Turkish Language and History Candidate Teachers' Use of Metaphors[*] in Their Perception of a Computer

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Suggested Citation:

Abstract

Purpose of Study: The purpose of this paper is to describe Turkish Language and History Candidate teachers' use of metaphors in their perception of a computer and to explore the meanings attached to this concept, as well as to collect data related to the nature of a computer.

Problem Statement: According to literature review, in Turkey and North Cyprus, teachers' positive attitude towards computer and computer-assisted teaching indicates teachers cannot use but want to use computers, which is an important problem deserving further researches. In-depth studies on this topic have to be conducted to reveal the meanings attached by teachers to computers. So, the problem sentence of this study was determined as "What are the mental images of Turkish and history candidate teachers related to the concept of a computer?"

Method: In this qualitative study, phenomenology design has been taken as the basis. Results are presented in a descriptive exposition and direct citations are made frequently. The participants of the study were determined with purposive sampling method and convenient case sampling was taken as the basis. Thus, the participants of the study are 128 students studying at departments of Turkish Language Teaching and

[*]Throughout the paper, the words "metaphor" and "mental image" are used interchangeably and synonymously (See Saban, 2009; Saban, 2011).

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History Teaching at 2011-2012 spring semester at Near East University. The data was analyzed through content analysis and in 4 stages: coding and elimination, sample metaphor compilation, category development and validation and verification stages.

Findings and Results: Participants used 47 different mental images related to the concept of a computer. The two most frequently used mental images are "brain" and "human", respectively. Findings of the study revealed that the mental images of a computer are grouped under 3 categories with 81 of the participants (65.3%) choosing the function of a computer as its basis, 41 (33%) describing its value, and 2 (1.7%) its physical structure. Evaluating subcategories, it can be seen that emphasis on the "function" category was the computer providing access to information (30.6%), giving assistance and making life easier (23.3%), and providing social-emotional support (11.4%). When the "value" category is considered, it is demonstrated that a computer is a risky tool with troublemaking potential (14.5%), is open to change (7.2%), has a range from powerful-weak (5.6%), is a vital need (4%), and also has a range from endless-infinite *(1.7%)*. Finally, 2 participants (1.7%) described the computer as a physical structure dimension.

Conclusions and Recommendations: The negative values developed by teachers and candidate teachers must be turned into positive so that computers can be used in education. What has to be done is display all problems such as copy-paste, ready-made, pornography and misleading information etc., informing pedagogues about these issues and educating them on how to deal with these problems. Teachers mentioned about the existence of wrong information on computers and on the internet media. In this case it can be recommended that technology-assisted history and Turkish language courses be added to the undergraduate curriculum. Thus, critical examination of web sites related to each lecture, evaluation of education CDs and preparation of new and qualified education CDs with projects must be supported.

*Keywords***:** candidate teachers, computer metaphors, history teaching, Turkish teaching.

When researches about computer usage in history and Turkish language teaching are examined in Turkey and North Cyprus, it can generally be observed that teachers (and candidate teachers) have a positive attitude towards computer-assisted education and believe that computer usage increases student success. However, teachers also reveal that they do not use computers sufficiently (Arslan, 2008). As stated by Arslan (2008), inconsistencies of computer usage in education can be observed in many studies conducted in Turkey. Teachers' positive attitude towards computer and computer-assisted teaching indicates teachers cannot use but want to use computers, which is an important problem deserving further researches. In-depth studies on this topic have to be conducted to reveal the meanings attached by teachers to computers. Studies defining the nature of a computer should be conducted and the perception of teachers towards computers should be assessed. It

can be seen that studies in the literature are based on similar issues (computer-assisted education, attitude towards computers, computer-usage skills, the effect of computers on academic success) and that metaphor (mental image) studies about computers are scarce. It has been detected that metaphor studies related to the concepts of technology (Erdoğan and Gök, 2008; Gök and Erdoğan, 2010), informatics technology (Balkı and Saban, 2009), education technology (Çoklar and Bağcı, 2010), technology leadership (Hacıfazlıoğlu, Karadeniz & Dalgıç, 2011), information (Saban, 2008b), Internet (Esgi and Cevik, 2010; Saban, 2010), search engine (Şahin, Çermik and Doğan, 2010) and computer teacher (Saban, 2011) were conducted in Turkey. In addition three studies assessing mental images related to the concept of a computer were encountered (Erdemir, 2009; Vural, Yüksel and Çoklar, 2008; Yunusoğlu, 2006). Erdemir's (2009) study was on 5th grade students, whereas Vural et al. (2008) took computer engineering and computer and teaching technologies' students as their study group. Yunusoğlu's study performed linguistic analysis (in Turkish) through metaphors related to the concept of a computer. It is clear that studies in Turkey aimed at revealing mental images related to the concept of a computer are rather few and Turkish language teaching and/or history teachers were not previously studied. For this reason, it is the subject of this study.

To serve the purpose of this paper, candidate teachers were used, since as stated by Şahin and Akçay (2011), the knowledge and skills required in education are mostly acquired during the pre-service period, which is of critical importance. Viewed from this aspect, assessment of the mental images of candidates who will be Turkish language and history teachers is essential to focus attention on and create awareness among candidate teachers.

