FACTORS AFFECTING THE COMPUTER USAGE OF PHYSICS TEACHERS WORKING AT PRIVATE TRAINING CENTERS

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ABSTRACT
The rapid development of computer and instructional technologies eases our lives in many ways. Private teaching institutions have become one of the most important entities in the educational system of Turkey. The topics spelling at private teaching institutions will determine the university as well as the departments that the students are going to be enrolled as well as the quality of the education and instruction they will receive at those institutions. Physics classes, due to the extensive amount of abstracts concepts, are at the top of the classes causing students difficulties. Therefore, computer supported instruction will facilitate the comprehension of the students which would otherwise be difficult to understand. The present study is conducted with 40 physics teachers, 24 males and 16 females, working at the 20 branches of a private course in Ankara throughout the spring semester of the 2009-2010 academic year. The statistical analyses conducted showed that the majority of physics teachers believed that the use of computers facilitates learning.
Keywords: physics education, computer based instruction, private teaching institutions.

INTRODUCTION

The rapid population growth in Turkey made better education for individuals compulsory for better life standards. Every year millions of students compete with each other in order to score better at mainstream exams such as SBS and ÖSS. In an exam system where the success of one student depends on the failure of another, parents as well as students prefer private teaching institutions in order to prepare best possible for these exams.

These educational institutions founded by locals and foreigners, real personalities and corporate bodies, under the supervision and control of the Ministry of Education, giving education for a certain price are labeled private teaching institutions (Çolak, 2006). Private teaching institutions are foundations established to compensate for the lacking knowledge at main stream exams such as SBS and ÖSS, and to support the students who want to prepare themselves better for these exams. The education, either of supporting or reinforcing nature provided at these private teaching institutions, preferred by the students who want to be successful, is conducted parallel to the education given at state schools (Temel, 2007).

The conditions of the 21st century, making life long learning obligatory, show clearly that Single quotes education and instructional activities will not suffice. The obligation to present information in various ways throughout the educational process enforces the use of new instructional technologies instead of traditional educational tools and devices (Kaput, 1991).

Educational technologies is a frequently but many times ambiguously used concept in education and as well as in other areas. Whereas this concept means for some any material used to support education, for others it is a novel and special approach for the realization of one particular aim of education and instruction (Ely, 1993). The concept of educational technology can also be defined as the systematic and planned activities for the best possible creation of a teaching and learning environments (Jennings et all., 1985). In its broadest sense educational technologies, as a theory and practice, expresses the design of instructional materials, adaptation and evaluation of these interactively with the teaching methods (Seels & Richey, 1994).

Among the Information and Communications Technologies (ICT) the most popular and most important one is the computer, enabling the information provided in the lessons to be retained permanently and to keep students interest for the lesson constantly alive. Collins (1991) mentions the change that computers have brought about and states that the use of computers necessitates active learning enabling the students and society to direct towards a more constructive perspective.

Computer supported education is the use of the computer as an environment for learning increasing the motivation and learning process of the students. The findings of previous research suggest that computer supported education increases the success of the students more compared to traditional methods of education (Chang, 2002). Moreover, besides increasing the success of the students, it also increases the higher order thinking skills and hence enables the comprehension of the student rather than memorization (Renshaw &

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Taylor, 2000). Nowadays, it's indispensable during education period to use audio-visual materials for the presentation of an effective education (Koşar, Çiğdem, 2003). The necessity to use computer in education is resulted from reasons such as difficulty in education system, rapid increase in the number of students, increase in amount of information and its more complicated content and insufficient teachers and individual ability differences which become crucial. Some governments endeavor allowing computer-aided education full play in their education policy. In Japan, it's a known fact that the level of success increased in the classes which were equipped with "Multimedia" facilities. In Israel, on the other hand, 42% success rate in mathematics lecture increased up to 99% by preparation of middleware software and as a result of its application by computer-aided education (Cameron, 1992). In USA, schools have been making a purchase of technology for years in the hope of teachers and students using it in order to increase their efficiency. Providing software and equipments to schools in an increasing rate makes it possible for a rapid access of them (Zehr, 1998).

As stated by Fullan (1991) the prime role is on the teachers to apply improvements and realize changes. The decisions, experiences, approaches, beliefs, and manners of teachers directly affect computer usage in education (Andris, 1995; MacArthur & Maloof, 1991; Marcinkiewicz, 1993; Moursund, 1979; Stevens, 1980; Yaghi 1996). Some teachers who have positive manners towards computers use them in their classrooms (Casey, 1995; Schrum, 1993).

