

ICT USAGE OF FACULTY MEMBERS WHO OFFER ICT RELATED COURSES IN PRESERVICE TEACHER EDUCATION PROGRAMS IN TURKEY

Yuksel Goktas, Zahide Yildirim, Soner Yildirim
ygoktas@metu.edu.tr, zahidey@metu.edu.tr, soner@metu.edu.tr

Middle East Technical University, Faculty of Education
Department of Computer Education & Instructional Technology
Inonu Bulvari, 06531 Ankara TURKEY

Abstract

This study presents survey findings about ICT usage of faculty members who offer ICT related courses in Turkey's preservice teacher education programs. The data were collected from 111 faculty members from 18 universities through a questionnaire. The findings indicated that majority of participants do not offer online courses. Generally, faculty members use the Internet as a supportive tool to their courses, and particularly search engines used by them. Computer and LCD projector, and word processing and presentation software were ranked as the most frequently used hardware and software by the faculty members.

Key Words : Teacher Education, Technology Integration

Introduction

In Turkey, the Higher Education Council (HEC) is responsible for the planning, coordination, and supervision of higher education. In 1998, HEC developed new teacher education curricula for schools of education, and ICT has been included in the new teacher education curricula. According to the new curricula, the "Computer Applications in Education" and "Instructional Technology and Material Development" courses became compulsory in both primary and secondary pre-service teacher education programs. The main purpose of "Computer Applications" course is to help prospective teachers' process basic computer skills on commonly used computer applications, such as word processors, spreadsheets, databases, telecommunications, and presentations programs. In "Instructional Technology and Material Development" course, prospective teachers gain knowledge and skills in a variety of instructional technologies, and develop and evaluate technology-based instructional materials (HEC, 1998).

The integration of ICT into these courses, by the faculty members who offer the new courses in teacher education programs have important roles. By integrating ICT into these courses, the faculty members can enhance the effectiveness of the courses and become role models for the prospective teachers. However, there is no evidence on the faculty members' ICT usage, and it is not clear if they have met the required needs in ICT related courses to train prospective teachers. Therefore, there is a need to examine current status of the faculty members in regard to integration of ICT into these courses. Consequently, this study addressed the following research question:

(1) What is the current situation of faculty members' ICT usage in Turkey in regard to online courses given, use of the Internet as a supportive tool in their courses, properties of the physical settings where the courses were carried out, evaluation methods, and hardware and software that the faculty members use in their courses?

Method

Overall Design

The researchers used cross-sectional survey method in conducting this study. The data was collected via a questionnaire at just one point in time to find out faculty members' ICT usage in Turkey.

Selection of Participants

The population of this study is the faculty members who give ICT related courses to prospective teachers at schools of education in Turkey. 18 universities, in all regions of Nomenclature of Units for Territorial Statistics Level 1 were selected by convenience sampling method. In May 2005, 223 questionnaires were distributed to faculty members from these universities requesting their participation by completing the questionnaire. 111 faculty members responded the questionnaire with a return rate of 49.8 percent.

Data Collection and Analysis

The questionnaire was developed to gather data from the faculty members who give ICT related courses in preservice teacher education programs in Turkey, and consisted of 24-items. It included 13 multiple close-ended items, 7 five-point Likert-type items, and 4 open-ended questions. The questionnaire was developed based on research questions and review of related literature (Baron and Goldman, 1994; Topp et al., 1995; and Imer, 2000) by the researchers.

Four experts examined the questionnaire, and the instrument was revised in regard to the feedback gathered from the experts. Then, it was checked by a Turkish Language expert for the clarity of the language. After the revision, a pilot test was conducted with 64 faculty members. The Cronbach alpha coefficient was calculated as .87 denoting a satisfactory reliability. The items were grouped around seven major topics and only one topic, "use of ICT in teaching" was reported in the study.

After gathering data from 111 faculty members, the Cronbach alpha coefficient of the questionnaire was re-calculated and found as .97 denoting a satisfactory reliability. Subsequently, a factor analysis was applied to the scale whether the items measure two factors. The Cronbach alpha of the Factor 1 is .96 and the Cronbach alpha of the Factor 2 is .92.

In this study, descriptive statistics were used for data analysis, and means, percentages, and standard deviations of questionnaire items were calculated to find out the current situation of faculty members' ICT usage.

Results

The findings of the study indicated that while 16% (N=18) of the faculty members offer at least one online course, 83% (N=92) of them do not offer any online course. Almost 76% (N=84) of the faculty members stated that they use the Internet as a supportive tool in their courses, and 20.7% (N=23) of the faculty members mentioned that they use the Internet partially in their courses.

Table 1: Online course offering by faculty members

	N	Percentages
No	92	82.9
Yes	18	16.2
Missing	1	0.9
TOTAL	111	100

Table 2: Faculty members use of the Internet as a supportive tool in their courses

Internet Usage	N	Percentages (%)
Yes	84	75.7
Partially	23	20.7

No	3	2.7
Missing	1	0.9
TOTAL	111	100

The faculty members who were using the Internet in their courses as a support tool were asked how they were using the Internet. The findings showed that 86% of the faculty members used search engines, 75% of the faculty members use e-mail, and 57% faculty members use web pages for supporting their lesson. The use of forum and chat (22.5% and 13.5% respectively) were rated as the least used ways of using the Internet as a support tool.

