Full Length Research Paper

Instructors' computer usage states and self-sufficiency to use computer

A. Halim Ulaş

Faculty of Education, University of Ataturk, 25100 Erzurum-Turkey. E-mail: ahalimulas@hotmail.com.

In this study, self-sufficiency to use computer and computer usage state of instructors working in Department of Turkish Language were analyzed. Upon respective permission acquired, the scale in respect of "Self-sufficiency Perception of the Students in Primary School Mathematic Teaching Graduate Program on Computer" developed by Askar and Umay was used. The said scale comprises sub-components such as computer usage, computer usage time, access conditions, computer usage frequency, computer usage level, perception on computer, identification details of the responders. The study was conducted in the model of descriptive scanning and working group of the study consists of 132 Turkish Department instructors working in the universities across Turkey. As a result of the findings gathered, with other literature data and positive perceptions of the Turkish teaching instructors, it was revealed that computer came into the instructors' life at a considerable extent. Gender was not an important factor affecting the perception; however, there was a significant relationship between usage time, level, frequency, computer possessions and perceptions on computers.

Key words: Turkish Language, self-sufficiency, computer usage, technology usage.

INTRODUCTION

Science education is a process through which information is earned and transferred. In this process, transfer and communication of the information is the basic component. Information technologies mostly function as a supplementary instrument within the process of teaching and learning computer and accessory parts thereof. Today, computer has an active role in implementing information in daily life to the extent that technological opportunities can afford.

"Information technology, conceptually, is a term used to describe the technology enabling proceedings such as recording and retaining data, producing, maintaining and transferring information through applying certain proceeding process, accessing such information to be carried out effectively and productively" (Tahirov, 2009).

In the information era in which information rapidly changes, spreads, varies, being moved, saved and processed in an effective manner, computer technology has been the heart of the information technologies. Technology provides us with the opportunity to manage, accumulate, process and use information (Lant, 2001).

The efficiency of computer has reached a non-negligible dimension in educational environments. However, there are some factors affecting computer usage in the said environments. There are factors such as, high computer prices, insufficient technical support, non-availability of qualified course softwares (Gercek et al., 2006), age of teacher, his/her perception on computer and gender; and the said factors play an effective role in computer usage frequencies and habits of teachers. Yet, information technology tends to take measures in filling the missing points rapidly, rather than accumulating such factors in a stack of problems.

"Globalization" expression which is seen as a magic word in today's communities is used as an effective weapon in the hands of modernized communities. Today, we witness a new era, information era, which is equated with Industrial Revolution in England in terms of its social, political, economical effects and a historical fact described as the transition process to post-industrial community (information community) (Şenel and Gençoğlu, 2003). The key element granting this right to the communities which describes the era in which we live as information era is that they have the competence to process the information in large dimensions provided by

technological opportunities. Actually, there is not something like globalization in the world; there is a practical minority society which knows how to utilize all opportunities of the technologies they have. Therefore, in the information era in which information is changing and developing quickly, it is compulsory to optimally utilize information technologies so that educational institutions constituting the sources of social change and developments should keep up and catch up with the era. Herein, a significant responsibility falls on the instructors who have an active role in educational activities.

As there are different variables on which development and change depend, development and change in educational field also depends on many factors. One of the most important factors is teacher. The key element which ensouls education and causes it to be meaningful, functional, effective and productive is the teacher (Çelik and Bindak, 2005). The use of technology in classrooms and introductions to the students are carried out by teachers.

For information technologies to be properly used in educational system and to get probable advantages at the highest level, it is required to ideally train teachers who are in the key position within the system. Herein, significant liabilities fall onto the instructors of educational faculty in training the teachers (Massy and Zemsky, 1996). It is essential for instructors to be sufficiently equipped and well-informed about the usage of information technologies within the learning-teaching process and to use this technology effectively. Only by this way, an education-teaching can be carried out within the era and in harmony therewith rather than being a spectator to the era.

Of all the institutions assuming the most critical duty in the information technology, probably the primary institution, are the universities because they are the main institutions that are responsible for the production and distribution of information, which is the raw material of the information economy (Tonta, 1999). Rapid development experienced in the information technologies has drawn attention in respect of training teachers working in educational institutions in this regard.

Rapid development in information technologies and teacher training has been brought up to a significant position in many countries, particularly in Northern America and Europe. In Europe, teacher training as an agenda item has a central position along with information technologies (Taşkin and Ekici, 2009). Statutory and moral obligation enforced by National Education Ministry in this regard manifests that teachers are required to be a model in using the technology for students in classes. Herein, significant responsibilities fall on university faculties training teachers so as to build models of teachers who are informed about the use of technology. The key element ensuring teacher candidate to be closely connected with modern technology is that instructors who will provide him/her with that education are closely connected with technology. That is, technology usage states of instructors and self-sufficiency perceptions they developed in this respect are highly important.