Teachers, who are going to prepare themselves and their students for the information age, are to get accustomed to ICT supported school culture as soon as possible (Leh, 1998). Teachers can acquire new information rapidly and transfer them to their students by means of educational technologies (İşman, 2002). According to many researches, computers are not used precisely by most of the teachers even if they are easily accessed (Hunt, Bohlin, 1993; Marcinkiewice, 1993; OTA, 1995). Lack of information and inadequate education are the most important two problems for usage of computers in education (Andris, 1996). Many teachers in USA are not educated adequately for the aim of using computers in the classrooms (Hardy, 1998; Henry, 1993; Jordan & Follman, 1992; Lyons & Carlson, 1995; Okinaka, 1992; OTA, 1995). Teachers need more time and support of school management in order to integrate technology into education and prepare new teaching plans, advanced applications and new lectures (Becker, 1994; Honey & Henriquez, 1993; Honey & Moeller, 1990; Loucks & Hall, 1987; Hunt & Bohlin, 1993; OTA, 1995; Sheinguld & Hadley, 1990; Wiske, 1987).

The effectiveness of the computers throughout the teaching process has contributed to its use in teaching physics. The use of computer supported physics classes will cease to make physics to be considered as the most difficult lesson to be understood by students who are preparing for the university majoring in mathematics. The computer supported material for teaching electrostatics in Physics has resulted in facilitating students' success (Saka & Yılmaz, 2005). The current condition of computer supported education in private teaching institutions, to which we send our children paying large amount of money, is besides the possibilities and the views of physics teachers a topic to be researched. There are many studies about the use instructional technologies at the primary and tertiary level. However, no studies were conducted regarding the use of technology in private teaching institutions. The present study is significant in that regard. In the present study factors effecting computer supported physics applications, the possibilities and views of teachers to conduct computer supported physics education, and the demographic features of physics teachers are analyzed.

The present study was conducted to determine the views of physics teachers teaching at private teaching institutions, the possibilities to conduct computer supported physics classes, and the factors effecting computer supported physics classes.

METHOD

A triangulation method has been employed in the present study. In the social sciences, triangulation is often used to indicate that more than two methods are used in a study with a view to double (or triple) checking results. This is also called "cross examination" (Cheng, 2005).

The idea is that one can be more confident with a result if different methods lead to the same result. If an investigator uses only one method, the temptation is strong to believe in the findings. If an investigator uses two methods, the results may well clash. By using three methods to get at the answer to one question, the hope is that two of the three will produce similar answers, or if three clashing answers are produced, the investigator knows that the question needs to be reframed, methods reconsidered, or both.

Triangulation is a powerful technique that facilitates validation of data through cross verification from more than two sources. In particular, it refers to the application and combination of several research methodologies in the study of the same phenomenon (Bogdan & Biklen, 2006). By combining multiple observers, theories, methods,

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and empirical materials, researchers can hope to overcome the weakness or intrinsic biases and the problems that come from single method, single-observer and single-theory studies.The purpose of triangulation in qualitative research is to increase the credibility and validity of the results.

Scope and Sample

The scope of the present study consists of the physics teachers working at private teaching institutions in Ankara; whereas the sample of the study consists of the 40 physics teachers, 16 males and 24 females, working at 20 affiliations of a private teaching institution in Ankara. Detailed information is given in the table 1 below.

Table 1: Data regarding the sample

		F	%
Gender	Male	24	60
	Female	16	40
Faculty of Graduation	Faculty of Education	12	30
	Faculty of Humanity and Letters	26	65
	Other	2	5
Seniority	0-5 years	11	27.5
	6-10 years	13	32.5
	11-15 years	13	32.5
	16-20 years	3	7.5

According to Table 1, the majority of the teachers (72.5%) have seniority over five years.

DATA COLLECTION AND ANALYSIS

In the present study a 20 item questionnaire developed by Alev (1997) has been employed. The questionnaire consists of 20 questions out of which three were directed to determine the profiles of the participating physics teachers and seventeen at computer supported physics education. The Cronbach Alpha coefficiency has been found as .92. Furthermore, with a randomly selected group of teachers a semi-structured interview and observations were conducted according to previously prepared observation forms. The views of specialists were taken into consideration during the preparation of the semi-structured interview and observation form. The data were analyzed using SPSS11.00 statistics program. In the analysis of the relevant data frequency dispersion, percentage, and χ^2 (Chi-square) tests are used. In the evaluation of the statistical results p = .05 level is taken as the significance level.

