

The Analysis of Secondary Education Students' Perceptions Towards "The World" Concept

Hüseyin Kaya

Department of Geography, Faculty of Science and Arts,
Karabük University, 78050, Karabük, Turkey

Abstract: This study was carried out to put forth secondary education students' metaphors towards "the world" concept. The study group of the research are 120 students attending to Prof. Dr. Mümtaz Turhan Social Sciences High School in 2009-2010 Academic year. The data of the research were gathered by completing "The world is like..... Because" statement. The analysis and interpretation of the data were gathered using qualitative research method. According to the findings of the research, secondary education students produced 49 valid metaphors towards "the world" concept. The metaphors mentioned were classified into 7 conceptual categories; the world as the expression of shape, ways of using, temporariness, perfection, complexity, sensitivity and beauty, in terms of their common features. According to the findings of the research, students produced the metaphors that emphasize the importance of "the world" concept. Especially the ways of using our world were emphasized with the related metaphors. In the conclusion part it was emphasized that metaphors are useful in finding out the significant points and dimensions in teaching key terms and concepts in geography. Metaphors and such applications should be carried out to different student groups, teachers, teacher candidates and parents to determine a path in teaching.

Key words: Metaphor • The world • Geography • Secondary education • Conceptual categories

INTRODUCTION

Education has been formed according to new improvements and understandings through the changes in every field in the 21st century. Changes in the school types and systems, school management and organization, new approaches in teachers and students' roles, school curriculum, teaching and learning environment and technologies in teaching are the significant constituents that have been restructured. Along with this process new teaching methods, techniques and strategies have been practised. Making use of metaphors is one of the new approaches in education. When recent studies about education were examined, metaphors cover a significant place. The use of metaphors are being encouraged by the related researchers. Some of the definitions of Metaphors are as follow: Metaphor is defined by Lakoff and Johnson [1] as understanding one conceptual domain (the target domain) in terms of another conceptual domain (the source domain) which leads to the identification of a

conceptual metaphor. Metaphor is a way of thinking and seeing [2]. Metaphor is a powerful mental tool in order to be used in a person's understanding and explaining a high level abstract, complex and theoretical phenomenon [3]. Metaphor is not only a thinking tool, a way of grasping things and a verbal figure but also a figure of thinking as well [4]. Main functions of metaphors are getting, interpreting, transferring and the benefit from overcoming ambiguity of the metaphors [5].

The classical Aristotelian approach defined metaphor as a literary device; an expressive or poetic departure from literal, concrete, everyday language to define one thing as though it were something else. This approach had been influential until the mid-twentieth century. [6] Black criticized both Aristotle's notion of metaphor as an ornamental use of language and the assumption that metaphor involves the mere substitution of one term for another. Lakoff and Johnson [1] proposed that metaphors are primarily a phenomenon of thought, not only language. Whilst definitions of metaphor remain

unresolved, the function of metaphor is clear: metaphor enables us to comprehend partially understood concepts in terms of ones that are better understood [7, 8]. Metaphors give opportunities for comparing two things, drawing attention to the similarities between two things and to explain one thing in terms of another. In any metaphoric relation three main factors should exist. They are: the subject of the metaphor, the source of the metaphor and the features of references from the source of metaphors [9].

Recently “metaphors” that drew attention of educators have become the subject of both national and international studies. Inbar [10], Alger [11], Shaw, Barry and Mahlios [12], Forceville [13], Saban, Koşbeker and Saban [3], Töremen and Döş [14], Girmen [15], Aydoğdu [16], Öztürk [17], Cerit [18], Kaya, *et al.* [19] did some of the related researches. The researches put forth how the concepts or phenomena as “teacher”, “student”, “knowledge”, “director”, “inspector” or “culture” were expressed using metaphors in general.

Below are some of the studies that were done recently.

In Aydın’s [20], study, “geography” concept was examined through 110 students at secondary education in Karabük, Turkey. The participants were asked to put forward metaphors towards “geography” concept. According to the findings of the research, students produced 44 valid metaphors and they were categorized under eight conceptual categories. As the result of the study Aydın stated that secondary education students perceived geography as the expression of place 34%, 19% as the expression of knowledge, 17% as the expression of life, 9% as the expression of eternity, 8% as the expression of value, 5% as the expression of change and development, 3% as obligation. Aydın concluded that metaphors can be used as a strong device in understanding and explaining the perceptions of secondary education students towards geography concept.