The primary factor affecting the technology usage in educational and training activities in our universities is attitudes of instructors towards the technology and self-sufficiency perceptions and their concerns regarding technological instruments. Despite the integration between higher education and computer usage, researchers aim to develop a low computer anxiety level, a high self-sufficiency perception on learning to use computer and positive attitudes towards computers, which are the most important factors in assisting people to use and learn computer (Sam and Nordin, 2005).

As there are personal self-sufficiency perceptions of students which we encounter as a receiving element within the relations between teacher and students in education and teaching process, personal self-sufficiency perceptions of teachers as a providing element in this relation constitute importance. The self-sufficiency that Albert Bandura described as beliefs of the individual on how favorably they perform so as to cope with prospective situations (Akkoyunlu and Orhan, 2003) shows itself in various fields at different levels.

As well as the high self-sufficiency beliefs regarding the fields of instructors working in institutions where education and teaching is carried out, self-sufficiency beliefs they acquire from other fields to support such sufficiency in their own field are highly important in this respect. In the modern world leading to the twenty first century, success belief of individuals who are interested in educational and teaching activities is quite important, being parallel to the increase in the importance of computer technologies in educational activities. It has been determined that self-competence beliefs of teachers are related with preference on teaching methods-techniques selected for students and level of efforts made by students so as to be successful (Gürol et al., 2010). A teacher who finds himself/herself sufficient in computer usage and fulfills respective requirements will have the opportunity to adjust the course period in a most productive manner. Crucial responsibilities and duties fall on Turkish teachers and instructors in teaching the target language in which information springs to life.

Educational institutions are the places where basic language skills are taught systematically and consciously. Turkish courses and teachers have an important role in providing basic language skills in educational institutions (Kolaç, 2009). It is doubtless that sufficient utilization of information technologies in Turkish courses will facilitate language learning, make it more effective and increase its permanence and lay the groundwork for more effective Turkish teaching. In the information era in which we live, it has been inevitable that all educators who are responsible for teaching Turkish should know about information technologies developing rapidly and utilize it at the highest level for a qualified Turkish teaching in

Table 1. The table demonstrating gender, age, title and seniority of Turkish instructors.

		f	%
Gender	Female	48	36.4
	Male	84	63.6
Age	20-25	36	27.3
	26-30	8	6.1
	31-35	12	9.1
	36-40	28	21.2
	41-45	16	12.1
	46-50	16	12.1
	51-55	16	12.1
Title	Professor	12	9.1
	Associate Professor	12	9.1
	Assistant Professor	40	30.3
	Instructor Dr.	12	9.1
	Research Associate Dr.	4	3.0
	Research Associate	48	36.4
	Lecturer	4	3,0
Seniority	1 - 5	40	30.3
	6 - 10	8	6.1
	11 - 15	24	18.2
	16 - 20	24	18.2
	21-	36	27.2

each stage of the education.

Since education is an interaction process, it is unavoidable that teacher's properties affect academic and other properties of student. Usage of technology in education-teaching activities efficaciously can be carried out only in the environments where teacher-instructor interaction is provided at a highest level. Development of problem-solving skills can be emphasized, learners can develop high-level learning skills and parties can use also new communication skills in such environments (Şenel and Seferoğlu, 2009). Being looked from this perspective, usage of computer as a teaching instrument in the developing education understanding is a significant property required to be possessed by instructors of Turkish Education Department. However, instructors' resistance to the technology is still high across the world even though the role of the information technologies increases in the education (Hu et al., 2003, Akt; Miraç Yilmaz). Therefore, it should to be carefully analyzed and evaluated on how and to what extent instructors working in departments of faculties of education which are responsible for training Turkish teacher utilize the information technologies and how they deal with the issue.

Self-sufficiency and perceptions of instructors are important in the usage of computer for the purpose of teaching. In this context, usage of computer as a teaching instrument in the developing education understanding is a significant property required to be possessed by instructors of Turkish Education Department. Determination and development of the computer self-sufficiency beliefs of instructors is of importance in order for teachers to use computer and information technologies in teaching activities.

Purpose of the research

In this study, it is aimed to analyze instructors' self-sufficiency and perceptions in respect of computer usage states in accordance with the diverse variables. To this end, answers of the following questions were sought.

At which level are the computer usage states of the Turkish instructors?

In respect with this question, answers given by Turkish instructors on (a) Whether they use computer and computer usage period (b) Terms of access to computer (c) Computer usage frequency (d) Their computer usage level were analyzed.

Table 2. Computer usage level of Turkish instructors.

	f	%
1 - 5	16	12.1
6 - 10	12	9.1
11 - 15	96	72.7
16 - 40	8	6.1
Total	132	100.0

Table 3. Computer access conditions of Turkish instructors.