Findings

This section provides the answers that the teachers have given to each question in the survey in frequency and percentage besides the χ^2 (Chi-square) analysis results of the teachers' views regarding the factors affecting the use of computers during teaching physics classes.

Table 2: Data regarding the answers that the teachers in the sample provided to the questions.

Questions	**Answers**	**F**	**%**
What is the average amount of students in your classes?	Less than 10	-	-
	10-20	25	62.5
	21-30	13	38.5
	More than 30	2	5.0
How many computers for instructional purposes are there in the private course you are working?	1-3	13	32.5
	4-6	14	35.0
	7-9	11	27.5
	10+	2	5.0
How many students per computer are assigned?	1	1	2.5
	2	4	10.0
	3	5	12.5
	4	5	12.5
	4 +	25	62.5
Dou you have a special interest in computers?	Yes	11	27.5
	A little	23	57.5

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	None	6	15.0
Do you share the view that computers are technological devices facilitating learning?	Totally Agree	10	25.0
	Agree	12	30.0
	Partially Agree	16	40.0
	Do not Agree	2	5.0
	Never Agree	-	-
Can you conduct computer supported physics classes?	Yes I do	7	17.5
	Sometimes I do	22	55.0
	I do not	11	27.5
Did you receive any computer related classes during your B.A years?	Yes	40	100.0
	No	-	-
What were the computer related classes during your B.A years?	Computer Education	22	55.0
	Computer Supported Education	3	7.5
	Computer Supported Physics Education	2	5.0
	Introduction to Computer	13	32.5
Were these classes sufficient?	Completely	2	5.0
	Partially	15	37.5
	Insufficient	23	57.5
How many classes per week were these classes?	Two hours	21	52.5
	Three hours	12	30.0
	Four hours	7	17.5
Have you ever participated in course on computer usage or computer supported education?	Yes	9	22.5
	No	31	77.5
If you have joined any in-service courses, what were the content of these?	Computer Education	6	66.7
	Computer Supported Education	-	-
	Both	3	33.3
How long were the courses that you have participated?	2 months	3	33.3
	3 months	2	22.2
	4-6 months	4	44.4
Were these courses able to provide you enough information to conduct computer supported physics classes?	Yes	-	-
	Partially	8	88.9
	No	1	11.1
What are the difficulties that you have while using the computer during physics education?	I can not use a computer	5	12.5
	Insufficiency of the programs for computer supported physics classes	23	57.5
	High number of students	12	30.0
	The lack of a computer in the private course for educational purposes	-	-
Are there any institutions that you can turn to if you have any difficulties in computer supported physics classes?	Yes	32	80.0
	No	8	20.0
What are the superiorities of computer supported physics classes compared to other methods for high school students?	It's visual	23	57.5
	It's fast	10	25.0
	It's permanent	18	45.0
	It increases students interest	15	37.5

On analyzing the data in Table 2, it wording amount of the students is 10-20 (62.5%). It is interesting that there are not any classes with less than 10 students. There is not a computer per person ratio in the private teaching institutions participating in the present study. The interest of the teachers in computers is only 27.5% in the sample is thought provoking. Moreover, whereas 55.0% shares the view that the use of computers has a positive impact on learning, a 40.0% partial agreement is also meaningful. Whereas 27.5% of the teachers state that they can not conduct physics classes computer supported, only 17.5% of the sample conducts physics classes always computer supported. It can also be seen that these teachers received computer related education during their B.A. years (Table 2).

According to the findings of the present study; the majority of the teachers have had computer courses (55.0%) and introduction to computer classes (32.5%) during their collage years. The majority of the participants state that they had two hours a week computer courses (52.5%). Most of the teachers stated that the computer courses

they received during their B.A. years were insufficient (57.5%). 77.5% of the teachers mentioned that they didn't have any in-service computer courses. Out of the teachers who participated in in-service computer courses 66.7% joined computer education courses and 33.3% both computer education and computer supported education courses. Whereas, the in-service course for 44.4% of the teachers lasted between 4-6 months, for 33.3% it lasted only two months. 11.1% of the teachers who participated in these courses mentioned that they did not receive sufficient information about the use of computers in physics classes, 88.9% mentioned that they received partially related information. Regarding the underlying reasons for the insufficiency of these courses, teachers mentioned the short time allocated for these courses and their insufficiency. 57.5 of the teachers stated as the most prevalent reason for the problems in using computer supported physics classes the lack of programs designed for this purpose. 80.0% of the teachers voiced that there were institutions or persons that they could turn to if they have had any problems while having computer supported physics classes. 57.5% of the teachers stated that computer supported physics classes were better as they were visual, 45.0% the information as they enabled better retention of information compared to other methods.

