BASIC COMPUTER SKILLS OF PRIMARY SCHOOL TEACHERS AND DIRECTORS

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Abstract

The overall objective of this study is to analyse and evaluate basic computer skills of primary school teachers and directors. The study is based on a population of 125 directors and 463 teachers employed at primary schools in Turkey. The main focus is on the determination of the participants' personal characteristics and their experiences in computer technologies. The scale used in the study is of categorising type and of 16 questions. While the questions 1-9 are to determine the general characteristics of the participants, the questions 10-16 are to obtain data related to the computer experience of the participants. The teachers' skills in using computer were analysed in terms of electronic tables, presentation programmes and internet use. In addition, the study includes the distribution tables of the participants regarding the duration of computer use, computer location and the locations where they learned how to use computers. The study offers some recommendations on how to increase their basic computer skills

Keywords

Basic Computer Skills, Teachers, Primary Schools

1. INTRODUCTION

Information and communication technology has come to fore in all aspects of social life in our age. While the effect of this new case varies depending on the development level of the societies, it also plays a major role to determine this level. Therefore, the development levels of the societies are termed through "information society" concept. Undoubtedly, the way to "information society" is through education. The most important function of education is to train individuals that will form and develop this society and that will know how to live together in it. Turkey is in an effort to become an industry society while, at the same time, it tries to become an information society. To accelerate this process, it should allocate adequate source for education, carry out radical changes in the education system and out new arrangements into practice without delay.

Of the new arrangement to be made in order to fulfil this function expected from education itself is the fact that the human type needed by an information society and his qualifications should be determined rationally and that other components should be structured within this purpose. The features of the individual needed by an information society can be regarded throughout the world as; the one being able to search, communicate, use information technologies, do teamwork, decide in a correct way, think critically, learn how to learn, produce and synthesize information, solve problems, improve himself and learn lifelong. Making the individual attain such features are no doubt the responsibility of the educational institutions and it is required that the objectives and functions of traditional educational system be reformed and transformed in this way. In his context, educational institutions of information societies should inevitably teach the ways to reach information, analyse information, evaluate, organise and share

it in order to be a member of modern world to their students. In order to realize this, all the components of education systems should be considered and structured together and teachers as the most basic and significant factor of this system should be trained and turned into the teacher of information society.

Various national and international studies and various institutions regarding change at education put an emphasis on the critical role of teachers in the realization of change at education in general and the use of informatics technologies at teaching in particular [1]. Change at education depends on what teachers do and what they think, which is so simple and complex [2]. Therefore the teacher of information society, as both an adult and a person to prepare new generations for the future, has to know the features of science and technology, the place of computers which are the most important device of technology in the structure of the society and how to use it at indoor and outdoor educational activities. In this context, with the introduction of computer and information technologies into education, it is expected that the roles of teacher will change and it will make teacher attain new qualifications; such functions as orienting learning, making the occupation leading from information to decision professional, making learning individualised, decreasing usual work and increasing creativity come to the fore [3]. In order to make these functions active, International Society for Technology Education (ISTE) determined the proficiencies a teacher of information society should have. These are; being a literate person technologically, using technology in the courses, encouraging students to use technology, arranging the environment of teaching in a way to teach students the ability to access and use information, being able to cooperate with colleagues on the Internet in order to share vocational developments and experience [4]. In short, teacher with these standards will become a guide teaching the student how to access the most correct information in the shortest way and how to comment it correctly. However, the fact that teachers realize these standards is not so easy.

Çağıltay & others [5] counts the reasons of them as follows; lack of hardware and software at schools, physical structure of schools, lack of Internet access, teachers' lack of proficiency in basic computer using, that programs do not allow to integrate with computer technology and lack of technical staff. Demetriadis & others [6] stressed that teachers cannot integrate their own teaching methodologies with information and communication technologies and that they should be supported and trained to provide it. Marcinkiewicz [7] and OTA [8] indicated that computers are not used by a great majority of teachers in a full manner, while Hardy [9] expressed that computers are not integrated to primary and secondary education completely and that many of teachers are not trained concerning the use of computers in the class. Kocasara [10] stressed that teachers do not find themselves adequate enough concerning computer assisted education. For this purpose [11], it is of crucial importance that teachers should be trained in the issue of basic computer literacy, whatever branch they are.

