HOW DOES STUDENT ABILITY AND SELF-EFFICACY AFFECT THE USAGE OF COMPUTER TECHNOLOGY?

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ABSTRACT
The main aim of this research was to find out the self-efficacy level among participant students and analyze their beliefs. This study showed that male students are more confident comparing to female student, similar to research of Bimer (2000), the computer usage has been known as biased toward the interests and fashion of men, this research also showed that females are not as confident as men are to computers. Awoleye & Siyanbola (2005), Bimer (2000), indicated that computers have some gendered attributes that favor man in some way so that men are more likely to use computers and they are more confident. Therefore it can be said that many studies has been support the gender factor in self-efficacy, but this research also showed that this changes are more likely to be depend on the complexity of the task and the year of computer usage of the particular student as Busch(1995) has been found the similar results. Similar to the study of Compeau, and Higging (1995), it is found that self-efficacy shapes the individuals beliefs and behaviors as well. It is not surprising to find out that students have different computer levels and this affects their self-efficacy. Also some students have advance computer knowledge, therefore they complain about the level of the computer courses offered to them. In addition to this it can be said that students with different computer skills shows different self-efficacy levels as well.

INTRODUCTION
Computer technology is involved in many aspects of our daily lives. In universities teachers' expectations from students about their computer abilities has been increasing. Most of the teachers do not accept hand written projects, they usually prefer presentations prepared on computers, and they also expect their students to do further studies, comparisons of their subject with different authors results. Basically all departments at Eastern Mediterranean University, Faculty of Education, has basic computer literacy courses given to their students in order to provide equal opportunities to all their students to gain the ability of efficient computer usage for their projects, and presentations. On the other hand as much as university intention to help students to gain computer abilities, the students self-efficacy is also important to be able to apply what they have learned to real situations.

THE AIM OF RESEARCH
This study is about the students' self-efficacy to use computers. Usually project based assignment need, further research about subjects and there is a need for computer to be used to do researches about the subject, to type the project, or to do presentations, or both. The students' self-efficacy to use computer beneficially as a tool can be a matter of discussion in the universities, where it can be considered that students need this technology more than their previous level of studies. The main problem is that many students can not efficiently benefit from computers, for some students it is an extra work to involve computers in their assignments. For this reason this project aim is to measure the student's self-efficacies or levels of using computers beneficially.
There are 4 research questions that this paper answers;

1- What is the student's self-efficacy level at Eastern Mediterranean University (EMU), faculty of education?
2- Is there a difference about computer self-efficacy based on the years of computer usage?
3- Is there a difference about computer self-efficacy based on gender?
4- Is there a difference about compute self-efficacy based on having computer at home?

IMPORTANCE OF THE RESEARCH
The results of this study might be so surprising; there are many students at the EMU , who have very poor computer abilities. Even though all the departments are offering computer courses, mostly in their first years of study, students still face with difficulties to improve and transfer their knowledge to the next levels. Most of the students still have difficulties preparing presentations by using computers, or even typing their reports efficiently by using computer. The importance of this study is that it focused to investigate where students have problems about their computer self-efficacy or if they have any problems at all as it is observed by instructors. The suggested reason for poor computer abilities in this study is that, since students are so much focused on their major area of their studies, they don't put much effort to learn maximum from their computer courses. This leads most of them to face lack of computer usage knowledge and poor abilities to use it as a tool for their assignments.

RELATED RESEARCHES

Information is the human beings unsatisfied hunger since ages. It always exists and human being never stopped seeking for more of it. Knowledge become meaningful when there is a process of learning. O'Hara (1998) indicated that:

> John Dewy noted that when people learn about a new tool they learn what it is and when and how to use it. When people learn new information in the context of meaningful activities they are more likely to perceive the new information as a tool rather than as an arbitrary set of procedures and facts. (p. 4)

On the other hand another definition of information says that it is an important issue that determines the society's competitions power and development status under today's economical conditions (Battal, Çakın, &Tuğyan, 2006).