Chi-square ($\chi 2$) analyzes, aiming to see whether there were any significant relations between the teachers forming the sample of the present study and their gender, special interest in computers, views whether the computers was a technological means, amount of students per computer, seniority of the teachers, reception computer courses during their B.A. years, the presence of somebody or some institutions to solve their problems encountered during computer supported classes, were conducted as well. The results obtained from the $\chi 2$ (Chi-square) are as given below.

The results obtained from the $\chi 2$ analyzes could not find a significant relationship between the gender of the physics teacher and computer supported physics class ($\chi 2$ value = 1.479, degree of freedom (df) =2, p = .479). A meaningful relationship was found between the special interest of the participant in computers and conducting the physics classes computer supported ($\chi 2$ value = 25.939, df = 4, p = .000). There was also a meaningful relation between the views of the teachers who regarded computers as technological means and teachers' conducting their physics classes computer supported ($\chi 2$ value = 23.497, df = 6, p = .001). No meaningful relation was found between student per computer and teachers' conducting their physics classes computer supported ($\chi 2$ value = 7.649, df = 8, p = .468). No significant relation was found between teachers' seniority and teachers' conducting their physics classes computer supported ($\chi 2$ value = 5.700, df = 6, p = .458). A significant relation was found between teachers participation in-service computer education courses and conducting their physics classes computer supported ($\chi 2$ value = 9.486, df = 2, p = .009). No significant relation was found between teachers opportunity to turn to an institution or person if they faced problems in conducting computer supported classes and teachers' conducting their physics classes computer supported ($\chi 2$ value = .657, df = 2, p = .720).

OBSERVATIONAL FINDINGS

In order to determine the conditions of the physics teacher teaching at private institutes observations were made in their natural settings. Criteria regarding students' behaviors, interest in the lesson, participation, and the overall teaching of physics have been considered and notes related to each were taken. Observations lasting for four hours were conducted with eight teachers out of which; four mentioned that they used computers in every of their physics classes, two from time to time, and two they did not use any computers at all. The findings from the observations are presented in Table 3.

Table 3: Observation findings of the teachers

Teacher	Use of computer	Topic	Student Interest	Time use
A	Taught using simulation	Electric circuits and brightness of lamps	Students listened attentively	Was able to cover the topic and do sufficient exercises
B	Used a package program readily available	Electromagnetic induction	Students attention was good	Was able to cover the topic and solve sample questions
C	Taught using his own presentation on his computer	Energy topic	Students interests in the lesson was very high	Was able to teach the topic and solved together a lot of sample questions
D	Used a package program readily available	Force and movement	Students interest was very good	Was able to solve a lot of sample questions

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E	Taught traditionally during the observation traditionally despite the fact that she stated to use the computer from time to time	Looking glasses	Average Students' interest	Was able to solve a small number of sample questions
F	Taught traditionally but used computer only while soling sample programs	Movement on an inclined plane	Average Students' interest	Was able to solve a small number of sample questions
G	Taught traditionally	Straight movement	Little Students' interest	Was able to solve a small number of sample questions
H	Taught traditionally	Liquid pressures	Little Students' interest	Was able to solve a small number of sample questions

SEMI-STRUCTURED INTERVIEW FINDINGS

Interviews have been conducted with the teachers observed. Questions regarding the following have been directed at the teachers;

a) Why did they prefer to use computers in their classes
b) What was the contribution of using computers in their classes
c) When did they start using computers in their classes

To the teachers who had stated that they used computers in their classes rarely or never questions like those below were asked;

a) Why did they use computers rarely or never
b) The difficulties that they have had while using computers

Teacher A: He mentioned that he used the computer almost in all of his classes. His interest to use the computer in his classes had begun during his B.A. years. This teacher taught electric circuits and the brightness of lamps using a simulation. Student's comprehension of the topic could be understood from the right answers they provided to the teachers question. He was able to cover the topics to be taught in 4 hours only in two and had just made ample time to solve more questions.