Therefore, the aim of this study was to examine basic computer using proficiencies of primary school teachers and directors and determine their current status, take precautions, if any, to convey the qualifications needed by information society through either pre service or in service education to teachers first and then to students , finally to the society as a whole.

Aim of the study

The overall objective of this study is to analyse and evaluate basic computer skills of primary school teachers and directors.

Specifically, this research investigated the following research questions:

1.Do Primary School Teachers and Directors use the computer?
2.How long have Primary School Teachers and Directors been using the computer?
3.What do the teachers and directors of Primary Schools use the computer for?
4.Where do Primary School Teachers and Directors use the computer?
5.In which period of their education life did they learn to use the computer?
6.What are their levels of proficiency in using Word Processing software?

7.What are their levels of proficiency in use Electronic Tables?
8.What are their levels of proficiency in use Presentation Programmes?
9.What are their levels of proficiency in use the Internet?

2. METHOD

General Survey Model was used to conduct this study. The aim of this study is to determine basic computer skills of primary school teachers and directors. The study is a descriptive one as it gives a certain period of time and depends on their own ideas

The population of the study consists of 125 directors and 463 teachers employed at primary schools in the city of Ankara. 125 directors (school directors and assistant directors) and 463 teachers, 588 subjects in total, were chosen as sampling. Table shows the information about some participants depending on their demographic characteristics.

Table 1 Demographic Characteristic of Teachers and Directors Taking Place in the Population of the Study.

Characteristic	Category	f	%
Sex	Male	286	48,6
	Female	302	51,4
Official Work	Teacher	463	78,7
	Director	125	21,3
Branch	Science	123	21,0
	Social	465	79,0
Age	20-30 Age	21	3,6
	31-40 Age	141	24,0
	41-50 Age	341	58,0
	51 Age and Over	85	14,4
Education Status	Pre-Undergraduate	107	18,2
	Undergraduate	458	77,9
	Graduate Education	23	3,9
	Total	588	100,0

As shown in Table 1, almost 51.4 % of the participants were women and 48.6% were men. While 78.7% of 563 participants were teaching actively, 21.3% were directors. 79.0% of the teachers and directors were in the field of social sciences and 21.0% were in applied sciences. The ages of the participants varied from 21 to 59 and 58.0% were at the age of 41 – 50. Therefore it is likely to say that the participants were experienced in their professions. In terms of education level, 77.9% of them were undergraduates. The rate of those graduating from a two – year college was only 18.2% though the average professional experience of the participants was quite high. A questionnaire was used as the data collection tool in the study. The tool was prepared depending on personal characteristics and experiences of the participants concerning computer technology. It consisted of 6 questions. While the first 1 – 9 questions dealt with general features of the subjects in general, 10 – 16 questions aimed at getting data over their experiences in computer. The packet program of SPSS (The Statistical Packet for the Social Sciences) was used to process of the data. Frequency (f) and percentage (%) were used to determine their demographic features and their ideas concerning their ability of using computer.

3. FINDINGS

3.1. Computer Using Situations of Primary School Teachers and Directors

In first sub problem of the study, computer-using situations of primary school teachers and directors was examined. Table 1 shows frequencies and percentages regarding the ability of the participants to use computer.

Table 1 Computer Using Situations of Primary School Teachers and Directors

Computer Using Situations	Teacher		Director	
	f	%	f	%
Yes	417	90,1	116	92,8
No	46	9,9	9	7,2
Total	463	100,0	125	100,0

As shown in Table 1, 90.1% of the teachers have the ability to use computer while 92.8 % of the directors have this ability. The rate of those who cannot use computer is 1/10 for both teachers and directors. Of the main reasons why teachers and directors have the ability to use computer at a high level are; computers have been used in Turkey and at Turkish education system from mid 1980s onward and it has become so widespread in 2000s that almost every house or school has one. Especially those having a certain education level and a reasonable economical income try to attain the ability to use computer when they take the facilities it offers into consideration. In addition, the fact that the Ministry of Education provided teachers with cheap laptops might be told to increase the ability of the primary school teachers and directors to use computer.

