.4. Data Analysis. While evaluating the response words given by geography students for the stimulus word of environmental awareness, content analysis method was used.

The main purpose of the content analysis is to reach the concepts and relations that can explain the collected data. Data that are summarized and interpreted in descriptive analysis, are exposed to a deeper process and concepts and themes that cannot be realized with descriptive approach can be explored as a result of this analysis. For this purpose, the collected data are needed to be conceptualized, then should be organized logically according to the concepts that emerged and themes that explain the data should be determined (Yıldırım & Şimşek, 2011). In light of this information, evaluating data related to the concepts of environmental awareness, the most frequently repeated response words were analyzed according to semantic relations techniques. All the answers given for the key concept of environmental awareness were examined in detail and a frequency table was created by calculating how many times they were repeated.

3.5. Validity and Reliability Study. Expert review was conducted to ensure the validity of the study (Yıldırım and Şimşek, 2011). In this process, researcher transmitted all the processes to the expert verbally and evaluated the collected data and conclusions with the expert. The reliability of the research was obtained by two researchers' comparing the codes and categories related to codes. Reliability of the data analysis performed in this way calculated by using the formula of; [Consensus / (Consensus + Dissensus) x 100] (Miles and Huberman, 1994). The average reliability was calculated as 90% between coders.

4. RESULTS AND COMMENTS

Categories were created by coding the data obtained with regard to stimulus word of environmental awareness and bringing the similar ones together. A total of 4 categories were created by using the data obtained from the free word association test. These categories were named, frequencies were calculated by bringing the associated ones together and response words in each category were presented in the table. A total of 547 response words were obtained and its distribution according to categories was presented in table in each category.

Table 1. Category of Environmental Awareness

Statements	**Frequency**	
Environmental protection	63	
Protection of natural life	56	
Green areas protection	29	
Combating climate change	23	
Renewable energy	23	
TEMA (Turkey Combating Soil Erosion, for Reforestation and the Protection of Natural Resources Foundation)	22	
Recycle	17	
Environmental organizations	12	
Ecology	10	
Retrenchment	8	
Modern storage	5	
Healthy lifestyle	2	
Regular urbanization	2	
Ministry of Environment and Urban Planning	2	
Traffic reduction	2	
Legal regulations	2	
Green crescent	1	
Hunting ban	1	
Gardens and parks	1	
Total expression and category **547**	**252**	**%46,0**

When the response words given to the concept of environmental awareness is evaluated, first category was named as "*category of environmental awareness*". The frequency of this category is 252. It is a dominant category and geography students response words such as; *protection of the environment and environmental awareness (63), nature and wildlife conservation (56), green space conservation and afforestation (29), the struggle against climate change (23), renewable energy (23), TEMA (22* and the frequencies of these response words are high (Table 1). The frequencies of the words such as *recycling (17), environmental organizations (12), ecology (10), saving (8), modern storage (5), healthy life (2)* are under 20 and they are very low. Data in this category show that geography students perceived the concepts about environmental awareness and configured it in their minds correctly.

Table 2. Category of the causes and consequences of environmental pollution

Statements	**Frequency**	
Environmental pollution	45	
Chemical waste	38	
Excessive use of natural resources	18	
Fossil fuels	16	
Erosion	14	
Reduction of live	7	
Crooked urbanization	6	
Insensitive individuals	6	
Concretisation	3	
Base stations	1	
Acid rains	1	
Total expression and category 547	**155**	**%28,3**

This category contains the response words related to "*the causes and consequences of environmental pollution"* (Table 2). The frequency of this category is 155 and it is a second dominant category. In this category, participants repeated such statements as; *environmental pollution (45), chemical, industrial etc. waste (38).* Although they used such statements less as; *excessive use of natural resources (18), fossil fuels and air pollution (16), erosion (14), the reduction of living beings (7), unplanned urbanization (6), insensitive individuals (6), cementation (3), base station (1) , acid rain (1),* it is seen that they used corrects expressions in their statements.