Problem sentence

What are the mental images of Turkish and history candidate teachers related to the concept of a computer?

Sub-problems

1. What is the wording used by candidate Turkish language and history teachers for defining their mental images regarding the concept of a computer?

2. Under which categories can the mental images of Turkish language and history candidate teachers regarding the concept of a computer be grouped?

3. At which dimension of the concept of a computer can the metaphors used by candidate teachers regarding the concentrated concept of a computer be put?

Method

Research Design

This qualitative study is based on phenomenology pattern and attempts to conceptualize data, and unfold the themes that can define the phenomenon (in this case a computer). Conclusions are presented in definitive patterns and direct citations are made frequently.

Research Sample

The subjects were selected through purposive sampling method. Convenient case sampling was taken as the basis to provide speed and practicality to the research activity. Researchers preferred to study with a group nearby and easy to work on. The participants of this study are 128 students enrolled at Turkish language teaching and history departments at Near East University in 2011-2012 spring semester. However, 4 students, who did not write a metaphor, left the data collection paper blank or did not provide a rational reason, were eliminated.

Research Instrument and Procedure

In this study data was collected through metaphors, which (analogy, figures of speech, simile, and mental image) is the explanation of a concept, phenomenon or event with another concept, phenomenon or event (Oxford et al., 1998; Yalçınkaya, 2013). Metaphors are perceived expressions of a concept or phenomenon that use analogies; they can also be defined as transforming knowledge from one form to another (Koro-Ljungberg, 2001).

The researchers were granted permission to perform the study between 15th and 25th of May 2012. Before collecting data, participants were informed by the researchers via a 10-minute presentation about the definition, content, and usage areas of the metaphor in nine different sessions and were asked to write down their opinions about the concept of "computer" by concentrating on a metaphor and giving their reason. To determine their opinions about the concept of a computer, participants were asked, "if you were to make an analogy between a computer and a living or non-living thing, what would that be? Why?" Also, they were given 20 minutes to complete the sentence "a computer is like ...., because ....". Precautions were taken to prevent them from being influenced by one another and the researchers. The basic data source of this study is represented by the written pieces of papers including participants' opinions on the concept of a computer using metaphors.

Data Analysis

Saban's (2008a; 2009) approach was taken as the basis. Accordingly, data were analyzed at 4 stages: i. coding and elimination, ii. sample metaphor compilation, iii. category development and iv. validation and verification. For validation, the collected data were written in detail and explained in a clear and understandable manner. The opinions of the participants were frequently mentioned through direct citations and the results of the study were explained based on these citations. For internal validation attention was paid to ensure that research findings are consistent and meaningful and the explored categories are able to provide integrity. There were 30 randomly selected papers among the 124 papers that were independently evaluated by two researchers between whom consistency was checked (in terms of categorization). For external validation, the study provides explanations required to test the findings in other studies. According to the formula of Miles and Huberman (1994) (reliability=consensus/consensus+dissensus), the calculation concluded 73% consistency existed between data processers (22/22+8). At least 70% consensus is required for the reliability of the study (Yıldırım and Şimşek, 2006). In this study, as this value is exceeded, it was concluded that the papers measured in a reliable

manner for the preset categories. Finally, cooperation was exercised each time during analysis to be able to eliminate the dissensus aspects between researchers. At the second stage, reference was made to the opinions of a lecturer specialized in the field of computer education. The specialist was asked to relate the 8 categories that researchers found as a result of the analysis with a metaphor chosen from the data set, which is the example of each category. The specialist did so and 100% consensus was reached. For external validation, researchers defined participants' features like gender, age, and class. In addition, the data were stored, so that other researchers could examine them.

In the study, frequency-distribution tables to illustrate the metaphors used by participants were also created. Basic categories and metaphors included in each category were given in the form of a table, and finally the extent of the emphasis put on each category was presented.

Results

First Sub Problem: Mental İmages of the Participants With Regard to the Concept of A Computer

A total of 124 subject Turkish language and history teachers used 47 different mental images related to the concept of a computer. The two most frequently used mental images were "brain" and "human". Given in Table 1 are the frequency and percentages of the mental images developed by the participants in the study.

Table 1

Mental Images of the Participants Pertaining to the Concept of a Computer

Mental image	f	%	Mental image	f	%
Brain	21	16.9	Water	3	2.4
Human	15	12.1	Television	3	2.4
Friend	7	5.6	Car	2	1.6
World	7	5.6	Monster	2	1.6
Scientist	5	4	Bag	2	1.6
Book	5	4	Child	2	1.6
Library	5	4	Store	2	1.6
Garbage	4	3.2	Box	2	1.6
Life	4	3.2	Window	2	1.6
Robot	3	2.4	* Used once	28	23
			Total	**124**	**100**

The mental images defined by only one participant are: light, chameleon, school, hand-foot, woman, fruit tree, social environment, democracy, telephone, space, male, secretary, closet, artwork, animal, mother, plate, cigarette, easily-accessible point, response to expectation, time machine, turtle, plank, medicine, receipt, tool of information, auxiliary player.