Terms of access		f	%
At home	Available	128	96.9
	N/A	4	3.0
At university	Instructor has his/her own computer.	132	100
	I share it with my roommate.	0	0
	There is a computer I can easily access around me.	0	0
	There is not any computer around me.	0	0

How is the self-sufficiency perception of the Turkish instructors on computer?

What kind of relationship is there between the self-sufficiency perceptions and computer usage states of the instructors? In respect with this question, Turkish instructors' self-sufficiency perception and issues concerning; (a) Computer usage time (b) Computer usage frequency (c) Computer usage levels (d) Computer possession (e) Gender were analyzed.

METHOD

Model of the research

This study was conducted via descriptive scanning model to analyze instructors' computer usage states and self-sufficiency perceptions on computers.

Working group

The working group of the study consists of total 132 Turkish Education Department instructors working in the universities across Turkey. 48 instructors are female and 84 instructors are male.

Data collecting tools

A questionnaire and a scale were used in this study aiming to determine computer usage states and self-sufficiency regarding computer usage of the instructors working in Department of Turkish Education. These are the questionnaire pertaining to the instructors' personal details, computer usage, access, usage frequency, usage level and the scale "computer self-sufficiency perception" developed by Askar and Umay (2001). Topic titles included in the questionnaire are related with gender, age, title, seniority, computer usage state, computer usage time, access conditions, computer usage frequency and computer usage level. The scale in the research composes of 18 items. Reponses are scored in conformance with 5-point likert-type, while scoring was carried out as "Always- 5… never-1" for positive items, scoring was reversed as "Always-1…Never-5". The Cronbach α coefficient calculated as for reliability of the scale is 0.71.

FINDINGS AND INTERPRETATIONS

The number of the instructors participating to the questionnaire in the Turkey population is 132 including 84 males and 48 females. 64 are under the age of 40 and 68 are over the age of 40. In terms of academic carrier, participants consist of 12 professors, 12 associate professors, 40 assistant professors, 12 instructor doctors, 4 research associate doctors and 4 lecturers. While 48 instructors have seniority less than 10 years, 84 instructors have seniority more than 10 years. All of the participants use computer actively. The perception of those who use computer at home is only 3%. All of the participants have their own computers in universities.

As seen in Table 2, 78.8% of instructors are using computers for more than ten years. It is an important time in terms of "computer usage". Research conducted revealed that computer usage time and self—sufficiency perceptions are parallel with each other.

When analyzing Table 3, we see that all of the instructors have a personal computer in university environments and a considerable number of them have computers at their homes. It demonstrates that instructors substantially adopt computer technologies which is developing and taking its part in our life considerably with each passing day.

Instructors use computer mostly for researching-scanning and communication issues (79.5%). Today, many databases are accessed free of charge over universities. Opportunities of these databases such as full text document provision, scanning according to the key works increase the usage frequency. It can be considered as a factor increasing the usage frequency of both special and general search-engines. Furthermore, increase in the services enabling instant communication such as msn, facebook, icq, twitter and high wide-spread of electronic mail usage has

Table 4. Computer usage frequency of Turkish instructors.

	Presentation of the subject during the lecture		Preparation of lecture note		Measurement evaluation		With managerial instrument		www.searching scanning		Communication	
	f	%	f	%	f	%	f	%	f	%	f	%
Seldom	44	33.2	20	15.2	48	**36.4**	32	24.3	1	0.8	1	0.8
Sometimes	48	36.4	28	21.2	24	18.2	32	24.2	25	18.9	25	18.9
So frequently	20	15.2	24	18.2	16	12.1	28	21.2	105	79.5	105	79.5
Always	20	15.2	60	45.5	44	33.3	40	30.3	1	0.8	1	0.8
Total	132	100	132	100	132	100	132	100	132	100	132	1000

Table 5. Computer usage levels of Turkish instructors.

	Word processor		Account table		Presentation		Data Tabani		e-mail		Web tarayici		Web sayfasi		Statistical analysis		Scanner		Desktop	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
I do not use.	8	6.1	16	12.1	0	0	20	15.2	0	0	12	9.1	48	36.4	28	21.2	12	9.1	40	30.3
Usage at a beginner level.	20	15.2	12	9.1	4	3.0	16	12.1	0	0	4	3.0	28	21.2	32	24.2	12	9.1	24	18.2
Usage at a intermediate level	12	9.1	36	27.3	20	15.2	36	27.3	0	0	4	3.0	28	21.2	24	18.2	16	12.1	28	21.2
I use easily.	64	48.5	60	45.5	76	57.6	56	42.4	60	45.5	40	30.3	16	12.1	36	27.3	72	54.5	28	21.2
Usage at a advanced level	28	21.2	8	6.1	32	24.2	4	3.0	72	54.5	72	54.5	12	9.1	12	9.1	20	15.2	12	9.1
Total	132	100	132	100	132	100	132	100	132	100	132	100	132	100	132	100	132	100	132	100

