Determining of Student Teachers’ Self-Confidence Using Technology in Instruction

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SYNOPSIS

INTRODUCTION

Information is used in the advancement of technology, and technology is used in the advancement of information; they have a reciprocal relationship and mutual effect in this process of advancement (Simon, 1983; McCannon & Crews, 2000; Komis et al., 2007). Technology, with an optimistic definition, is the implementation of the innovation and scientific principles to solution of the problems. At the same time, it changes the relationship between knowledge areas and disciplines and effects the development of knowledge (Goestch, 1984; Middlehurst, 1999; Williams & Kingham, 2003).

One of the use areas of technology is an education and instruction in terms of the future of society. Every day, educational institutions and teachers are face with students who can easily use communication tools; such as computers, internet, video, CD, mobile phones etc. Unless teachers improve their ability to use existing technology, they will encounter various difficulties. One of the most important of these difficulties, they can not respond for expectations of the students (Slowinski, 2000; Aksoy, 2003).

Before the teachers started to work, education faculties were institutions where they acquired the knowledge and skills to use technology. In this way, use of technology in instruction affected the program of the teacher training as a whole. When student teachers began to work, they would face the group of students within the technology. It has been known that self-confidence and competence of teachers affected on their using technology in instruction (Oral, 2008), that the academic staffs were not enough models about the use of technology in teacher training, and did not require students to use technology (Deubel, 2003; Crowther, Keller & Waddoups, 2004). Another reason of the anxiety of teacher
students in the technology adaptation, the technology in their pre-service training was not used in an adequate manner (Beichner, 1990). Moreover, it was also expressed in previous studies that the efficiency drawn from pre-service training cannot be obtained from in-service training (Tekin, 1996; Uysal et al., 2003). In parallel to this, the teachers beginning to working in schools also stated that they did not acquire skills of the technology and computer use in their pre-service training courses sufficiently, and did not acquire the ability to use them and could not follow rapidly developing technology (Akkoyulu & Kurbanoğlu, 2003). As student teachers begin to work in the schools their attitudes toward using the technology in their classroom play an important role on student success (McGrail, 2005). From this perspective, teachers should be acquired the skills and knowledge of using the technology in university periods for use technology in their profession, effectively.

When examining literature, although there are sufficient studies on the importance of use of the computer and instructional technology in education and are too much research related to skills and knowledge levels of the student teachers in using technology and computer in instruction, there are not enough studies related to the attitude towards the use and preparing of the technology (Senge, 2000; Ufuktepe, 2000; Oral, 2008). First, it is required that student teachers have the use skills of the computer, internet and teaching-aimed technology and positive attitude towards using information technology for use of them in educational institutions as willing. Therefore, student teachers’ views are required to determine what about their attitudes and skill levels concerning using technology in instruction. Also, we believe that in order to learn student teachers’ views about attitudes and skill levels, it is important to first hear the “students’ voice” for what to use related to much more teaching in future.

PURPOSE OF THE STUDY

The specific questions to be addressed in this study are as follows;
1. What are the levels of student teachers’ opinions towards using information technology in instruction?
2. Is there a difference between self-reliance levels of female and male student teachers in using instructional technologies in instruction?

METHODOLOGY

a) Sample

This study was conducted with 325 student teachers on fourth grades in Education Faculties at two Universities, Yüzüncü Yıl and İnönü University, in 2007-2008 Spring semesters. These students were enrolled in the department of elementary math, science and social sciences, and preschool, classroom teacher and Turkish Language at two Education Faculties, and data were collected from them.

b) Data Collection

As a scale in this study, a 29-item 5-point Likert-type (with 1 being Strongly Disagree and 5 being Strongly Agree) Technological Attitudes Scale (TTO) was used. After a draft scale was administrated to group of 40 student teachers, 13 of the items were eliminated because of their poor reliability. Scale items were related to computer and its use (11 items), internet and its use (6 items) and use of the teaching–aimed technologies and their preparing (12 items) (concept, intelligence and knowledge maps, graphic program, with two dimension visual materials, the internet, computer, study sheets and
crossword puzzle, slide and etc.). Reliability coefficient of this scale (latest) was found to be .93. SAS programme was used to test each items whether it explained related features or not. Only 325 surveys were evaluated for data analysis out of 400 applications.

c) Data Analysis

Data analysis was made by using SPSS 15.0 and SAS statistics programme. Mean and standard deviations were calculated for each item. It was tested whether or not gender effected on student teachers’ opinions towards computer, internet and instructional technology usage using ANOVA.

FINDINGS

When the student teacher’s common opinion levels are analyzed, they have been seen that they have mean attitude score at $X_6=4.37$ levels at only one item of the attitude scale. Similarly, when examining items (22, 23 and 27) from Table 1, mean of the responds given by student teachers to these items are at $X_{22}=2.93$, $X_{23}=3.24$ and $X_{27}=3.13$ levels. When the student teacher’s common opinion levels paid attention, mean scores of their responds were range from 3.19 to 4.20 at twenty five items.

Analysis results in terms of gender were examined, the difference between mean attitude scores (for male and female) of the $I_2$ ($X_m=3.55$; $X_f=3.79$), $I_5$ ($X_m=3.73$; $X_f=4.00$) and $I_{24}$ ($X_m=3.94$; $X_f=4.14$) items were significant ($p<0.05$). It can be said that this important difference is in favor of female. According to gender, the difference between responds given by the student teachers to $S_{19}$ ($X_m=3.62$; $X_f=3.94$) was significant ($p<0.001$). This important difference is in the favor of female. In terms of other (remaining) items, when analyzed the difference between mean scores of student teachers’ attitude (male and female) can be said to be insignificant (as seen from Table 3).

DISCUSSION AND CONCLUSION

Results drawn from student teachers were examined, and it has been concluded that they had self-confidence on this issue, because they took point at level of $X_6=4.37$ from item "related to use of the search engine on the Internet". When examining items ($I_{22}$, $I_{23}$ and $I_{27}$) from Table 1, it was concluded that the student teachers had not possessed desired level capability of using computer for education.

As seen in Table 3, in terms of gender, it was concluded that self-confidences of the student teachers about use of the computer, internet and teaching -aimed technology in instruction was difference at a few items. Difference between mean attitude scores of the student teachers (male and female) in terms of $I_2$ ($X_m=3.55$; $X_f=3.79$), $I_5$ ($X_m=3.73$; $X_f=4.00$) and $I_{24}$ ($X_m=3.94$; $X_f=4.14$) were identified as significant based on gender. This difference is in the favor of female. It has been concluded that female student teachers were better than men in the preparation of concept, mind and knowledge maps, programmed instructional materials, and in choosing of appropriate materials for the purpose of instruction. Similarly, difference between the mean of the responds given by student teachers to $I_{19}$ ($X_m=3.62$; $X_f=3.94$) was found significant. It was concluded that female student teachers were better than male student teachers on how to evaluate and design on instruction materials.
SUGGESTIONS

In cooperation with related departments of universities; student teachers should be acquired positive attitude on the importance of the use of technology, the internet, computer-assisted education, and giving information to them about this importance.

Difference between the use of the internet, computer and teaching-aimed technology of the male and female student teachers can be eliminated by giving assignments requiring the use of the internet and computer.

Courses requiring the use of computer and technology should be given more importance in pre-service education for student teachers enrolling in the program are able to make instruction with computer, internet and teaching-aimed technology.
REFERENCES