Selwyn argues that one of the main aims of educational computing is to equipped students with usage of this technology (1997). On the other hand students are tending to develop expectations about their success in the future by observing their teachers most of the time (Gray, Hannay, & Ross, 2001). It is also discussed that self-efficacy is about the beliefs in one's self capability to implement, and organize the courses of action that are necessary to generate given attainments from the perspective of social cognitive theory (Busch, 1995 ; Compeau, & Higging, 1995; Durndell & Haag, 2002; Gray, Hannay & Ross, 2001; Moroz & Nash, 1997; Murphy, Coover & Owen, 1988; Stephens & Shotick, 2002). It is also mentioned in literature that computers dynamic tools for developing cognitive skills and it also helps the learner to develop useful learning strategies (Caldwell, 1980).

During computer education it is suggested that teacher should give an importance to understand each student learning characteristics (Carlson, & Silverman, 1986).

The survey that will measure the students' abilities about computers should target to measure the cognitive aspect of computer abilities which includes both general computer knowledge, and programming knowledge (Sewlyn, 1997).

Another research suggests that in today context people are getting familiar with computers at young ages, and they are more likely to know basic information before they start their university education (Bradlow T. E., Hoch S. J., & Hutchinson W., 2002). There are also many studies about gender issue and its relation to self efficacy (Durndell & Haag, 2002).

Computer self-efficacy is the belief about one has the capability to perform a specific task (Bandura,1997). Computer self-efficacy also means a judgment on one's potential to use a computer (Compeau & Higgins, 1995). Also researches on gender issue and computing has often, but not really always, shaped results that are indicating greater male rather than female experience, use of computers (Balka & Smith, 2000; Brosnan & Lee, 1998). In addition to this the research of Bandura on computer self confidence or self efficacy (1997) also shaped the finding that showed males as a standard have more computer self efficacy than females (Torkzadeh & Koufteros, 1994). There are many studies in literature that have tried to analyze the relationship between computer self efficacy and computer experience (Burkhardt, & Brass, 1990;Chua, Chen, & Wong, 1999; Coffin & Mackintyre, 2000; Gist, et a1.,1989; Hill, et al., 1986 ; Webster, & Martocchio, 1992; Whitely, 1997).

Self efficacy is associated with one's performance accomplishment. The feeling of success of any task improves the self efficacy of person related to that particular task (Bandura 1977, 1982; Campell & Hackett, 1986; Hackett & Campell, 1987).

Also many researches discuss the attitudes toward computers as a part of computer self efficacy. Brock and Sulsky (1994) suggest that attitudes toward computers are usually thought to be composed of two factors which are (1) beliefs that the computer is a helpful tool, and (2) beliefs that computers are self-directed entities. On the other hands Spott, Bowman and Mertz (1997) claims that Instructional technologies and computers have the power to help higher education faculties address increasing demands on their time and energy. In addition to this Volman and Eck (2001) suggest that computers research themes and outcomes have been changed within the last decade. There are also some concerns about teachers and students having difficulty to adapt to technology and therefore this slows down the mechanisms in schools. Zhao and Frank in 2003 indicated that concerns about the slow adoption of technology by teachers and students are not new and quite wide. And according to Zhao and Frank number of researchers considers that schools, being the social organizations they are, are directly at chances with new technologies (2003).

Simpson and Payne suggests that if teachers perceive computers as a powerful tool in both teaching and learning than it is expected from them to use it more frequently in their own teachings as well (1999). It can be said that computers are part of people's life. Universities are where students and teachers are using computers for researches and assignments, therefore it is considered to be a very helpful tool for them. Therefore self-efficacy toward computers especially among students plays a very important role in motivation of students as well as their performance.

METHOD

Operational Definition of Variables

This study was designed to examine students' self-efficacy toward computer usage, based on their departments and genders. Independent and dependent variables of this study are as followed:

Independent Variables:

Characteristics of the students are the independent variables. There are 5 independent variables for this study.