Another study of metaphors through geography education was put forth by Coşkun [21]. In his study Coşkun researched “climate” concept regarding gender variable. He applied his study over high school students in Turkey with 108 participants. The metaphors produced by the students were discriminated according to gender variable so as the categories. In the study, Coşkun pointed out that schoolboys produced more metaphors than schoolgirls. As the conclusion of the study he stated that schoolboys perceive the climate concept as a wide and abstract concept.

The aim of this study is to put forth secondary education students’ perceptions towards “the world” concept through metaphors. In regard with this general purpose, the following questions were investigated:

- Which metaphors were used to explain secondary education students’ perceptions about “the world” concept?
- Which categories can be classified with secondary education students’ metaphors towards “the world” concept according to their common features?

MATERIALS AND METHODS

In this study, the qualitative research method with “phenomenological scientific design” has been used. *Phenomenological Design* emphasizes the phenomena that we know but we do not have deep and detailed knowledge about. Phenomenological design forms a suitable study ground for having researches on the phenomena which are not so distant for us and the ones that we could not grasp their meanings exactly [22].

Study Group: The study group of the research consisted of 120 students attending to Prof. Dr. Mümtaz Turhan Social Sciences High School in 2009-2010 Academic year. The distribution of frequency and percentage of the students according to gender was shown in Table 1.

As seen in table 1, 51 (%42,5) of the students are females, 69 (%57,5) are males of the 120 high school students in the research.

Data Gathering Phase: To determine the perception of high school students’ “the world” concept, the statement: “The world is like, because” was given and students were asked to complete this statement based on their opinions. Saban [23] stated that metaphors were taken as a working tool, the term “like” is generally used to associate the relation between “the subject of the metaphor” and “the source of the metaphor” clearly. He also stated that the word “because” used for the participants’ grounds for their own mental images.

Table 1: The distribution of frequency and percentage of the students according to gender

Gender	Frequency (f)	Percentage (%)
Female	51	42.5
Male	69	57.5
Total	120	100.0

Students' statements about the related theme in the form were the main sources of the research. Students were given nearly 20 minutes to write their thoughts about "the world" concept.

The Analysis of the Data: To analyse the data, "content analysis" technique was used in the study. The summarized and interpreted datum in descriptive analysis technique was investigated in details and the concepts and themes that cannot be realized in the descriptive analysis found out after this analysis. The process in the base of content analysis was put together the data which resembled each other in the framework of certain concepts and themes and to organize and evaluate them in a way that they can be understandable by the reader [24].

The analysis and the evaluation of the metaphors that students produced, took place in five phases; *coding and clearing up, collecting the metaphor samples, category development, ensuring validity and reliance, loading the data into computer.*

At first, a temporary list of the metaphors produced by the students was formed. According to the purpose of the research, the clarity of the students' expressions were checked and the metaphors in the students' sheets were coded. The papers in which any metaphors were not written were marked. Then the metaphors written by the students were revised again and analyzed in terms of the subject of the metaphor, the source of the metaphor and the relation between the subject of the metaphor and the source of the metaphor. In the study, due to having no metaphors in 4 sheets were eliminated for having no metaphors, 3 completely empty sheets and 3 irrelevant statements or terms, a total of 10 papers were left out of the research.

Students' metaphors were examined in terms of their common features towards "the world" concept, regarding the metaphor list of 49 metaphors. It was examined how every metaphor conceptualize "the world" concept. In order to do this, totally 7 conceptual categories relating each metaphor with a particular theme according to "the world" concept were determined.

To ensure the reliability of the research some experts were consulted whether the metaphors in the seven conceptual categories represent the related category or not. In the comparison, agreeing and disagreeing numbers were determined and the reliability of the research assessed using Miles and Huberman's [25] formula (Reliability= agreement/agreement + disagreement).

In qualitative studies, If the harmony between the evaluation of the expert and the researcher is at or over%90, it is accepted as reliable at an accepted level. [3] %94 reliability level was reached accordingly. The consulted experts agreed with the categories and the related metaphors except 3 metaphors placed in different categories. Thus, Reliability was: $49/52(49+3):0.94$. After determining the 49 metaphors in total and after developing 7 conceptual categories, all the data were loaded to computer. After this stage the number of participants (f) and their percentage (%) reflecting metaphors and categories were calculated.