Teacher B: He expressed that the computer should be incorporated more in educational settings and that he was capable for doing that. He taught electromagnetic induction using a package program. He was able to answer many questions and had enough time to turn back to the topics that were either misunderstood or not understood at all. He stated that he had established many question banks and that these were very useful during the lesson.

Teacher C: The reason for using a computer in the class; he was interested in using technology, this was easy for him, and this interest was aroused during his college years. He expressed that he used computer presentations during the projects that he has had in those years. His self esteem could be felt throughout the observation.

Teacher D: On being asked why he used a computer in his classes he said; "this is easier for me and I do not want to loose time drawing figures on the blackboard". He further mentioned that his parents bought him a computer while he was at middle school and he had first played games before he started writing programs. He kept the interest of his students alive and solved many questions throughout the class.

Teacher E: She stated that he used a computer from time to time in her classes and preferred using it mostly while answering questions The reasons for that were rooted because of her concern loosing face in front of the students as she deemed herself insufficient in using computers. Moreover, as there were not computers in every class, she could not keep pace with the topics among her classes.

Teacher F: She stated her reason for using a computer rarely as follows: "In one of my classes while using it the computer broke down and as I could not fix it at that moment. As I felt humiliated in front of my class, I now refrain from using the computer for presentation but prefer it for solving questions in the class. As this teacher was turning her back to the class while explaining the topic, her classroom management was weak.

Teacher G: The reason for not using the computer was mentioned as the lack of practice in the computer and technology classes throughout her college years and the in-service courses hampering her to develop her computer skills. She mentioned that she felt the necessity for using a computer in all of her classes and wants to participate in a course. This teacher spent most of her time on formulas and inclined shot drawings leaving her little time to solve questions.

Teacher H: Though the use of computers is necessary, he expressed that due to his old age, it was difficult for him. As the students were always much better than him, he always thought twice before, bringing the computer into the class. This teacher, as he was very experienced, taught well in the class without any computer support, but lost time as he had to redraw some of the figures as one of the students could not understand the topic. He

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said: "If I had been using a computer, I would not have had to redraw and would have more time to answer questions."
In the interviews with other teachers, they stated the following.

- Teachers are aware of the impact of technology on learning,
- Teachers with a solid background of computers stated the reason for not using the computer as the lack of overhead projectors in the classes and lack of time,
- Lack of package programs for physics education,
- Probability of difficulties in classroom management if computers are used,
- Use of computers only for individual needs,
- The lack of internet connection at home, the negative effect the limited computer and internet possibilities at the private teaching institution classes.

RESULTS AND DISCUSSION

According to the results of the present study; physics teachers working at private teaching institutions do not have sufficient computers for instruction and teaching in these institutions, only 27.5% have a special interest in computers, 55.0% consider computers to have a positive impact on students learning, and among the participants only 17.5% have always computer supported physics classes. Besides, all the teachers have had computer related instruction during their college years mostly limited with two hours and 57.5% consider the education that they received as insufficient. 57.5% of the teachers deem in computer supported physics classes visualization as dominant and, 45.0% the retention of information as dominant compared to other methods.

In a similar study, Sarı (2010) indicated that 57.0% of teachers know usage of computer at intermediate level, 20.0% of them know at upper-intermediate level and 22.0% of them know at beginner level. It was also determined that 27.0% of these teachers do not use computer in their lectures, 20.0% of them use it once a week, 26.0% of them use it once a month and 15.0% of them use it once a term.

In the research of Çağıltay et al. (2001), it was determined that 41.0% of teachers never use computers and 20.0% of them have a computer usage experience more than two years. 56.0% of teachers indicated that they are very interested in learning the usage of computers, 42.0% of them are moderately interested and 2.0% of them are not interested in learning. 21.0% of the teachers stated that they were participated in-service training related with computer usage.

According to $\chi 2$ (Chi-square) analysis results, there was not a significant difference ($p > .05$). Between the level of computer usage and; Gender, number of students per computer in the classes, the existence of somebody or some institutions that they could turn to if they had any problems in using computers, seniority.

Azar and Akdeniz (2006), found in their research that seniority did not have an effect on computer usage. A similar study conducted with natural sciences and technology teachers revealed that there was not a meaningful relation between seniority in the profession and use of computers (Karamustafaoğlu, 2006). Contrary to these studies, (Ağır et al., 2006) found that the use of internet had a significant relation with seniority. The attitude of teachers with (0-5 years) seniority was higher than that of their older colleagues.