Of the obtained mental images, 41 of the 47 (87.2%) are concrete whereas 6 (12.8%) are abstract. Of the 41 concrete images, 26 are non-living and 15 are living things. In this case, 55.3% of the images in total are non-living and 31.9% are living things. Of the 15 living images, 11 are humans, 3 are animals, and 1 is a plant. As a result, it can be said that 23.4% of the images are humans, 6.3% are animals, and 2.1% are plants. Based on this finding, it can be stated that candidate teachers are inclined to explain a computer, which is a non-living thing, with other non-living things (55.3%).

Second sub problem: categories obtained from mental images related to computer

Mental images used or developed are classified under 3 basic categories according to their common features. These categories are defined as "function," "value," and "physical structure." Function and value categories are separated into subcategories. Each category is handled and related mental images are provided and explained by citations below. The numbers given in parentheses indicate subjects' expression. "*H*" is used for History and "*T*" is used for Turkish language candidate teachers.

1. Basic category related to the function of the computer

Basic category is divided into 3 subcategories, namely providing access to information, giving assistance and making life easier, and providing social-emotional support. These three subcategories in the format of a table and citations made from the opinions of the participants are shown below.

A computer providing access to information: mental images forming this category and their percentages are provided in Table 2.

Table 2

Mental Images Belonging to a Computer Ensuring Access to Information

Mental image	f	%	Mental image	f	%
Brain	14	11.2	Garbage	1	0.8
Human	5	4	Closet	1	0.8
Book	3	2.4	Diamond	1	0.8
Scientist	2	1.6	Box	1	0.8
Store	2	1.6	Artwork	1	0.8
World	2	1.6	Telephone	1	0.8
Library	2	1.6	Destination point	1	0.8
Friend	1	0.8			
			Total	**38**	**30.6**

The computer is the most frequently used instrument to access information related to the "brain" metaphor. Providing access to information is classified into two subcategories:

The computer is a tool ensuring access to necessary "daily information." The opinions of participants are:

"The computer is like the brain, as all the knowledge we have is in our brain. Information is stored in the computer. All kinds of knowledge that we acquire throughout our lifetime are stored in different parts of our brain. We remember and recall these pieces of knowledge when we need them. Computers also hold information. We make use of them any time we need them." (34 T)

A computer is an instrument ensuring access to the necessary "scientific information" during and after our education. The participant opinions related to this subcategory are:

"A computer is like a scientist, as it helps us learn all kinds of information related to the school and our courses at once. A scientist is also like someone who swallowed a library. Computers give us information about every topic." (9 H)

A computer aids and makes life easier: mental images and their percentages are given in Table 3:

Table 3

Mental Images Related to the Computer Aiding and Making Life Easier

Mental image	f	%	Mental image	f	%
Library	3	2.4	Chameleon	1	0.8
Robot	3	2.4	Hand-foot	1	0.8
Scientist	2	1.6	Life	1	0.8
Bag	2	1.6	Light	1	0.8
World	2	1.6	Human	1	0.8
Window	2	1.6	Book	1	0.8
Television	2	1.6	Receipt	1	0.8
Mother	1	0.8	Secretary	1	0.8
Responding expectations	1	0.8	Water	1	0.8
Brain	1	0.8	Auxiliary player	1	0.8
			Total	**29**	**23.3**

A computer, aiding and making life easier, is mostly related to the "library" and "robot" metaphors. The subjects' opinions are:

"A computer is like a robot, as it performs all of our tasks just like a robot. It does our banking works, makes research, facilitates communication and helps us lecture." (4 H)

"A computer is like a mother as it helps us with all the work that we do in our lives." (39 T)

A computer providing social and emotional assistance: mental images and their percentages are given in Table 4:

Table 4

Mental Images Related to the Computer Providing Social and Emotional Support

Mental image	f	%
Friend	5	4
Life	2	1.6
World	1	0.8
Human	1	0.8
Book	1	0.8
School	1	0.8
Social environment	1	0.8
Television	1	0.8
Time machine	1	0.8
Total	**14**	**11.4**

A computer as a tool providing social and emotional support is mostly related to the "friend" metaphor.

"The computer is like a very close friend of mine. I cannot be without him/her most of the time. We do our homework, we surf on the net and we do lots of stuff together. Computers are with us even when we are alone. For this reason it is like a friend to me. We even share our feelings. It provides us with communication. (13 T)

2. Basic category related to the value of the computer

The basic category with regard to the value of a computer is divided into 5 subcategories as follows: "risky and with potential of troublemaking", "open to change", "strong-weak", "obligatory necessity" and "infinite-limitless". Below the mental images related to these five subcategories are provided in the form of table. Citations are made from the opinions of participants. Mental images and their percentages are given in Table 5:

Table 5

Mental Images Related to the Value of a Computer

	Mental image	f	%	Mental image	f	%
Risky and with potential of troublemaking	Monster	2	1.6	Animal	1	0.8
	Garbage	2	1.6	Medicine	1	0.8
	Car	1	0.8	Human	1	0.8
	Friend	1	0.8	Woman	1	0.8
	Tool for knowledge	1	0.8	Plank	1	0.8
	Scientist	1	0.8	Turtle	1	0.8
	Democracy	1	0.8	Fruit tree	1	0.8
	Man	1	0.8	Cigarette	1	0.8
				Total	**18**	**14.5**
	Mental image	**f**	**%**			
Open to change	Brain	5	4			
	Child	2	1.6			
	World	2	1.6			
	Total	**9**	**7.2**			
	Mental image	**f**	**%**			
Strong/ weak	Human	4	3.2			
	Car	1	0.8			
	Brain	1	0.8			
	Plate	1	0.8			
	TOTAL	**7**	**5.6**			
	Mental image	**f**	**%**			
Obligatory necessities / Obligatory	Water	2	1.6			
	Human	1	0.8			
	Box	1	0.8			
	Life	1	0.8			
	Total	**5**	**4**			
	Mental image	**f**	**%**			
Infinite- limitless	Garbage	1	0.8			
	Space	1	0.8			
	Total	**2**	**1.6**			

The idea that a computer is risky and has the potential of troublemaking is mostly related to the metaphors of "monster" and "garbage." The subjects' opinions are:

"I think that a computer can become a monster if it is used in the wrong way. It turns into a monster, which consumes my entire time and this is terrific." (1 T)

"A computer is garbage. There are bad things and wastes in garbage. Just like that there is wrong information on a computer and on the net." (2 T)

As a tool open to change, computers are mostly related to the "brain" metaphor. The subjects' opinions are:

"A computer is like a brain, as the human brain is like a tabula rasa when he/she is a newborn. As one grows, the brain acquires new knowledge. When it is first introduced, a computer is low capacity and the knowledge it gives is limited. It develops over time." (35 T)

"A computer is like a child. When the child is born he/she does not know anything, but slowly he/she learns everything. He/she is affected by the family and environment. A computer is also loaded with programs, softwares and hardwares and develops and its usage areas increase." (44 H)

The computer as a strong or weak tool is mostly related to the "human" metaphor. The subjects' opinions are: *"A computer is like a human being, it is even beyond humans, as there is a limit to what people can do; but you can increase the capacity of a computer whenever you want."* Below is a subject's opinion expressing computers are not strong: *"Computers are like cars. Cars cannot operate on their own. A human has to operate it. People direct cars, which work with the action of people. Computers are, like cars, nothing without humans." (56 T)*

Computers as obligatory necessities are mostly related to the "water" metaphor. The subjects' opinions are: *"A computer is like water. Just like people cannot live without water, they cannot live without computers. Computers have become a part of our lives and no life can be imagined without computers." (62 T)*

At last, a subject's opinion about the endless-limitless characteristic of a computer is: *"A computer is like space, as it is endless and limitless like space." (1 H)*

3. Basic category related to the physical structure of a computer

Participants did not put as much emphasis on the "structure" category as on the "function" and "value" categories. Only two participants (1.6%) related their mental images to the structure of computers. Participants described the physical structure of a computer by using "human" metaphor. The subjects' opinions are:

"A computer is like a human being. The face of a human is the monitor. Inside the skull is the processor; arms, hands and fingers are the mouse and keyboard. The case functions to ensure the circulation and vitality of the processor system." (10 T)

Third sub problem: distribution of mental images developed by participants with regard to the concept of a computer

Categories representing the concept of a computer are given in Table 6:

Table 6

Categories about the Concept of a Computer

Main Categories	Sub-Categories	f	%	Total
Function	Providing access to knowledge	38	30.6	81 (%65.3)
	Assistance and making life easier	29	23.3	
	Providing social-emotional support	14	11.4	
Value	Risky-with potential of troublemaking	18	14.5	41 (%33)
	Open to change	9	7.2	
	Strong-weak	7	5.6	
	Obligatory necessity	5	4	
	Endless-limitless	2	1.7	
Physical Structure		2	1.7	2 (%1.7)
	Total	**124**	**100**	**100**

When research findings are examined, 81 of the participants (65.3%) took the function of a computer as its basis, whereas 41 (33%) described its value and 2 (1.7%) mentioned its physical structure. When subcategories are evaluated, it can be seen that emphasis was made under the "function" category on the computer as providing access to information (30.6%), giving assistance and making life easier (23.3%), and providing social-emotional support (11.4%). When the "value" category is considered, the computer is a tool, which is risky with troublemaking potential (14.5%), open to change (7.2%), powerful-weak (5.6%), vital need (4%), and endless-infinite (1.7%). Finally, 2 participants (1.7%) described the computer as physical structure dimension.