1. Gender.
2. Having Computer in their homes.
3. Since how many years they are using computer.
4. Took a Computer course.
5. Department

Dependent Variables:

1. I am confident about my basic computer hardware knowledge.
2. I am confident about my ability to install any software.
3. I am confident to format my own computer when it is necessary.
4. While I am using computer, if I get any error message, I am confident to solve the problem.
5. If any error occurs while I am using computer, I feel confident if get professional help to solve it.
6. I am confident about my Microsoft Word very abilities.
7. I am confident about my Microsoft Excel abilities.
8. I am confident about my Microsoft Power Point abilities.
9. I am confident to prepare my presentations on computer.
10. I avoid using computers as much as possible.
11. At the university they thought us basic computer usage very well.
12. I learned how to use computers with my own willing.
13. I am confident about my computer abilities.
14. I use computers only for internet.
15. I will be more confident if I have more computer related courses in my department.
16. I will be more confident if i improve my computer skills.
17. I believe that it is a must to know how to use computers.
18. I think computer courses given to us are useless.
19. The level of computer courses offered by our department is below our abilities.
20. I am scared to use computers.

Identification of the Population

The population of this study included undergraduate students of Eastern Mediterranean University, Faculty of Education, Department of English Language Teaching (ELT) and Turkish Language Teaching (TLT) in fall 2007-2008 at Northern Cyprus.

Sample

The sample of the study is selected by random sampling method, 70 students were selected with this method, among the Eastern Mediterranean University, Faculty of Education undergraduate students, who are registered during fall 2007-2008. In total 36 of the students were from English Language Teaching and 34 of them were from Turkish Language Teaching department.

Instrument

For this research study, 5-scale Likert type of questionnaire is designed to analyze students' self-efficacy of computer usage. There were 25 items in this instrument, 5 items were related to personal information, and 20 items related with self-efficacy of computer usage are on a series five-point Likert-scale. (4=Strongly agree and 0=Strongly disagree). The reliability alpha coefficients of the scale were 0.82 (20 items).

Data Analysis Procedures

In this study, quantitative research methods were used to analyze the collected data. The results of the survey evaluated with SPSS software. Descriptive analysis, Independent sample T-Test, One-Way ANOVA analysis and Post Hock Scheffe Analysis has been applied.

Findings

The main focus of this study was to find out the faculty of education students beliefs about their own computer usage abilities. The following results have been found at the end of the evaluation of the collected data. It shows that 51.4% of the participants were from English Language Teaching department and 48.6% of the participants were from Turkish Language Teaching department. It is also indicated that 48.6% of the participants were male and 51.4% of the participants were female students. Results showed that all participants took a computer course at the university. The percentages according to participants year of computer usage, showed that 20% of the participants are using computers since 2 years, 22.9% of them are using it since 3 years 21.4% of them are using it since 4 years, 22.9% of them are using it since 5 years, 4.3% of them are using it since 6 years, 5.7% of tem are using it since 7 years, and finally 2.9% of the participants are using it since 8 years.

Results showed that 64.3% of the participants have their own computer at home while 35.7% of them don't have. Findings demonstrated that 87% of the participants are confident about their basic hardware knowledge (Agree, Strongly Agree) while only 13 % of them have moderate knowledge (Sometimes) about computer hardware. On the other hand 86% of the participants indicated that they are confident (Agree, Strongly Agree) about their abilities to install any software, while 14% of them are sometimes able to install and sometimes not. When it is asked to participants if they are confident to format their own computers, 86% of them indicated that they don't feel confident (Disagree, Strongly Disagree.) to format their own computers, while 14% of the participants are confident (Agree, Strongly Agree). 80% of the participants indicated(Agree, Strongly Agree) that they are able to solve the problem if they get any error message while they are working on computer, and 20% of them can sometimes handle these kinds of problems. 32% of the participant seeks for professional help when any kind of error occurs while 68% of them need professional helps sometimes. It is found that all participants indicated that they are confident about their Microsoft word abilities. 13 74% of the participants are confident about their Microsoft Excel abilities while 26% of them are not quite confident. It shows that 72% of the participants indicate that they are confident about their Microsoft power point abilities while 28% of them have some difficulties. On the other hand it is found that all participants indicated that they do prepare their presentations on computer, and they don't avoid using computers. On the other hand none of the participants are avoid using computers. It is found that 45% of the participants are not happy about basic computer courses they took from their departments while 55% of them are happy. Results showed that 70% of the participants indicated that they improved their computer skills with their own willing, while 30% improved it through other ways. Also 53% of the participant students are confident about their computer abilities, 21% of them are not quite confident and 26% of the participants are not confident at all. 73% of the participant indicated that they don't use computer only for internet while 27% of them indicated that they sometimes use it only for internet. Research results show that all participants (100%) indicated that they will be more confident if they take more computer related courses from their departments. They also indicated that they will be more confident about their computer usage if they improve their computer abilities, and they believe that it is a must to know how to use computers. None of the participants (100%) thinks that computer courses given to them are useless. On the other hand 35% of the participants believe that these courses are below their abilities, while 65% of them believe that courses are good. Research results shows that 7% of participants indicated that they are scared to use computers, 27% of them are also sometimes scared, and 66% of the participants do not scared to use computers at all.