3.2 Computer Using Periods of Primary School Teachers and Directors

Another feature of teachers and directors examined in the study was computer-using period of primary school teachers and directors. Table 2 shows frequencies and percentages regarding computer-using period of the participants.

Table 2 Computer Using Period of Primary School Teachers and Directors

Computer Using Periods	Teacher		Director	
	f	%	f	%
1 Year and Less	67	14,4	13	10,4
2-5 Years	185	40,0	53	42,4
6 Years and Above	211	45,6	59	47,2
Total	463	100,0	125	100,0

Table 2 shows that 14.4% of the teachers and 10.4% of the directors with an ability to use computer use computer less than 1 year. The rate of teachers using computer for 2 – 5 years is 40.0%, while that of directors for the same period is 42.4%. The rate of the teachers using computer for 6 years or above is 45.6% and that of the directors is 47.2%. In addition to the fact that most of the teachers and directors have an ability to use computer, the ability of more than half of them regarding their computer using period is 5 years or less. However, computer using has become widespread since early 1980s all over the world. In these years, it was aimed to use computer both in daily life and at education commonly and most of the schools were funded with computers as a result, the rate of computer using for teachers has started to increase recently. Furthermore, the fact that the need for in-service training due to the negative effect of being in large numbers decreases, the effect of the retired teachers, that the Ministry offers an opportunity of cheap laptops and that computers become an indispensable part of life are other reasons why computer using has become widespread in Turkey.

3.3 Primary School Teachers and Directors' Purpose for Using Computer

Another feature of teachers and directors regarding computer in the study was the purpose for computer using. Table 3 shows frequencies and percentages regarding the primary school teachers and directors' purpose for computer using period.

Table 3 Primary School Teachers and Directors' Purpose for Using Computer

Purpose of Using Computer	Teacher		Director	
	f	%	f	%
Communication	56	12,1	32	25,6
Entertainment	21	4,5	13	10,4
Education	71	15,3	16	12,8
Research	87	18.8	26	20,8
All of the above	228	49.3	38	30,4
Total	463	100,0	125	100,0

As shown in Table 3, the only and most significant computer using purpose of teachers is searching (18.8%), while that of directors' is communication (25.6%). A considerable number of both teachers and directors was found to use computer for the purposes of communication, fun, education and searching and mostly as a whole. 49.35 of teachers and 30.4% of directors used computer constantly for four purposes. Such a combined use of computer can be regarded as an indicator that teachers and directors use computer actively.

3.4 The Places Primary School Teachers and Directors' Use Computer

At the fourth sub problem, the places primary school teachers and directors' use of computer was examined in the study. Table 4 shows frequencies and percentages regarding the places of computer-using of the participants.

Table 4 The Places Primary School Teachers and Directors' Use Computer

Places They Use computer	Teacher		Director	
	f	%	f	%
Only at Work	68	14,7	32	25,6
Only at Home	125	27,0	18	14,4
Both at Work and at Home	270	58,3	75	60,0
Total	463	100,0	125	100,0

As given in Table 4, 27.0% of the teachers expressing only one place of computer using use computer mostly at home, however 25.6% of directors use it mostly at school. Besides, the majority of teachers (58.3%) and directors (60.0%) use computer both at home and at school. Using computer both at home and at schools indicates that computer has become an indispensable part of the life of both teachers and directors. On the other hand, there have been computers for teachers for general purpose, but each teacher is not able to find a computer while each director has one their rooms. It is thought that teachers expressing the only place of computer using might name home and directors might name school as the place of computer using.

3.5 The Periods Primary School Teachers and Directors Learnt to Use the Computer

Another question in the research was the period primary school teachers and directors learned to use of computer. Table 5 shows frequencies and percentages regarding the periods the participants learnt to use computer.