Discussion and Conclusion

Cisek (1999) asserted that metaphors could change from one person to another. Departing from this point, when the findings related to the first sub problem of the study are examined, it is clear that 124 subjects used 47 different metaphors, which were mostly "brain" (17%), indicating a computer is "strong" and "open to change"

just like the human brain also not totally explored (defined) and that its capacity can increase any time; and "human"(12 %), implying computers are different from one another like unique people. Developing sound relationships with a person requires effort and life experience similar to developing them with computers, which have different features and hardware. Peele (1983), Vural, Yüksel & Çoklar (2008) and Erdemir (2009) show that brain and human metaphors are used with regard to the concept of a computer. Yunusoğlu (2006) states that computers can replace non-living things (such as newspapers, radios, cinema, books, writing paper, ink, etc.) but more importantly they have some human-like features (it writes, thinks, speaks, knows, serves, etc.). The subjects also used such metaphors as secretary, scientist, mother, woman, man, etc. for computers. But when the research findings are evaluated, it can be said that teacher candidates tend to explain computers with concrete and non-living things (55.3%).

The second sub problem of the study aimed at analyzing and giving meaning to the metaphors. These are the categories developed after content analysis: function category 65.3%, value category 33%, and physical structure category 1.7%. When one thinks that computers and Internet are used in almost every segment of life (shopping, banking, health, research-learning, communication, access to information, job-seeking, partner seeking, advertisement-publicity, defense, etc.) (Barış, 2010; Dursun, 2004), it is easier to understand why participants gave the first rank to the function of computers. On the other hand, it can be assumed that participants are studying verbal fields like Turkish language and history and their knowledge about the structure/hardware of computers is limited so they did not put emphasis on the physical structure category. Vural, Yüksel and Çoklar (2008) found that when the metaphors of senior computer engineering students with regard to computers are examined, they gave the first rank to the structure. It also revealed that senior students of the Computer and Teaching Technologies Department put the most emphasis on both the structure and function of computers. Therefore it can be assumed that they have technical knowledge and made more use of structure-related metaphors.

When the sub dimensions of the function of computer category are examined, ensuring access to information, assistance and making life easier, and providing social-emotional support received 30.6%, 23.3% and 11.4% emphasis, respectively. It is important in terms of constructivist learning that subjects defined the first function of a computer as providing access to knowledge. Participants stated that computers provide access to unreachable, incomplete, wondered information (both daily and scientific information); thus, answers can be found to all questions through computers. It is stated that computers can be used whenever needed and desired, and knowledge can be acquired instantly thus saving time. It was also said that knowledge on computers is organized and could be erased or recalled as wanted while it could not be forgotten and was transferred from one generation to another. However, despite all these positive views, when the function of computer category is evaluated within itself, it is seen that 43 of the 81 subjects (53.09%) qualified the

computer as a tool that assists and makes life easier and provides social and emotional support. This ratio is higher than those who define a computer as a tool providing access to knowledge (46.91%). The candidate teachers who will be a part of the education system put more emphasis on other functions of computers than access to information function, which deserves discussion. It is absolutely essential that the opinions of teachers, students, and managers who are part of the education system and other individuals who are outside of this system be studied. Describing the opinions related to the functions of computers can be thought as a first step: then, education programs can create awareness about the fact that individuals can use computers in areas they do not know or imagine. Computer pedagogues should take responsibility in this area.

In the introduction of this study, problems of computer technologies in Turkish language and history teaching based on constructivism were mentioned (the difficulty of selection among abundance of sources and failure to know which sources are reliable and which are not) (Doğan and Dinç, 2007). In this study, participants stated that computers and the Internet consisted of good-bad, necessary-useless, and wrong information. For example, when the "garbage" metaphor is utilized, a negative meaning is attached to computers; however, even garbage can include useful stuff. Departing from this point, subjects are aware of abundance of wrong and useless information about their field. This is an important finding: some studies conducted in Turkey (Er et al., 2011; Yalçınalp and Aşkar, 2003) concluded that information on the Internet could not be trusted, meaning the information on the net should be confirmed by books, which are more valuable compared to the knowledge on the net. Then, it is absolutely essential that subjects be provided with qualified Internet websites and education CDs related to their field.

In the constructivist learning approach, it is emphasized that values are important (Coşkun and Çetin, 2007). Value is an abstract measure used to determine the importance of anything, and the equivalence that something is worth giving (Turkish Language Institution, 2005). Durkheim (2004) emphasized that values take a long time to develop and it is not easy to change existing values. In this study 33% of subjects underlined the value of computers. The most-emphasized subcategory in the value of computers category was that computers were risky and potentially troublemaking (14.5%). A computer is reflected as an instrument that wastes considerable time, and hurts when it is misused. It also causes addiction, disturbs our work, misleads people by giving the wrong information, turns into a terrific thing, causes people to befool each other, distracts them from the habit of reading books, and creates problems frequently (like viruses). In the introduction, it was emphasized that Turkish language and history teachers who take the constructivist approach as their base have the will and qualifications to use computers, but they did not use the computer during their lectures (Arslan, 2008). The results obtained in this study can be related to the literature as follows: teachers might be avoiding using computers, which are risky and potentially troublemaking, in their lectures. It might be that teachers disregard the benefits of computers so as not to harm their students.