increased the usage proportion of computers as a communication tool. Also, being able to perform all these operations via internet can be considered as an important factor. When analyzing Table 5, it is seen that user friendliness of web browser and electronic mail are used by instructors "at an advanced level" in parallel with the foregoing table. It is feasible to say that these two tools are used "at an advanced level" in terms of usage frequency. Usage level regarding word processor, spreadsheet, database and presentation processing are of "easy use" level. In this case, we can say that instructors use these tools "easily" when they need them. Data on statistical analysis indicate the "beginner" level. This can be explained by professional or expert assistance received by instructors instead of carrying out the proceedings on their own in respect of the statistical issues they need. An

instructor stated, "I do not use" computer in respect of web-page. It can be considered as a result of non-availability of "personal web pages" pertaining to the most of instructors. When analyzing Table 6, it is seen that instructors do not think that they have any special skill to use computer and most of them find themselves "skillful" in this regard. A substantial number of the instructors feel "sufficient" at the computer and think that they can solve computer-related problems, know what to do when they encounter a new circumstance and write any type of fonts "easily".

A considerable number of instructors also do not have any fear on what to do when they use computer and do not think that it is not impossible to have a full command of computer. These data are parallel/consistent with the other items included in the questionnaire. A significant number of the instructors answering the questionnaire are not

"nervous" when they are working with computer and do not think that it will not unexpectedly "leave them high and dry". Instructors confine themselves to quick fixes when they "have problems" in the course of working with computer and have the full knowledge of computer terms at a medium level. Those who get flurried when they encounter an unexpected problem with computer are quite few in number and they do not regard the time consumed with computer "as a loss".

What kind of relationship is there between the self-sufficiency perceptions and computer usage states of the instructors?

In respect with this question, the relationship between

Table 6. How is the self-sufficiency perception of the instructors working in Faculty of Education?

	Direction	X
I use computer while planning my day/time.	+	2.51
I regard computer as a part of me.	+	2.87
I believe that I have full knowledge about computer terms and concepts.	+	2.93
I believe that I have a special talent in using computer.	+	2.96
I surf via computer and reconnoitre new things.	+	3.09
Computer leaves me high and dry unexpectedly.	-	3.12
I get flurried when I encounter an unexpected problem with computer.	-	3.28
I know what to do when I encounter a new circumstance with computer.	+	3.30
Quick fixes are adequate for me when there is a problem with the computer.	-	3.30
I consider that I use computer actively.	+	3.36
I am talented in computer.	+	3.45
The time consumed with computer is regarded as loss.	-	3.46
I feel "sufficient" while using computer.	+	3.50
If I struggle adequately. I can solve the computer-related problems.	+	3.70
It is easy for me to write all types of font.	+	3.80
I believe that it is not impossible to have a full knowledge about computer.	-	4.11
I have fear to do something wrong/press wrong buttons while using computer.	-	4.31
I get nervous while using computer.	-	4.56

self-sufficiency perception and; (a) Computer usage time (b) Computer usage frequency (c) Computer usage levels (d) Computer possession (e) Gender was analyzed. A relationship at a level of $p < 0.05$ was found between Turkish teaching instructors' self-sufficiency perceptions and computer usage frequency, computer usage level, states of computer possession. This result is compatible with other research findings. There is not any significant difference between gender and self-sufficiency perception (p 0.05).

RESULTS AND DISCUSSION

As a result of this study, Turkish instructors' self-sufficiency perceptions on computers were found high. It can be significantly explained by entrance of computers into the lives of Turkish instructors. It was determined that there was not any significant difference among the self-sufficiency perceptions of the instructors. While this case is compatible with similar research results (Efendioğlu and Yelken, 2009; Şensoy, 2004; Kuş, 2005; Akkoyunlu and Orhan, 2003; Yilmaz et al., 2006), it is different from the research results of Miura (1987), Cassidy and Eachus (2001) and Işiksal and Aşkar (2003). These results support findings acquired from this research.

Finding significant relationship between states of computer possession and self-sufficiency perception is compatible with Özçelik and Kurt (2007) result, indicating that self-sufficiency perception of teachers varies, depending on the states of computer possession. According to the research findings there is an increase in self—sufficiency perceptions depending on the computer usage frequency. This result is consistent with the

findings of Yilmaz et al. (2006).

According to the findings acquired and other literature data, it was revealed that Turkish Teaching Department instructors' self-sufficiency perceptions on computers were high and computer came into the instructors' life in a considerable manner. It can be expressed that gender is not an important factor affecting the perception; however, there is a significant relationship between self-sufficiency perceptions and computer usage time, level, frequency, along with states of computer possession.

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