Table 3. Category of local and global environmental problems

Statements	**Frequency**	
Global warming	31	
Water pollution	20	
Noise pollution	18	
The destruction of green areas	18	
Nuclear power plant (Radiation)	13	
Visual pollution	12	
Soil pollution	6	
Dryness	4	
Thermal plants	2	
Total expression and category 547	**124**	**%22,6**

Third category contains the response words related to "*local and global environmental problems"* (Table3). The frequency of the answers that given by participants is 124. In this category the frequency of the words such as; *global warming (31), water pollution (20)* is above 20 and these words are the most frequently repeated words. The frequency of the words such as *noise pollution (18), the destruction of green areas (18), nuclear power station (radiation) (13), visual pollution (12), soil pollution (6), drought (4), thermal power station (2)* is lower. These results show that students configure the concepts related to the category of causes and consequences of the environmental pollution academically.

Table 4. Concepts related to the environment and environmental problems

Statements	**Frequency**	
Infrastructure problems	12	
Housing problem	1	
AVM (Shopping malls)	1	
Endemic plants	1	
Biome	1	
Total expression and category 547	**16**	**%2,9**

Fourth category is identified as *"concepts related to the environment and environmental problems"* (Table 4). The frequency of response words given by participants is 16 in this category. Students in this category focused on the response word of *"infrastructure problems and lack of infrastructure (12)".* The frequency of this category is low because of the repetition of some response words only once such as; *family (1), Mall (1), endemic plants (1), biome (1)*. But also the words in this category show that students made correct inferences.

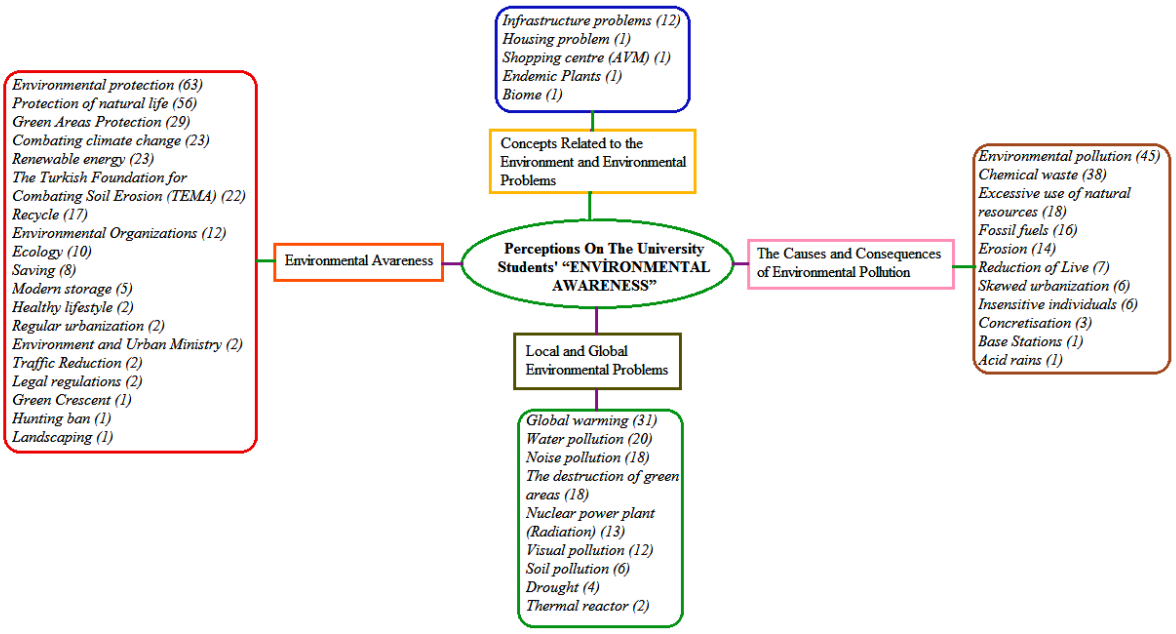


Figure 2. Cognitive Structures of Geography Teacher Candidates related to the concept of "Environmental awareness"

The model of the cognitive structure of geography students about the concept of environmental awareness was created by evaluating the data obtained in this study (Figure 2). Cognitive structures related to the concept of environmental awareness of geography students were collected under 4 categories as seen in the model prepared based on measurement tools used in this study. According to this result, categories derived from free word association test support each other and so a detailed view of the cognitive structure is emerged.