For example, Yaman and Erdoğan (2007) found that information technologies in Turkish language teaching weakened the writing and composition skills of students. Language is used very haphazardly and carelessly. Abbreviations and colloquial expressions are encountered in written language, and "phonetic features", "wording order" and "writing" elements of Turkish are being degenerated. It is clear that a teacher experiencing these problems will not use computers in his/her lectures. Effort should be made to solve these problems so that computers might be effectively put to use in teaching and learning processes.

Other subcategories related to the value of a computer are as follows: open to change (7.2%), strong-weak (5.6%), obligatory necessity (4%), and limitless-endless (1.7%). In the obligatory necessity subcategory, it was stated that a computer is an inevitable tool for life and one that is aggrandized. These results can be related to the FATIH project in Turkey. Beginning in 2011, computers would be found in all schools of Turkey, which might have affected the opinions of candidate teachers. Likewise, the idea that computers are endless-limitless and open to change and development indicates that a computer is a valuable phenomenon. On the other hand, in the strength subcategory, two opposite views are provided: computers are strong vs. computers are weak. According to one viewpoint, computers are more intelligent than human beings; the other view claims that computers are nothing without human beings. The evaluation of the computer qualifications and attitudes of people who think computers are strong or weak can make a contribution to the literature. It might mean that people are evaluating computers as strong or weak depending on their knowledge and skills about computers. Another remarkable result of the study is the opinion that strength of computers can change. Participants of the study stated that Internet connection is very critical so as to make life easier, which is possible only by a powerful instrument like computers. On the other hand, some participants stated that today Internet connection can be established via mobile phones, and other instruments can replace computers, due to technological innovations. As a result, they highlighted the possibility that the value (meaning strength) of computers can decrease over time.

It is not possible to compare these studies' results as indicated in the "literature" part of the paper, as studies on metaphors related to the concept of a computer in Turkey are scarce. When studies close to the area of metaphors in the literature are evaluated, it is seen that concepts such as technology, informatics technology, and education technology are preferred (Balkı and Saban, 2009; Çoklar and Bağcı, 2010; Erdoğan and Gök, 2008; Gök and Erdoğan, 2010; Hacıfazlıoğlu, Karadeniz & Dalgıç, 2011). In these studies the concepts selected are general; for example, the concept of technology involves several elements. In this case confusion can occur when students use technological metaphors. In this study, there were participants who considered the Internet and computer as one as well as those who stressed only computer or only Internet. This is a limitation for the study and caused confusion. For example, the opinion that a "computer is a tool which helps me relax by communicating with my friends" is used rather to imply Internet. In this context, in metaphor studies the

concept, which will be studied, has to be made as explicit as possible and its borders must be drawn definitely. Providing explanations such as "think about computer, not Internet" or "evaluate Internet, not computer" can ensure that more robust results are obtained. The study conducted by Şahin, Çermik and Doğan'ın (2010) is a good example; the concept handled by the study is "search engine" and a more general term like Internet was not chosen.

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Türkçe ve Tarih Öğretmeni Adaylarının Bilgisayar Kavramına İlişkin Kullandıkları Zihinsel İmgeler

Atıf:

Özet

Problem Durumu: Tarih ve Türkçe öğretiminde bilgisayar kullanımına yönelik araştırmalar incelendiğinde, genel olarak öğretmenlerin (ve öğretmen adaylarının) bilgisayar destekli eğitime olumlu baktıkları, bilgisayara ilişkin olumlu tutumlar içerisinde oldukları ve bilgisayar kullanımının öğrenci başarısını artırdığına inandıkları görülmüştür. Buna karşın, öğretmenler bilgisayarı yeterince kullanmadıklarını ortaya koymaktadırlar (Arslan, 2008). Bu durum sadece Türkçe ve Tarih öğretmenleri için geçerli değildir; Arslan'ın (2008) belirttiği gibi, Türkiye'de yürütülen eğitimde bilgisayar kullanımına ilişkin birçok araştırmada bir tutarsızlık gözlenmektedir. Öğretmenlerin bilgisayar kullanmadıkları ancak bilgisayar kullanmayı istedikleri, bilgisayara ilişkin tutumlarının yüksek olduğu ve bilgisayar destekli öğretimi destekledikleri görülmektedir. Sözü edilen durum önemli bir sorundur ve bunun üzerinde çalışmak gerekmektedir. Konuyla ilgili daha derinlemesine çalışmalar yürütülmesi ve öğretmenlerin bilgisayara yükledikleri anlamların ortaya çıkarılması gerekmektedir. Bilgisayarın neliğini (ne olduğunu) betimlemeye yönelik araştırmaların yürütülmesi ve öğretmenlerin bilgisayarı nasıl algıladıklarının değerlendirilmesi gerekmektedir. Literatürdeki çalışmaların benzer konuları (bilgisayar destekli eğitim, bilgisayara