RESULTS AND DISCUSSION

In this section, Prof. Dr. Mümtaz Turhan Social Sciences High School students' valid metaphors towards "the world" concept were indicated as in the form of tables and sub themes were interpreted after the analysis process according to the research questions.

Through Which Metaphors Do High School Students Put Forth Their Perceptions about "The World" Concept?: 49 valid metaphors were produced by secondary education students towards "the world" concept. 28 of the 49 metaphors were formed by one student. The rest of the students are between 2 to 9. As seen students used so many metaphors about "the world" concept.

Table 2 below points out the metaphors that were developed by the students, their frequencies and percentages.

Taking the Common Features of Metaphors into Consideration Formed by High School Students, under Which Categories Can These Metaphors Be Classified?: The metaphors by the students towards "the world" concept categorized in 7 categories. These categories are as follow;

- *The world* as the expression of ways of using,
- *The world* as the expression of shape,
- *The world* as the expression of temporariness
- *The world* as the expression of complexity,
- *The world* as the expression of beauty
- *The world* as the expression of perfection,
- *The world* as the expression of sensitivity.

Table 2: Secondary students' valid metaphors towards "the world" concept, their frequencies and percentages.

Order of Metaphors	Name of the Metaphor	Frequency (f)	Percentage (%)
1	ball	9	8.57
2	orange	8	7.61
3	man	7	6.66
4	life	6	5.71
5	park	5	4.76
6	globe	5	4.76
7	train	4	3.80
8	music keys	4	3.80
9	home	4	3.80
10	apple	3	2.85
11	body	2	1.90
12	girl	2	1.90
13	magic box	2	1.90
14	child	2	1.90
15	baby	2	1.90
16	candle light	2	1.90
17	tree	2	1.90
18	picture	2	1.90
19	vehicle	2	1.90
20	water	2	1.90
21	computer programme	2	1.90
22	film	1	0.95
23	puzzle	1	0.95
24	book	1	0.95
25	love	1	0.95
26	work of art	1	0.95
27	boat	1	0.95
28	maths problem	1	0.95
29	painting	1	0.95
30	desert	1	0.95
31	war area	1	0.95
32	mosaic	1	0.95
33	rubbish	1	0.95
34	dream	1	0.95
35	guesthouse	1	0.95
36	brain	1	0.95
37	toy	1	0.95
38	unknown question	1	0.95
39	forest	1	0.95
40	flower	1	0.95
41	computer	1	0.95
42	song	1	0.95
43	sculpture	1	0.95
44	chocolate	1	0.95
45	electronic device	1	0.95
46	clock	1	0.95
47	youth	1	0.95
48	kitten	1	0.95
49	cell	1	0.95
	Total	105 (f)	100(%)

The categories of metaphors about "the world" were indicated below on table 3.

Conceptual Categories

Category 1: The world as the expression of *ways of using*: When table 3 is examined there are 14 metaphors produced by 29 students. Below are some statements of some students in this category.

"The world is like a park. Because, if you use the park badly it gets harmed so as the world."

"The world is like water. Because if you use it so much it might get consumed as the water resources."

"The world is like life.. Because we should use carefully both our bodies and our world.

Category 2: *The world* as the expression of *shape*: Students focused on the shape of the world. in this category, they used metaphors resembling the shape of earth. As seen in table 3 is examined, this category consists of 5 metaphors by 26 students. some statements are given about the shape of the world below.

"The world is like a ball because it has a circular shape."

"The world is like an orange because its surface reminds me the rough surface of the world.

"The world is like a cell. Because the cell is the essence of human beings as the world is the essence of the universe. "

Category 3: "The world" as the expression of *temporariness*: this category is the most accepted one by the students. In this category students focused on the temporariness of the world. 15 Students produced 10 metaphors in this category. Below are some statements in this category.

"The world is like a film. Because films start and finish after a while. The world is living now and it will finish after a while."

"The world is like a dream. Because the world is experienced in a very short time."

"The world is like a clock. Because the clock runs quickly so as the world is completing its time."

Category 4: The world as the expression of *complexity*: Some students focused on the complex dimensions of the world. In this category 6 metaphors were produced by 14 students. Below are some statements of some students in this category.

"The world is like a puzzle. Because there are a lot of rules in the world waiting to be explored."