Table 5 The periods Primary School Teachers and Directors Learnt to Use the Computer

The Periods	Teacher		Director	
	f	%	f	%
In-service Training	113	24,4	34	27,2
During Education of University	136	29,4	36	28,8
Individual	214	46,2	55	44,0
Total	463	100,0	125	100,0

As shown in Table 5, 24.4% of the teachers having an ability to use computer learnt how to use computer through in-service training. The rate of the directors learnt to use computer through in-service training is 27.2%. 28.4% of the teachers learnt to use it during their education of university before they started teaching. The rate of the directors learning to use it during their university education (28.8%) is closer to that of teachers'. On the other hand, it was found that a significant part of both teachers (46.2%) and directors (44.0%) learnt how to use computer individually. It is likely to say that teachers and directors learnt computer using through informal methods, in other words, through planned activities of pre service and in service training. The reason why those learnt how to use computer individually are at a considerable rate is that computer can be learnt very easily and in many ways and that constant learning activities are widespread within daily life.

3.6 The Proficiency Levels of Primary School Teachers and Directors in Using Word Processor

Another question in the research was the proficiency levels of primary school teachers and directors in using word processor (Ms word etc.). Table 6 shows frequencies and percentages regarding the proficiency levels of primary school teachers and directors in using word processor.

Table 6. The Proficiency Levels of Primary School Teachers and Directors in Using Word Processors

Proficiency in Using Word Processors	Teacher		Director	
	f	%	f	%
I Don't Know	19	4,1	5	4,0
Sometimes	113	24,4	30	24,0
Very Often	331	71,5	90	72,0
Total	463	100,0	125	100,0

Table 6 shows that the rate of the ones knowing how to use word processors such as Ms Word is almost 4.0% among teachers and directors having a proficiency to use computer. While ¼ of both teachers and directors sometimes use word processors, 7/10 of them use it quite often. Word processors are of importance for the occupations where writing is necessary. Although the proficiency of using computer well requires detailed information, those having basic information about it could use it easily. Within this purpose, almost all of both teachers and directors are able to use word processors.

3.7 Proficiency Levels of Primary School Teachers and Directors in Using Electronic Table

Seventh sub question in the research was the proficiency levels of primary school teachers and directors in using electronic table. Table 7 shows frequencies and percentages regarding the proficiency levels of primary school teachers and directors in using electronic table and programs.

Table 7. Proficiency Levels of Primary School Teachers and Directors in Using Electronic Table

Proficiency in Using Electronic Table	Teacher		Director	
	f	%	f	%
I Don't Know	111	24,0	11	8,8
Sometimes	211	45,6	52	41,6
Very Often	141	30,4	62	49,6
Total	463	100,0	125	100,0

As indicated in Table 7, while 24.0% of the teachers having a proficiency of using computer do not know how to use electronic table programs such as Ms Excel, only 8.8% of directors do not know how to use it. On the other hand, a significant part of teachers (45.6%) use electronic table programs sometimes , while almost half of directors (49.6%) use it very often. Such programs as Excel are the kind of programs the users having much experience on computer and professions depending on numerical processes need most. Thus almost ¼ of teachers use these programs, whereas the rate of those using them very often is 7/10. It is likely to say that directors use these programs more frequently compared to teachers due to the fact that they use such applications as time measurement and school tables etc.

3.8 Proficiency Levels of Primary School Teachers and Directors in Using Presentation Programme

At the eighth sub problem of the research, proficiency levels of primary school teachers and directors in using presentation programme (Ms Powerpoint etc.) was examined. Table 8 shows frequencies and percentages regarding the proficiency levels of primary school teachers and directors in using presentation programs.