ilişkin tutum, bilgisayar kullanma yeterliği, bilgisayarların akademik başarıya etkisi gibi) temel aldığı ve bilgisayara ilişkin metafor (zihinsel imge) çalışmalarının pek fazla olmadığı görülmektedir. Teknoloji (Erdoğan ve Gök, 2008; Gök ve Erdoğan, 2010), bilişim teknolojisi (Balkı, 2008; Balkı ve Saban, 2009), eğitim teknolojisi (Çoklar ve Bağcı, 2010), teknoloji liderliği (Hacıfazlıoğlu, Karadeniz & Dalgıç, 2011), bilgi (Saban, 2008b), internet (Esgi & Cevik, 2010; Saban, 2010), arama motoru (Şahin, Çermik ve Doğan, 2010) ve bilgisayar öğretmeni (Saban, 2011) kavramlarına ilişkin metafor çalışmalarının Türkiye'de yürütüldüğü bulunmuştur; bunların yanında bilgisayar kavramına ilişkin zihinsel imgelerin değerlendirildiği üç çalışmaya (Erdemir, 2009; Vural, Yüksel ve Çoklar, 2008; Yunusoğlu, 2006) ulaşılmıştır. Erdemir'in (2009) araştırması ilköğretim 5. sınıf öğrencileri ile, Vural ve arkadaşlarının çalışması (2008) ise bilgisayar mühendisliği ve bilgisayar ve öğretim teknolojileri öğretmenliği öğrencileri ile yürütülmüştür. Yunusoğlu'nun araştırmasında (2006) ise bilgisayar kavramına ilişkin metaforlar üzerinden dilsel çözümleme (Türkçede) gerçekleştirilmiştir. Türkiye'de bilgisayar kavramına ilişkin zihinsel imgeleri ortaya çıkarmaya yönelik çalışmaların çok az olduğu ve daha önce Türkçe ve/veya Tarih öğretmen adayları ile çalışılmadığı görülmektedir. Bu nedenle, araştırmada Türkçe ve tarih öğretmeni adaylarının bilgisayar kavramına ilişkin kullandıkları zihinsel imgeler değerlendirilmiştir.

Araştırmanın Amacı: Günümüzde, yapılandırmacı öğrenme bağlamında eğitimde bilgisayarların kullanımı önem kazanmıştır. Bu araştırmanın amacı, Türkçe ve tarih öğretmeni adaylarının bilgisayar kavramına ilişkin kullandıkları metaforları betimlemek böylelikle de bilgisayar kavramına yükledikleri anlamları ortaya çıkarmak ve bilgisayarın neliğine (ne olduğuna) yönelik veri toplamaktır.

Araştırmanın Yöntemi: Nitel bir araştırma olan bu çalışmada olgubilim deseni temel alınmıştır. Araştırmada verinin kavramsallaştırılması ve olguyu (yani bilgisayarı) tanımlayabilecek temaların ortaya çıkarılması çabası vardır. Sonuçlar betimsel bir anlatım ile sunulmuş ve sık sık doğrudan alıntılara yer verilmiştir. Araştırmadaki katılımcılar "amaçlı örnekleme" yöntemine göre belirlenmiş ve "kolay ulaşılabilir durum örnekleme"si temel alınmıştır. Araştırmacıların uzmanlık alanları Türkçe ve tarih öğretimdir; bu nedenle Türkçe ve tarih öğretmeni adaylarının bilgisayar kavramına ilişkin kullandıkları mecazları betimlemek amaçlanmıştır. Böylelikle araştırmanın katılımcıları, 2011-2012 Bahar döneminde Yakın Doğu Üniversitesi'nde Türkçe ve Tarih Öğretmenliği Bölümlerinde öğrenim gören toplam 128 öğrencidir. Araştırmada metaforlar yoluyla veri toplanmıştır. Araştırmacılar, 15.05.2012-25.05.2012 tarihleri arasında Yakın Doğu Üniversitesinde lisans eğitimi düzeyinde dersler devam ederken öğretim üyelerinden izin almışlar ve verileri bizzat kendileri toplamışlardır. Bu süreçte katılımcılar, dokuz farklı oturumda mecazın tanımı, içeriği ve kullanım alanları konusunda 10 dakikalık bir sunum yoluyla araştırmacılar tarafından bilgilendirilmişlerdir. Araştırmaya katılan Türkçe ve tarih öğretmeni adaylarının "bilgisayar" kavramına ilişkin görüşlerini belirlemek için onlardan; "Bilgisayarı, canlı ya da cansız herhangi bir şeye benzetecek olsaydınız, bu ne olurdu? Neden?" sorusunu yanıtlamaları istenmiştir. Bunun için; "Bilgisayar .... benzer; çünkü, ..." cümlesini tamamlamaları istenmiştir. Bu araştırmanın temel veri kaynağını, öğretmen adaylarının "bilgisayar" kavramına ilişkin görüşlerini mecaz

kullanarak anlattıkları bu yazılı kağıtlar oluşturmaktadır. Veriler içerik analizi yoluyla ve 4 aşamada çözümlenmiştir: Kodlama ve ayıklama aşaması, Örnek metafor derleme aşaması, Kategori geliştirme aşaması ve Geçerlik-güvenirliği sağlama aşaması.

