Using “Metaphor” Technique in Life Sciences Course

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SYNOPSIS

INTRODUCTION

As the foreign literature in relation to metaphors is researched, it is seen that the studies on this topic go back quite a long way. The studies intensify in the disciplines such as physical sciences and foreign language education. It is generally possible to find the studies aiming at revealing the information and the ideas concerning any concept or a phenomenon. Through their study, Charmé and Horowitz, (2008) investigated the images that come to mind towards the concepts like “Judaism and Jewish identity”. In the study by Shaw, Barry and Mahlios (2008) the opinions of the teachers having been educated in different majors towards “teaching profession” were classified and were compared/contrasted according to different levels and majors. The study by Yang and et al. (2009) mentioned about the fact that the neuron cells of the brain heeded the connotations while reacting to the stimulus; and discussed the role of right and left lobes in this process. Sznajder’s study (2010) can be given as a sample for the researches in which metaphor is used as success improvement technique. The researcher investigated the metaphors included in the English course books and their contribution to language teaching.

The studies concerning metaphors in our literature (Balcı, 1999; Saban, 2004; Saban, Koçbeker & Saban, 2006; Beşkardeş, Günüy, 2007; Girmen, 2007; Cerit, 2008; Aydoğan, 2008; Çınar, 2009; Saban, 2009; Aydın, 2010) were conducted for the first time in 2000’s. Generally, in these studies the notions possessed about phenomenon and concepts were analyzed. They remained limited with certain aims and disciplines. In this study, the metaphors were analyzed within the scope of Social Sciences lesson, since this course is
thought to be suitable to get students of concrete operational stage (6-11) to comprehend the concepts that are necessary in all realms of life. However it is quite difficult for these students to perceive the abstract concepts. Metaphor technique is considered to be useful for the students of that age group because a concept is associated with a well-known one. As the the literature researched it was discovered that there had not been any study about the use of metaphors in the Social Sciences course.

**PURPOSE OF THE STUDY**

The aim of this research is to put forward the perceptions of the primary school students towards the “organs” mentioned in the gains of the Social Sciences course as “Being able to establish relations between the functions of organs and the healthy life” by means of metaphors. When the literature in our country is examined, it is seen that the metaphor technique is used in limited disciplines with quite limited targets. For this purpose, in this study, the metaphors were implemented within the context of Social Sciences Course.

**METHODOLOGY**

In the research, action research was employed. The target group of the study consisted of primary school students in Irmak Village of Pazar, Rize, in 2009-2010 academic year. In the research, students were asked to assimilate some organs to some objects, and explain why they did this kind of assimilation (For example, heart is similar to …… Because ,……). Also, each student was given a blank paper to draw the picture of their assimilation and then write down why they assimilated. The metaphors students developed and the drawings of the metaphors composed the basic data source of the research. In the data analysis of the research, the descriptive analysis techniques were implemented.

**FINDINGS**

The majority (40%) of metaphors that students used for heart was composed of shapes. Apple, pillow and quilt took part in this group. Then, the manner (30%) and function (30%) of heart were subjected to metaphors. As the manner mallet, hammer and clock metaphors and as the function pump and sponge metaphors were mostly used. While 54% of students’ metaphors related to stomach were stated in terms of function of stomach, 46% of the metaphors were stated in terms of shapes. The metaphors used in terms of function were mostly knife, grater, and spoon; in terms of shapes balloon and pillow metaphors were found. Whereas 46% of the metaphors that the students composed about kidney were stated in terms of its function, 54% of them were related to the shape. The metaphor that was used for function was sponge, and for shape was bean. The metaphors for lungs were studied in three groups. These were in terms of function 67% cloud and balloon, in terms of importance 17% air and in terms of shape 3% pillow. Students made metaphor in two categories for small intestine. In terms of function the strainer metaphor attracts with attention 43% while in terms of shape 40% was rope, pencil, water and pipe metaphors. 60% of metaphors about large intestine were related to the shape; rubber, cloud, wood, thick pipe and road; 27% of metaphors were in terms of function; garbage truck, broom and slide. Some metaphors used in examined papers were seen to be meaningless.

**RESULTS and DISCUSSION**

When the findings of the study were generally studied, it was seen that metaphors were effective in discovering true/ false/ missing information as well as images in students’ minds.
In metaphors that were given for heart, it was seen that the majority of students associated the heart with things in terms of shape. When the majority of the metaphors were looked through, it was seen that more than the function of heart, its shape was taken into account in assimilations. The students especially attributed heart to pillow and apple which is a common case among most of people. It shows that the metaphor is built on misinformation. This mistake causes confusion in the mind of students about the shape of heart. The splitting and digestion process of stomach was resembled to cutting of a knife. The chemical digestion of food was associated with a physical dismantlement in students’ mind and qualified with expressions as “knife, grater and spoon”. Although these metaphors done by students don’t actually meet the splitting and grinding function of stomach, it is seen as a suitable metaphor for the level of students and the concrete process period they are in. The kidney was subjected to metaphors mostly in terms of its function, and it was mostly assimilated to a strainer. In terms of information content, it is a suitable metaphor. Most of the metaphors for lungs were shaped for their functions. It was observed that the students assimilated lungs to, probably because of its color, a cloud and built the metaphors based on wrong information. The white color that is colloquially accepted as a symbol of cleanliness was also accepted by students. They assimilated white things to lung in terms of its cleanliness. However, the main task of lung is not cleaning air or something else but injecting oxygen to blood and excluding carbondioxide from blood. In the metaphors for small and large intestine, most of the students made assimilations appropriate to the meaning of the names. When the flow of the food through small intestine is considered, the assimilation of small intestine to pipe is a suitable metaphor for target group being studied on. It is seen that the task of small intestine which is supposed to do cleaning by excluding unavailing food was fully or partially misunderstood. In the metaphors for large intestine, students made metaphors considering its name. The assimilation of large intestine to a thick pipe is the most evident feature, and stating its difference from small intestine is suitable to their level, but insufficient assimilation. Besides shape and thickness features of large intestine, the features such as its task, action and position can also be included.

RECOMMENDATIONS

As a result of the study, it was seen that the objects that were used in the students’ metaphors bore substantial traces of the settings they live in. For example, rain, sea, black cabbage, weapon, tree, cloud, etc. are normal when the definition of metaphor is considered. Some suggestions can be made by looking at the findings of this study.

The students’ metaphors must be utilized in recognizing misperceptions or insufficient knowledge of students and correcting them. The functions, position and importance of the organs associated with metaphors only in terms of shape must be also emphasized in the course of lesson. The drawings in the course books must be paid a great attention with respect to the quantity and quality. The study constitutes a model for any other study based on metaphor technique and may have a qualification of being a resource for it. The execution of a similar study in different discipline, at different levels and with the sampling of different personal characteristics can be recommended.

Teacher must be encouraged to know and apply the metaphor technique. The perceptions of teacher or student teachers can be determined, compared and contrasted. It can also be done with different disciplines by taking different variables into account.
REFERENCES