5. CONCLUSION AND DISCUSSION

Conceptual framework related to environmental awareness of geography students is particularly important in terms of their configuring concepts related to environmental problems. When response words related to environmental sensitivity of Geography students are evaluated, they generally express them with positive statements. In this study, 4 categories were created by evaluating the data. These categories are "category of environmental awareness", "causes and consequences of environmental pollution", "local and global environmental problems" and "concepts related to environment and environmental problems". Category of "Environmental Awareness" has the highest frequency of all the categories. The response words in these categories are *protection of the environment* with its 63 frequency and *wildlife conservation* with its 56 frequency. The lowest frequency is "*category of environment and environmental problems"*. When evaluating the results, it is seen that this study does not include any non-scientific expressions and misconceptions about the key concept of environmental awareness.

Words in all categories consist mostly of words that require academic knowledge. It can be said that students configure these words correctly, and so there are no misconceptions at the word level. As a result, at all levels of education, especially at higher education an importance should be given to the conceptual teaching and learning about environment, environmental issues, environmental awareness, environmental training. Thus, meaningful learning will be provided and there won't be misconceptions. Geography courses should be organized according to the concept teaching.

Aydın (2010), conducted a study named as **"***Geography Teacher Candidates' Views about Environment Problems and Environment Education (Gazi University Case)".* According to the results of the study, geography teacher candidates indicated that the most important environmental problem is excessive and unconscious use of natural resources, the most influential group is educators for the solution of problems related to the environment and environmental education should start to be given in the stages of pre-school. In addition, it was identified that social and academic awareness of geography teacher candidates reached a high level. Ateş & Karatepe (2013), conducted a study named as "*Analysis of University Students' Perceptions on Environment Concept with the Help of Metaphors*." According to the findings they obtained from the study, students used the metaphors such as; "environment as a needed presence", "environment as needed to be preserved and cared" and "environment as habitat". Based on these three categories which represent the %63 of total students, they concluded that university students took the need for the environment into account and needed to be more careful towards the environment. 22 students used the statement of "life" as a metaphor. This statement shows that the concept of environment cannot be thought independently from the life itself and the metaphors in the category of "environment shaped with what we do" refer to a responsible perception about the relation between human-environment.

The most positive attitude of university students towards the environment takes part in the category of "environment as a work", but the most negative attitudes take part in the category of "environment as a hopeless case". Some students expressed that environment is a masterpiece but some students make it metaphor by saying that it is an entity sentenced to be destroyed. And few students expressed that environment is i sign of development. In their study of "*Elementary Students' Attitudes Towards Environment"* Gökçe at al, (2007), dealt with the environmental attitudes of primary school students and applied attitude scale for this. Student attitudes were examined in terms of independent variables such as; gender, academic achievement level, father and mother's education level and income level of the family. According to the findings of the study, it was identified that attitudes of students towards

the environment differ according to the gender and academic achievement level while do not differ according to father and mother's educational level and income level of the family. Alım (2007) conducted a study named as "*The Knowledge And Attitudes Of Primary School Teaching Students Towards Environment (Sample of Atatürk University)"* In the research, knowledge level of Primary Teaching Department students who take or do not take the course of Environmental Education about the basic concepts related to environment and their attitudes towards environment were compared. According to the data of the research, obtained results are as follows. Third grade students receiving Environmental Education course about the basic concepts of the environment are more successful than the first year students not receiving it. It was observed that environmental attitudes of teacher candidates differ according to their gender but do not differ when they do not take the course of Environmental Education. In the study of "*Environmental Education and Primary Geography"* by Chambers (1999), environmental issues in elementary geography curriculum in the UK are discussed. Lots of studies mentioned and their contribution to eliminate the misperceptions indicated. As a result, the importance of popular media, well-trained teachers and well-structured books in environmental education was emphasized.

When the research results are evaluated together with the mentioned study, similarities in general terms draw attention. It is seen that there is no trouble in raising awareness of people about environment. But the most important problem here is that people cannot put into practice what they learn theoretically. The most important issue to focus on is to create awareness for practice. In this context, the continuation of both studies and the awareness-raising activities through mass media is needed to continue. About the environment and environmental awareness, there are a lot of studies conducted in both national and international level. The existence of so much work on the environment indicates the importance of the issue. Studies which were conducted and will be conducted about environment are crucial for a habitable environment in the future. Because creating a good environmental awareness is crucial for next generations' finding a more liveable world.

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