Araştırmanın Bulguları: Araştırmaya katılan 124 Türkçe ve tarih öğretmeni adayı (4 kişinin görüşü araştırma kapsamına alınmamıştır) bilgisayar kavramına ilişkin 47 farklı zihinsel imge kullanmıştır. En çok kullanılan iki zihinsel imge sırasıyla "beyin" ve "insan"dır. Araştırma bulguları incelendiğinde, katılımcıların bilgisayara ilişkin zihinsel imgeleri temelde 3 kategoriye ayrılmıştır. Katılımcıların 81'i (%65.3) bilgisayarın işlevini temel almış, 41'i (%33) bilgisayarın değerini betimlemiş ve 2'si (%1.7) ise fiziksel yapısına değinmiştir. Alt kategoriler değerlendirildiğinde ise, işlev kategorisinde bilgisayarın bilgiye erişimi sağladığı (%30.6 oranında), yardım ettiği ve yaşamı kolaylaştırdığı (%23.3 oranında) ve sosyal-duygusal destek sağladığı (%11.4 oranında) üzerinde durulmuştur. Değer kategorisi ele alındığında ise bilgisayarın, riskli ve sorun yaratma potansiyeli olan (%14.5 oranında), değişime açık (%7.2 oranında), güçlü-güçsüz (%5.6 oranında), zorunlu gereksinim (%4 oranında) ve sonsuz-sınırsız (%1.7 oranında) gibi özellikleri olan bir araç olduğu ortaya konmuştur. Son olarak, fiziksel yapı boyutunda bilgisayarı betimleyen katılımcı sayısı ise 2'dir (%1.7).

Araştırmanın Sonuçları ve Öneriler: Araştırma bulgularına bağlı olarak aşağıdaki sonuçlar ortaya konmuş ve öneriler geliştirilmiştir:

- Yapılandırmacı öğrenmeye bağlı olarak bilgisayarların eğitimde kullanılabilmesi için öğretmenlerin ve öğretmen adaylarının bilgisayara ilişkin olumsuz değerleri olumluya çevrilmelidir. Araştırmada çok yüksek oranda olmasa dahi (%14.5) bilgisayar riskli ve sorun yaratma potansiyeli olan bir araç olarak değerlendirilmiştir. Yapılması gereken; hazırcılık, kopyacılık, bağımlılık, pornografi, yanıltıcı bilgi sunma vb. gibi tüm olumsuzlukların ortaya konulması, bu konularda eğitimcilerin bilgilendirilmesi ve sorunlarla nasıl baş edileceğinin eğitiminin verilmesidir. Bu eğitim, hizmet öncesi ve hizmet içinde bilgisayar eğitimcileri tarafından öğretmenlere/öğretmen adaylarına verilebilir.
- Türkçe ve tarih öğretmeni adayları bilgisayar ve internet ortamında yanlış bilgilerin olduğundan söz etmişlerdir. Bu durumda teknoloji destekli tarih ve Türkçe gibi derslerin lisans eğitimine eklenmesi önerilebilir. Böylelikle her derse ilişkin web sitelerinin eleştirel bir anlayışla incelenmesi, eğitim cd'lerinin değerlendirilmesi ve projelerle yeni-nitelikli eğitim cd'lerinin ve web sayfalarının hazırlanması desteklenmelidir.
- Araştırma eğitimbilim alanıyla ilgili olduğundan bilgiye erişim işlevi üzerinde durmak gerekmektedir. İleriki araştırmalarda bilgiye erişim aracı olarak bilgisayar üzerinde durulabilir ve daha detaylı araştırmalar yürütebilir. Böylelikle bilgisayarın nasıl bir bilgiye erişim aracı olduğu betimlenebilir. Bilgisayarda hangi konularda bilgi arandığı, bilgiye erişim sürecinde neler yaşandığı, bilgisayarlardaki bilgilerin niteliği gibi konularda çalışılabilir.
- Türkiye'deki teknoloji ve bilgisayar konulu metafor çalışmalarında ortaya çıkarılan anlamlar (yani kategoriler) bu çalışmanın bulgularıyla benzerdir. Zorunlu gereksinim, bilgiye erişim, yaşamı kolaylaştırma, sorun yaratan gibi. Bu durumda,

bilgisayara ilişkin algı ölçeğinin geliştirilmesi ve bilgisayarın neliğine (ne olduğuna) ilişkin çalışmaların sayısının artırılması önerilebilir. Nicel araştırmalar gerçekleştirilerek daha genellenebilir sonuçlar da elde edilebilir. Böylelikle literatürde belirtilen; bilgisayar destekli eğitim, bilgisayara ilişkin tutum, bilgisayar kullanma yeterliği, bilgisayarların akademik başarıya etkisi gibi konuların dışına çıkılabilir ve yeni bir araştırma zemini yaratılabilir.

- Son olarak literatürdeki (Saban 2008 ve 2009) birçok araştırmada gerçekleştirildiği gibi cinsiyet, yaş, sınıf, bölüm, bilgisayara sahip olup olmama, bilgisayar kullanım sıklığı ve algılanan bilgisayar yeterliliği gibi değişkenlere göre öğretmen adaylarının bilgisayar kavramına ilişkin metaforlarının değişip değişmediği de incelenebilir.

Anahtar Sözcükler: bilgisayar, metafor, Türkçe öğretimi, tarih öğretimi.