Table 3: Faculty members' Internet tools usage

	Frequency	Percent
I use search engines	95	85.6
I use e-mail	83	74.8
I have web page for supporting my lessons	63	56.8
I use forum	25	22.5
I use chat	15	13.5

According to faculty members, majority of the "Computer Applications in Education" courses were offered in a computer laboratory. While 26% of the faculty members offer "Instructional Technology and Material Development" courses in traditional classroom settings, more than half of the faculty members offer these courses in either computer laboratory (26%) or electronic classroom (29.7%). Generally, they preferred to assess the learning outcomes of the courses through "home works, projects and performance tests.

Table 4: Place of the courses

	Computer Applications in Education		Instructional Technology and Material Development	
	f	%	f	%
In a computer laboratory	66	59.5	29	26.1
In a electronic classroom	16	14.4	33	29.7
In a traditional classroom	4	3.6	29	26.1

Table 5: Methods of assessment

	Computer Applications in Education		Instructional Technology and Material Development	
	f	%	f	%
Written Exam	30	27.0	31	27.9
Performance tests	62	55.9	55	49.5
Home works and project-based evaluation	69	62.2	71	64.0
Multiple choice exam at the end of the all unit	14	12.6	14	12.6

Hardware Used by the Faculty Members

The results of the study showed that, the most frequently used hardware by the faculty member in both courses were computer and then LCD projector. The least frequently used hardware by the faculty members in their course were camera, video and television.

Table 6: Hardware used by the faculty members in their courses (n=111)

	Computer Applications in Education		Instructional Technology and Material Development	
	Mean	Std. Deviation	Mean	Std. Deviation
Computer	3.93	.24	3.34	.80
LCD Projector	3.73	.57	2.88	1.08
Printer	2.01	.86	2.21	1.03
Scanner	1.84	.72	1.98	.94
OHP	1.67	.94	2.53	1.10
Camera	1.43	.57	1.73	1.01
Video			1.70	.83
Television			1.67	1.02
TOTAL	2.68		2.45	

Software Used by the Faculty Members

The most frequently used software by the faculty members were “word processing” and then “presentation programs”. The results indicated that the use of “video conferencing programs” by the faculty members in their courses was rated as the least used application.

Table 7: Software used by the faculty members in their courses (n=111)

	Computer Applications in Education		Instructional Technology and Material Development	
	Mean	Std. Deviation	Mean	Std. Deviation
Word Processor (Example Word)	3.71	.52	3.16	.86
Spreadsheets (Example Excel)	3.46	.73	2.54	.94
Presentation Programs (Example Power Point)	3.53	.71	3.01	.90
Web Browsers (Example Internet Explorer)	3.42	.69	2.95	.93
Operating Systems (Example Windows)	3.25	1.09	2.71	1.27
Receiving/sending e-mail	3.21	.89	2.80	1.06
Web Programming (Example HTML)	2.32	1.09	1.85	1.12
Web Page Development (Example FrontPage)	2.23	1.11	2.22	1.22
Image Editing (Photoshop)	2.19	1.02	2.13	1.02
Databases (Example Access)	2.17	1.11	1.98	1.23
Reference Programs (Example Dictionary)	1.87	.95	2.04	1.20
Animation Programs (Example Flash)	1.85	.88	2.06	1.20
Forum	1.69	1.00	1.75	1.15
Learning Management System (WEB CT)	1.63	1.12	1.86	1.48
Chat	1.62	.89	1.56	1.12
Desktop Publishing (Example Corel Draw)	1.62	.90	1.93	1.46
Video Conference Programs	1.43	.83	1.31	.90
Instructional Game	-	-	2.18	1.44
Simulation	-	-	2.02	.93
Tutorials	-	-	2.02	1.18
Authoring Languages (Example Authorware)	-	-	1.93	1.45
TOTAL	2.58		2.38	

Conclusion

It can be concluded from these results that, even though the limited number faculty members offer online courses, majority of them use the Internet as a support tool for their courses, and for communication tool (e-mail). More than half of the faculty members have/use web pages to support their courses. Most of the time, they use both computer laboratories and electronic classrooms in their courses. While the faculty members use computer and LCD projector most of the time as hardware, they use word processing and presentation software more than the other software listed in the Tables 6 and 7. Even though the results of this study cannot be generalized, these results are promising indicating that up to some extend, faculty members are integrating ICT into their courses. Use of forum and chat were ranked as the least used Internet tools by the faculty members. In the schools of education, most of the courses are offered as face-to-face instructional environment, and both students and instructor have chance to have face-to-face discourse. They might not be in need of such communication tools.

In this study, physical conditions of faculty members, and their competency levels in ICT usage are not mentioned. Their access to ICT, competency levels in ICT and work load are very important contributing factors for integrating ICT into mentioned courses. In further research studies, faculty members' ICT integration into these courses should be examined together with their access to ICT and work load.

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