Secondary School Students' Metaphors about the *Geography* Concept

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Abstract

This research has been conducted to reveal the secondary school students' perceptions in relation with metaphors about the "geography" concept. A total of 110 students attending to secondary schools in Karabük city center joined the research within the 2009-2010 academic year. Following questions were searched to answer: 1-Which metaphors do secondary school students use to explain the perceptions about the "geography" concept? 2-Under which categories do these metaphors conducted in terms of their common features? The research data were obtained by students' completing the sentence "Geography is like ......because........". Phenomenology design was used in this research and the data were analyzed with the content analysis technique. According to the findings of the research, (a) secondary school students have created 44 different and acceptable metaphors related to the geography concept. (b)These metaphors were classified under 8 different conceptual categories after studied carefully with regard to common qualities. At the end of the research, it was understood that 34% of the secondary school students have a perception that geography is a way of expressing a place , 19% perceived that it is a way of expressing knowledge; 17% perceived geography as a way of expressing life, 9% perceived it as a way of expressing eternity, 8% had a perception that geography is a way of expressing value, 5% perceived it as a way of expressing change and development, 5% perceived it as a way of expressing guidance, and 3% perceived it as a way of expressing obligation. As a result, metaphors can be used as a strong research tool in understanding and explaining the perceptions of secondary school students towards geography.

Key Words

Geography, Metaphor, Geography Metaphors.

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A metaphor is defined differently by the researchers. As Morgan (1998, p. 14) explains "metaphors way of thinking and perceiving." Lakoff and Johnson (2005, p. 25) explains "it as a material to think." He explains it as not only a shape of understanding of human and a figure of words but also a figure of thought. Metaphors are regarded as very powerful mental tools in understanding and expressing an abstract, complicated, and theoretical fact which an individual can use (Saban, Koçbeker & Saban, 2006). "The concept of metaphor which has a close meaning with figure of speech can be defined as explaining by transferring unknown to the known or a word or a vision tool which works by transferring qualities from a reality level to another one" (Mutlu, 1998, p. 106). Metaphor is taken into consideration by individuals as a powerful mental mapping and modeling mechanism to understand their own life and also design it (Aydoğdu, 2008; Cerit, 2008; Çelikten, 2006; Girmen, 2007; Ocak & Gündüz, 2006; Öztürk, 2007; Saban 2004, 2008, 2009; Şahin, Çermik & Doğan, 2010; Töremen & Döş, 2009; Alger, 2009; Botha, 2009; Clarken, 1997; Forceville, 2002; Guerrero & Villamil, 2002; Inbar, 1996; Pishghadam, Torghabeh & Navari, 2009; Pishghadam & Navari, 2010; Shaw, Massengil & Mahlios, 2008). There have been quantitative, qualitative, and mixed design studies carried out about metaphors.

The Aim of the Research

The aim of this research is to reveal the perceptions of the secondary school students about the "geography" concept by using metaphors. Within the frame of this general aim, answers to the following questions were investigated.

1-Under which conceptual categories can the students' metaphors be classified when their common features are considered?

2-Under which conceptual categories can proposed metaphors about the "geography" concept by secondary school students be classified in terms of their common features?

Method

The Method of the Research

Among the qualitative research designs, "phenomenology design" was used in this research.

Research Group

110 students attending 10th grade in two secondary schools in Karabük city center joined the study in the 2009-2010 academic year. 69 out of 110 students were girls and 41 students were boys. It is seen that 62.8 % of the students are girls, 37.2 % of the students are boys.

Procedure

In order to reveal the perception of the students about the concept of "geography", students are asked to complete "Geography is like.....; because.................". An blank paper on which was written "Geography is like.....; because................." was given to the students. Students are asked to write their thoughts by focusing on just one metaphor.

Analysis

The data were analyzed with the content analysis technique. The main target in content analysis is to reach to the concepts and relations that will explain the collected data. The interpreted and outlined data within descriptive analysis was taken deeply in content analysis and with this way new themes and concepts that could not be found by descriptive analysis can be discovered throughout this process. The main process in content analysis is to bring the similar data together within some certain concepts and themes and to organize and interpret them so that reader can understand them (Yıldırım & Şimşek, 2006; Çepni, 2007).