In the present study, similar to the research conducted by Karamustafaoğlu (2006) there was not a significant relation between gender and teachers' computer usage. However, Akpınar and Turan (2002) found out that male teachers used more teaching materials compared to their female counterparts. Regarding teachers' computer usage in the present study there was a significant relation between; Teachers interests in computers, considering computers as technological devices facilitating learning and participation in computer courses ($p < .05$).

Halderman (1992) determined in his research that most of the teachers would like to use technology better in their lectures and they developed positive manner. Özdemir and Tabak (2004) determined in their research that application of computer-aided education method in mathematics lecture of primary school increased the student success and positive manner towards mathematics. Çağıltay et al., (2001) indicated in their research that believes of teachers about computer usage were positive and they believed that computer usage in education would increase the quality of education and would not bring additional work load. Moreover, most of the teachers participated in the research advocated that computers increased the success of students in lectures as 91.0%, their interests as 92.0% and their motivations as 89.0%. In the research of Güveli and Baki (2000), it was determined that teachers had a belief about computer-aided mathematics lecture would not be as desired as long as university entrance exam in the education system of our country is present. However, it was also stated that computer-aided education might be interesting, motivating and might have an important effect in simplifying learning of students. İşman (2002), determined in his research that teachers do not use sufficiently motivating and

increasing education technologies in education system for learning. In the research of Kılınç (2010), it was determined that most of teacher candidates feel themselves competent in terms of using education technologies. So all of these outcomes clearly show the reasons for using or not using computer supported physics classes.

According to the observation and interview results it can be stated that; Teachers A, B, C, and D make use of computers due to individual needs. They expressed that they could make use of computers in every occasion. They have self esteem and manage time well. The common features of four teachers were; efficient use of computers for personal use, use of computers as means of presentation, and while preparing lecture notes for their students.

The present study reveals that the level of computer use by the teachers is below the level desired. Parallel results are obtained from the relevant literature (Alev, Yiğit, 2006; Cosgrove, 1995; Davis & Speer, 1990; Streeter,1978; Ivers, 2002; İşman, 2003; Karamustafaoğlu, 2003).

Factors having a negative impact on the use of computers and related instructional technologies are as mentioned by many researchers (Byrom, Bingham, 2001; Granger et al, 2002) ; insufficient development of the staff, insufficient technological support, lack of access to hard and software, lack of grants and support for the teachers to improve themselves in this particular field. So an important finding of the present study is that despite the fact that the majority of the physics teachers have attended computer courses they consider themselves insufficient in the use of computers.

The results of this study can be summarised as given below;

- It was determined that There aren't adequate computers in training centers for the aim of education, Few teachers are sensitive to computer usage, Very few teachers always give computer-aided physics lectures, Teachers take lectures related with computer during their undergraduate education however they think that this is inadequate, More than half of the teachers think that doing computer-aided physics lectures will increase their visual quality, Almost half of teachers stated that doing computer-aided lectures will provide permanence of information more than other methods,
- It was determined that the computer usage levels of teachers do not depend on; Gender, Number of students per computer in the class, Presence of people and institutions who will guide them when there is a problem in their computer usage, Professional seniority.
- A significant difference was found between computer usage of teachers in physics lectures and their interest in computers, for them to think that computers are technological devices supporting learning, and their situations about participating in computer courses.
- It was determined about teachers who were observed and interviewed that: Teachers, always doing computer-aided physics lectures, Also use computers quite effectively in their personal needs, Make their lecture presentations with computers in the classroom, Benefit from internet and other software while preparing course grades for students.
- It was concluded that the computer usage levels of teachers are generally not at desired levels, They feel themselves unqualified although they participated in courses related with computer education, They couldn't get enough technical support, They do not have access opportunities for equipments and software related with every subject.

As a result, if teachers overcome the barriers caused by their personal worries, they will be efficient users of technology in learning environments.

SUGGESTIONS

According to the findings of this study the suggestions below can be given:

- In-service teacher education programs are to be designed and teachers educated for the use of ICT in the learning process.
- Teachers are to be provided with sufficient technical support for the use of computers in the classes.
- Awareness for the incorporation of teaching materials should be raised in teachers and they should be encouraged to do so.
- The amount of the computers in the private teaching institutions should be increased in order to answer the demand.
- Teachers should be made self reliant in term of knowledge, skills, and equipment for the development of the materials required in the classes.

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