Table 3: The categories of metaphors by the students about “the world” concept

Categories	Metaphors	Total Frequency of Metaphors	Number of Metaphors
Environment as the expression of ways of using	Park (5), body(2), vehicle (2), water (2), rubbish (1),brain (1), desert (1), toy (1), forest (1), electronic device (1), life (6), home(4), book (1), war area (1),	29	14
<i>The world</i> as the expression of shape	Ball (9),Orange (8),Globe (5), Apple (3),cell (1),	26	5
<i>The world</i> as the expression of Temporariness	film (1),dream (1), guesthouse (1), chocolate (1), youth(1), clock (1), tree (2), train(4), candle light (2), boat (1)	15	10
<i>The world</i> as the expression of complexity	Puzzle (1), maths problem (1), unknown question (1), man(7), magic box (2), mosaic (1)	14	6
<i>The world</i> as the expression of beauty	Painting(1), Flower (1), music keys (4),song (1), a girl (1)	8	5
<i>The world</i> as the expression of perfection	Picture (2), computer programme (2), work of art (1), computer (1), sculpture (1)	7	5
Environment as the expression of sensitivity	Baby (2), love (1), child (2), kitten(1)	6	4
Total	105	49	

“The world is like an unknown question because there have still been a number of secrets to be revealed.”
 “The world is like a man. Because the world is as complex as the man is.”

Category 5: *The world* as the expression of *beauty*: When table 3 is examined this category consists of 4 metaphors by 4 students. The students of this category focus on the beauty dimension of the world. Below are some examples of some students in this category.

“*The world* is like a painting. Because it is so beautiful.”

“*The world* is like a flower. Because the world is as beautiful as the flowers.”

“*The world* is like a song. Because you feel happy when you listen to a song as well as you feel happy when you are living in the world.”

Category 6: The world as the expression of *perfection*: In this category students focused on the perfection of the world. Some statements were given about this category as examples;

“The world is like a picture. Because It is like a wonderful picture.”

“The world is like a computer programme. Because it works without any mistakes like a wonderful computer programme.”

“The world is like a work of art. Because a work of art is the reflection of the finest feelings as the world is the reflection of a unique art.”

Category 7: Environment as the expression of *sensitivity*: According to table 3, in this category there are 4 metaphors by 6 students. Below are some statements as examples:

“The world is like a baby. Because it needs care and compassion as the babies.”

“The world is like a child. Because you should love and care the a child. The world also needs those.”

“The world is like a kitten. Because People should care so much.”

Based on the research results, some conclusions were reached.

Students produced lots of metaphors towards “The world” concept and it was necessary to explain this concept by so many metaphors. The research students produced totally 49 metaphors towards “the world” concept. Students especially focused on the consumable dimension of the world. As people use our world without any future worries. Students produced the majority of the metaphors about this aspect of *the world* concept. Some of them were as; “vehicle, electronic device, toy, forest, etc. Similar studies show that a lot of metaphors needed to be defined and understand a concept.

It is necessary to use a number of metaphors to explain and completely understand a concept. As Hanson states [26], metaphors are strong devices in taking interest, activating dreaming ability and to produce new understandings. And as Marzano [27] states learning through metaphors encourages students understanding and learning new things deeply and easily. This process also helps students to establish relations among known things and unknown things.

When secondary education students' perceptions towards "the world" concept the category that contain the most metaphors and frequencies is "The world as the expression of ways of using" This indicates that students emphasize the damage given to the world and its resources. In conclusion, according to the findings of this research students at secondary education perceive "the world" concept in seven different aspects as the expression of: ways of using, complexity, sensitivity, perfection, temporariness, beauty and shape. Students produced a number of metaphors in a wide range towards "the world" concept also indicate that they give importance and care the world so much. Especially the metaphors in *ways of using*, *perfection* and *beauty* categories should take our attention and lead a way to protect our world.

According to the results of the research The following suggestions were offered. As "the world" concept is very significant in geography, teachers should be careful in teaching this concept and its subtitles. Taking the metaphors mentioned in the study in consideration, a new frame and understanding of "the world" concept may be emphasized. Geography course books, the curriculum and the content of the lessons about the world concept should be rearranged according to the aspects that were put forth in relation with the metaphors accordingly.

Metaphors can also be used in teaching similar important, complex or abstract concepts. So, similar studies can be carried out to find accurate metaphors to determine a route to teach these things in the most appropriate way.

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