The metaphors developed by the students were analyzed and interpreted in five levels. These stages are: (a) The stage of labeling, (b) Classification stage, (c) Category development stage, (d) Validity and reliability stage (e) Transferring datum to the computer

The Stage of Labeling: In this level, a temporary list of metaphors produced by the students taking part in the study was prepared according to alphabetical order. It was figured that metaphors were used noticeably by the students. All the metaphors written were coded (for example: life, world, earth). The papers on which no metaphors were written were marked.

Classification Stage: Every metaphor was divided into parts by using metaphor analysis and content analysis techniques at this level. They

were analyzed to find similarities or common features with other metaphors. For this target metaphors written by students were read one by one and every metaphor.

(a) The topic of metaphor, (b) The source of the metaphor (c) The connection between the topic of the metaphor and the source of the metaphor were analyzed.

In this study, because of the fact that three papers did not contain any metaphors, one paper was left blank, and the relation between the subject and the source of the metaphor in six papers was incompatible, a total of 10 papers were excluded. After participants' papers containing weak structured metaphors being extracted, 44 available mental symbols were obtained.

Category Development Stage: At this stage, metaphors produced by the participants were analyzed in terms of common characteristics that they had relations with the *geography* concept. During this process, It was examined how all metaphors conceptualized considering "metaphor list" which was especially created 44 of them. For this purpose; 8 different conceptual categories were created in relation with a particular theme according to any metaphors produced by participants' perspectives on "geography".

Validity and Reliability of the Supply Stage: Validity and reliability are the most important criteria to ensure the assurance. To ensure the reliability of the study, an expert opinion has been applied to confirm whether metaphors under 8 conceptual categories represent in question to any conceptual category or not. To achieve these objectives, the experts were given the two lists.

a)   The list that has 44 samples of metaphors in an alphabetical order. The list containing the names and features of 8 conceptual categories.

Using both lists, an expert was asked to match the sample metaphor in the first list with 8 conceptual categories in the second list (without leaving out any metaphor). Then, the categories made by the expert were compared with the ones made by the researcher. In the comparisons, the reliability of the research was calculated to determine the number of consensus and differences of opinion using Miles and Huberman (1994)'s formula (Reliability =Consensus/ Consensus+ dissidence). In qualitative studies, the desirable level of quality is provided in any cases

where the compliance between the experts and researchers is over 90 % (Saban, et al., 2006; Saban, 2009). In reliability work which is specific to this research, a consensus 92 % is provided. Within the context of reliability, an expert referred to his opinion associated 4 mental symbols (color, mirror, lens, and light) placing them into a different category made by the researcher. In this case, reliability was calculated as *44 / (44+4)=0.92*

Data Transfer to Computer Stage: All data were transferred to a computer after designating total 44 metaphors and the development of 8 conceptual categories formed by metaphors. After this process, the number of participants representing 44 symbols and 8 categories were calculated.

Results

In this section, findings regarding the metaphors about *geography* developed by the secondary school students who participated in investigation were analyzed and interpreted in sub headings in accordance with research questions.

Which Metaphors were used to Explain the *Geography* Concept of the Secondary School Students' Perceptions?

Secondary school students produced 44 valid metaphors that belong to "geography" concept. 30 of the 44 valid mental images were produced by only one student. These are; a *tree, key, mirror, cloud, pine tree, plane tree, flower, sea, guide of nature, representative of nature, equation of the world, heart of the world, bread, source of news, map, piece of life, light, home of people, organs of human, lens, Archangel, oxygen, color, dictionary, water, holiday map, soil, base of our country, life and jigsaw puzzle.* The rest of the metaphors are between 2 and 14. The most preferred images for the *geography* concept chosen by the students are *world (f=14), earth (f=10), nature (f=8), science (f=8) and life (f=8). Out of these, lesson (f=5), universe (f=3), the key of universe, necessity, climate, human beings, ocean, earth science (f=2)* metaphors were chosen. As seen a lot of different metaphors were used by the secondary school students for the "geography" concept.

Under which Conceptual Categories can Proposed Metaphors about "Geography" Concept by Secondary School Students be Classified in terms of their Common Features?

The metaphors that the secondary school students produced for the "geography" concept were classified into 8 categories.