Furthermore independent sample t-test has been done between gender and dependent variables. According to the results there is a significance difference between male and female students in item number 9, 15, 18, that are I am confident to prepare my presentations on computer significance is .032<.05, I will be more confident if I have more computer related courses in my department significance is .004<.05, and I think computer courses given to us are useless0 significance is .004<.05 respectively. There is a significance difference among students departments and items 12, 19, and 20. Significance of item 12 "I learned how to use computers with my own willing" is .006 which is less than .05 therefore there is a significance difference based on the departments of students. Significance of item 19 "The level of computer courses offered by our department is below our abilities" is .007<.05 therefore there is significance difference again. Finally for item 20 "I am scared to use computers" significance is .000<.05 therefore there is a significance difference among departments for this item. The results showed the significance level between students having their own computer at home and the dependent variables. The results indicate that there is a significance difference for item 2, and 14, that are "I am

confident about my ability to install any software" the significance level is .027<.05 and "I use computers only for internet" the significance level is .030<.05.

There is also a significance difference between years of computers usage of students and in items 1, 2, 3, 4, 9, and 18. Item 1 is "I am confident about my basic computer hardware knowledge" and its significance is .000<.05. Item 2 is "I am confident about my ability to install any software" and its significance level is .000<.05. Item 3 is "I am confident to format my own computer when it is necessary" its significance level is .000<.05. Item 4 is "While I am using computer, if I get any error message, I am confident to solve the problem" and its significance level is .011<0.05. Item 9 is "I am confident to prepare my presentations on computer" its significance level is .016<.05. Finally item 18 is "I think computer courses given to us are useless" its significance level is .012<.05.

Results showed that students who are using computers since 4 years or more their means are higher than those who are using it less than 4 years for item "I am confident about my basic computer hardware knowledge." On the other hand for the item "I am confident about my ability to install any software", students who are using computers since 4 years their means are higher than those who are using it since 2 years. For another item "I am confident to format my own computer when it is necessary" those students who are using 6 years or more their means are higher than those who are using it less than 6 years. Finally, those students who are using it since 8 years their means are higher than the rest for item "I think computer courses given to us are useless".

DISCUSSION AND CONCLUSION

The main aim of this research was to find out the self-efficacy level among participant students and analyze their beliefs. This study showed that male students are more confident comparing to female student, similar to research of Bimer (2000), the computer usage has been known as biased toward the interests and fashion of men, this research also showed that females are not as confident as men are to computers. Awoleye & Siyanbola (2005), Bimer (2000), indicated that computers have some gendered attributes that favor man in some way so that men are more likely to use computers and they are more confident. Therefore it can be said that many studies has been support the gender factor in self-efficacy, but this research also showed that this changes are more likely to be depend on the complexity of the task and the year of computer usage of the particular student as Busch(1995) has been found the similar results. Similar to the study of Compeau, and Higging (1995), it is found that self-efficacy shapes the individuals beliefs and behaviors as well. It is not surprising to find out that students have different computer levels and this affects their self-efficacy. Also some students have advance computer knowledge, therefore they complain about the level of the computer courses offered to them. In addition to this it can be said that students with different computer skills shows different self-efficacy levels as well.

There have been many studies done on computer self-efficacy, and beliefs. These researches should be guide for related educational institutions to implement solutions to the exciting problem. The main and the most urgent problem of the EMU case is that all students have different level of computer usage abilities, and it is very difficult to address all students need through one basic computer course, therefore students might be grouped according to their computer usage level and take computer courses based on their levels. This might help students to improve their self-efficacy and the results of the updates can be a further study to be done on this issue.

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