Table 8. Proficiency Levels of Primary School Teachers and Directors in Using Presentation Programmes

Proficiency levels in Using Presentation Programmes	Teacher		Director	
	f	%	f	%
I Don't Know	20	4,3	18	14,4
Sometimes	154	33,3	48	38,4
Very Often	289	62,4	59	47,2
Total	463	100,0	125	100,0

Table 8 shows that of the teachers having a proficiency of using computer, the rate of the ones not knowing how to use presentation programs such as Powerpoint is 4.0%, while that of directors in this group is 14.0%. 1/3 of both teachers and directors use these programs sometimes. 62.4% of directors and 47.2% of teachers use these programs very often. This case means that teachers need such programs more than directors. In fact, presentation programs are so necessary for teachers and these are the programs where teachers can present a lesson from the beginning to the end by using such features as picture, graphic, table, sound and animation together with data show tools, they can stop whenever they want and continue from the place they paused at any part of the lesson. Using these program at education will have a positive impact on students' attention, motivation and attitudes by both making teaching and learning process active and taking much of the routine work teachers have to deal with away, causing them to get tired less. The attention teachers pay to traditional teaching, lack of substructure for schools to transfer applications into the class are handicaps in learning such programs more and using commonly.

3.9 Proficiency Levels of Primary School Teachers and Directors in Using the Internet

As the last sub problem of the research, proficiency levels of primary school teachers and directors in using the Internet was examined. Table 9 shows frequencies and percentages regarding the proficiency levels of primary school teachers and directors in using the Internet.

Table 9. Proficiency Levels of Primary School Teachers and Directors in Using the Internet

Proficiency in Using the Internet	Teacher		Director	
	f	%	f	%
I Don't Know	9	1,9	2	1,6
Sometimes	191	41,3	41	32,8
Very Often	263	56,8	82	65,6
Total	463	100,0	125	100,0

As expressed in Table 9, the level of the ones who cannot use the Internet among the teachers and directors having a proficiency of using computer is quite low. 1.9% of teachers and 1.6% of directors expressed that they cannot use the Internet. The rate of the ones using the Internet very often is more than half for both teachers and directors. Besides the features of being update, fun and informative, the Internet might be used for such reasons as being easy to use just with a few keys, although active use of the Internet requires detailed information. With its features like communication, searching, teaching, corresponding, social interaction and sharing information, the Internet has been used all over the world at every profession. Its widespread use among teachers and directors is thought to be natural.

4. DISCUSSION AND CONCLUSIONS

Basic feature of information age and information societies can be described as using information technologies widely and producing, duplicating information and using it in problem solving and offering it to the service of all societies. The most significant duty in training qualified individuals required by information age and information society is no doubt the duty of educational institutions. The basic component and locomotive of education is teacher. The responsibility to train the individual of information societies by using information technologies efficiently in the process of learning and teaching is on teacher. On the other hand, the fact that teachers are not able to fulfil this responsibility especially in developing societies and countries turns out to be an issue for many researches. Hunt & Bohlin [12] and OTA [13] stressed that information technologies cannot be fully used by most of teachers; Henry [14], Munson & others [15] expressed that a great many of institutions of teaching cannot integrate technology education to teacher training programs successfully; Hu, Clark & Ma [16] explained that teachers resist against teaching technologies at schools and Finley & Hartman [17], Adams [18], Rowley, Dysard & Arnold, [19] emphasized that teachers should be trained to be technologically literate and to use technology in particular. In this purpose, the basic proficiency level of computer using of primary school teachers and directors was examined in the current study, and their current status were tried to be introduced in order to initiate precautions and applications which will contribute to realize the duties and behaviours required in an information society by teachers and directors.

General outcome reached at the study is that teachers and directors have a proficiency to use computer at primary education. That is to say, a great majority of teachers and directors have the proficiency of being able to use computer and almost half of them have an experience of 6 years and above. While directors use computer more for the purpose of communication and fun compared to teachers, almost half of teachers and 1/3 of directors use computer for the purposes of communication, fun, education and searching and they use it as a combined purpose of all these. Although the rate of directors using it just at school is higher compared to teachers and the rate of teachers using it just at home is higher than those of directors, the majority of both groups use computer both at home and at school. The fact that teachers and directors have their basic proficiency to use computer through pre service and in service training has a considerable place,

however, it is true that almost half of both teachers and directors attain this proficiency individually, on their own or in a process where they get some help by their friends. As for basic proficiency of both teachers and directors to use computer, a great majority of both groups used word processors very often. While directors use electronic table programs more often than teachers, teachers use presentation programs more often compared to directors. In addition, more then half of both groups use the Internet very often.