Conceptual Categories

Category 1: Geography as an Expression of Infinity: In this category, the students emphasized that geography is a science that examines lands. This category consists of 6 metaphors and 9 students. In this category, when considering the frequency distribution of metaphors, the most commonly used are, in turn, the universe (3), ocean (2), clouds (1), color (1) located.

Category 2: Geography as an Expression of Knowledge: In this category, the students emphasized that geography is a science and it has unique themes. This category includes 7 metaphors and 19 students (19 %). In this category, when considering the frequency distribution of metaphors, the most commonly used are, in turn, science (8), tuition(5), earth sciences (2),mirror (1), lens (1), Mikhail Angel (1), news sources (1) located.

Category 3: Geography as an Expression of Location: In this category, the students emphasized geography in terms of life. This category includes 5 metaphors and 34 students (34%). In this category, when considering the frequency distribution of metaphors, the most commonly used are, in turn, earth (14), nature (8), man's house (1) and soil (1) located.

Category 4: Geography as an Expression of Change: In this category, the students emphasized the wide range of geography themes. This category includes 5 metaphors and 5 students (5%). In this category, when considering the frequency distribution of metaphors, the most commonly used are, in turn, tree (1), flowers (1), plane tree (1) pine tree (1) and puzzle (1) located.

Category 5: Geography as an Expression of Life: In this category, the students emphasized the importance of our world and our environment. This category includes 6 metaphors and 17 students (17%). In this category, when considering the frequency distribution of metaphors, the most commonly used are, in turn, life (8) climate (2), human (2), needs (2) requirements (2) and life (1) located.

Category 6: Geography as an Expression of Value: In this category, the students emphasized the changing and improving dimensions of geography. This category includes 7 mental images and 8 students (8%). In this category, when considering the frequency distribution of mental images, the most commonly used are, in turn, the key to the universe (2), the world's heart (1), the world's equation (1), pine tree (1), representative of nature (1), human organs (1), part of life (1) and the foundation of our country (1) located.

Category 7: Geography as an Expression of Guide: This category includes 5 metaphors and 5 students (5%). In this category, when considering the frequency distribution of metaphors each of which was expressed by one student, the most commonly used are, in turn, dictionary (1), map (1), nature guide (1), vacation map (1), key (1) located.

Category 8: Geography as an Expression of Necessity: In this category, the students emphasized that geography is indispensible for life. This category includes 3 metaphors and 3 students (3%). In this category, when considering the frequency distribution of metaphors each of which was expressed by one student, the most commonly used are, in turn, bread (1), map (1), oxygen (1) and water (1) located.

Discussion

This study has been prepared to discover the metaphors relating to *the geography concept* that the secondary school students have and cluster these metaphors under certain categories. The findings of this research draw attention to several important points.

First, a large number of metaphors are needed in order to explain the concept of *geography* as a whole. In this study, geography stated as "the world", "life", "life", "human" or "earth", it has been stated as "lens", "light", "bread" and "Archangel". This shows that it is not possible to explain the concept of *geography* with only one metaphor as a whole. A similar study was applied on students in science, social studies, and classroom teaching by Ozturk. Teacher candidates were identified to have metaphors relating to *the geography concept*. As a result of the study where 357 students participated, 106 current metaphors and 12 conceptual categories were determined *which meant that the geography concept* cannot be expressed in a single mental image.

Second, specific to this research, after the examination of metaphors about the concept of *geography* among secondary school students, the most preferred metaphors can be seen as; the world (f=14), earth (f=10), nature (f=8), science (f=8), and life (f=8). This suggests that students perceive geography as a scientific description explaining nature and the world.

Third, many factors can be effective about the reason why study group students perceive geography in different ways and they do not have sufficient knowledge about the g*eography* concept. Teacher qualifications, instructional programs, textbooks, social environment, the student's interest level, and visual and written media are some of these factors.

As a result, these research findings provide that metaphors can be used as powerful research tools in understanding, explaining, and revealing the perceptions about the geography fact that students have. In educational studies, metaphors can be used to explain the meaning of the words assisting to determine what most important issues are. Educators who think what they do when they teach can develop their thoughts, image and applications using metaphors. Teachers who want effective education can develop and change their classroom activities through metaphors to explain their own roles and responsibilities.

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