The results obtained at the study are supported by similar studies in the literature. At a study conducted in 2001 by Hotamaroğlu [20] over primary school teachers in Turkey; it was found that 85% of teachers are able use computer and that they use computer in corresponding – communication – education and for fun. It was stressed in the same research that teachers use the Internet and word processors more often and that they cannot use presentation and electronic table programs frequent enough. It was also found that their computer experience is little and a great portion of hem use computer less than 1 year and they mostly use computer at school. In this study, it was determined that there is an increase at the experience period of teachers and at the proficiency of being able to use electronic tables and presentation programs. At a study by Gözütok & others [21]; it was expressed that 84% of primary school teachers have a computer at home, 1/3 of the ones having a computer at home connect to the Internet, almost half of them use computer less than one hour a day and that nearly 2/5 of them have an experience of more than 1 year. Çelikten [22] stressed in a study carried out in 2002 over primary school directors in Turkey that they use computer and they benefit highly from it. In addition, it was expressed that they use computer to keep records at school affairs, at accountancy, for official corresponding and for salary arrangements. In this study, the rate of directors' electronic table use and the rate of their computer use for the purpose of Internet access and correspondence were found high. Kocasaraç [23] found in a study that although teachers do not find themselves adequate enough concerning computer assisted teaching, they have a high level of proficiency in using computer at basic level. Çağıltay & others [24] indicated that teachers have a positive attitude towards using computer at school and they are so willing in using computer in the class. As a conclusion, when we take the findings at other studies into consideration, it is likely to say that primary school teachers and directors have a proficiency to use computer.

Of the reasons why most of the teachers and directors have a basic proficiency of using computer are the fact that computers have been in use in Turkey and at Turkish education system since 1980s, that the Ministry of Education donated teachers cheap laptops, the Ministry of Education also granted for teachers and directors an opportunity of in service training, the facilities to connect to the Internet and to meet the needs for the equipments at schools have increased for the past 5 years, and that educators present a positive attitude in getting the opportunities of computer and the internet thanks to the contribution of computer into education and the price has become cheaper.

RECOMMENDATIONS

1. The directors of primary schools have important roles since primary education makes up the basis of education system. The behaviours the students attain here will be felt in positive way in the next stages of education. Therefore school directors should pay more attention to use technologies existing at school personally and they should present teachers some facilitating applications.
2. Successful teachers should be awarded and encouraged for a higher level use of technology.
3. Depending on technological developments, in service trainings of teachers and directors should be updated and sustained.
4. In order to increase technology use and develop a high level use, classes and educational environment should be made available physically.
5. Educational programs should be arranged flexibly in a way to obtain integration of computers.
6. The ways how to use computer and the Internet efficiently at educational institutions should be sought and researches should be conducted in this issue.
7. The programs should be rearranged in a way to make the prospective teachers at the institutions of teaching attain basic and high-level computer proficiency during their pre school education.
8. Computer proficiency and attitudes of teachers and directors and the factors affecting them should assessed at certain intervals.

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Published by
International Association of Technology, Education and Development (IATED)
Web: www.iated.org

INTED2008 Proceedings
Edited by
L. Gómez Chova, D. Martí Belenguer, I. Candel Torres
International Association of Technology, Education and Development
IATED, Valencia

ISBN: 978-84-612-0190-7
Depósito Legal: V- 823-2008

Book cover designed by
J. L. Bernat Tomás

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This is to certify that:

YAVUZ ERİŞEN

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BASIC COMPUTER SKILLS OF PRIMARY SCHOOL TEACHERS AND DIRECTORS

at the International Technology Education and Development Conference,
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