

AN ANALYSIS OF PROSPECTIVE E-LEARNING CHANGE AGENTS' CONCERNS TOWARD E-LEARNING IN TURKEY: A CASE FROM COMPUTER EDUCATION AND INSTRUCTIONAL TECHNOLOGY DEPARTMENT IN ANKARA

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ABSTRACT

The purpose of the study is to analyze the concerns of last year preservice teachers at the department of Computer Education and Instructional Technology, at one university in Ankara, toward the use of e-learning. These preservice teachers were assumed as prospective change agents for the use of e-learning in any organization such as school, company and so on. The participants consisted of 48 fourth-year preservice teachers, 33 male (68.8%) and 15 female (31.2%). The Stages of Concern Questionnaire was used to analyze their concern toward the use of e-learning. Results indicated the respondents have high personal, informational and awareness concerns toward the e-learning. Some suggestion is also presented.

Keywords: Stages of Concern, e-learning, SoCQ, preservice teachers

INTRODUCTION

With the rapid development in the information and communication technologies, e-learning has been emerged as a means to provide flexible delivery for teaching and learning; and world-wide –web has become an important source for them. In the world, many universities and institutes are experiencing e-learning programs for different purposes. Harmon and Jones (1999) proposed five levels of web use in education from basic usage to advanced usage (Informational, Supplemental, Essential, Communal and Immersive). Also, a lot of researches have been conducted to improve quality of e-learning programs (Kidney, Cummings & Boehm, 2007; Pituch & Lee, 2006). However, even though teachers or trainers instructed to implement e-learning programs may hold positive attitude toward it, they may not transfer their experiences into successful practices since like other technologies e-learning requires a change process, or diffusion of e-learning innovations, that has impact on the behavior of individuals (Jebeile, Khadra & Reeve, 2002). In such a change process, change agents and their concerns which can emerge during the implementation of e-learning have important functions to diffuse e-learning as an innovative effort. Rogers (1995) defines change agent as “an individual who influences clients’ innovation-decisions in a direction deemed desirable by a change agency” (p.27). Therefore, change agents are more likely to adopt new ideas. Moreover, Hall and Hord (2001) cited that when teachers are engaged with all types of innovation and change process, they show unrelated, self, task and impact concerns outlined by Fuller (1969) and resolving their concerns allow them to move toward more advanced use of the innovation.

Turkey as a developing country is getting be acquainted with e-learning and its applications in an innovative manner. Some initiatives can be seen in using e-learning together or instead of traditional education (face to face). For successful implementation of such e-learning initiatives, some programs or courses covering e-learning are offered by universities or institutes in Turkey, one of these programs is in Computer Education and Instructional Technology Departments. People graduated from these programs may be considered as change agents for e-learning because they are educated for e-learning as a part of their professions. Therefore, their concerns are important for the successful diffusion of e-learning in an organization.

This study analyzed the concerns of last year preservice teachers at the department of Computer Education and Instructional Technology toward the use of e-learning. These preservice teachers were assumed as prospective change agents for the use of e-learning in any organization such as school, company and so on. Their concerns toward the use of e-learning were analyzed with the Stages of Concern Questionnaire, developed by Hall, George, and Rutherford (1998). It was hypothesized that when individuals are introduced something new, they progress seven stages of concern. They include awareness (0), informational (1), personal (2), management (3), consequences (4), collaboration (5), and refocusing (6) from lowest to highest level and are shown below (Table 1).

Table 1: Stages of Concern: Typical Expression of Concern about the Innovation (Hall & Hord, 2001)

	Stages of Concern	Expression of Concern
IMPACT	6 Refocusing	I have some ideas about something that would work better.
	5 Collaboration	I am concerned about relating what I am doing with what my co-workers doing.

	4 Consequence	How is my use affecting clients?
TASK	3 Management	I seem to be spending all of my time getting materials ready
SELF	2 Personal	How will using it affect me?
	1 Informational	I would like to know more about it.
	0 Awareness	I am not concerned about it

METHOD

Participants

The participants in this study were 48 fourth-year preservice teachers from the department of Computer Education and Instructional Technology in a university in Ankara in Turkey. They consisted of 33 male (68.8%) and 15 female (31.2%) students. The other demographic information is presented in Table 2 below. These preservice teachers were regarded as prospective change agents for e-learning because they are expected to have necessary knowledge and skills in this area.

Table2. Demographics of the participants

Variable		n	Percent (%)
Having own computer	Yes	46	95.8
	No	2	4.2
Having internet connection (if have own computer)	Yes	35	76.1
	No	7	15,2
	Missing	4	8,7
Years Using Computer	Less than 1 year	0	0
	1-3 years	1	2.0
	3-5 years	9	18.8
	More than 5 years	38	79.2
Perceived Computer Competency	Non-user	0	0
	Beginner	0	0
	Middle	8	16.7
	Advanced	40	83.3
E-learning course taken before	Yes	41	85.4
	No	7	14.6

Data Collection and Analysis

Hall and Hord (2001) proposed three techniques for assessing concerns: namely, one-legged interviews, open-ended statements and stages of concern questionnaires. In this study, the Stages of Concern Questionnaire (SoCQ) was used to measure seven stages of concerns that preservice teachers may currently have toward implementing e-learning. SoCQ is applicable to all educational innovations (Hall & Hard, 2001). It was developed by Each stage of concern was represented with 5 items in the questionnaire so the questionnaire consisted of thirty five items on 7-point scale ranging from 1 (not true of me now) to 7 (very true of me now). A response close to 1 indicates a very low concern; a response close to 7 indicates a very high concern. For the completely irrelevant items, the respondents scored the items as "0", indicating "this statement seems irrelevant to me". The Stages of Concern questionnaire was modified by replacing the term "the innovation" with "e-learning". The original questionnaire is in English therefore it was translated into Turkish carefully by the researchers. Hall, George, and Rutherford (1998) reported the coefficients of internal reliability (the Cronbach alphas) ranged from .64 to .83 on the seven stages. In this study, the coefficients of internal reliability varied from .27 to .76: (a) awareness (.61), (b) informational (.34), (c) personal (.76), (d) management (.71), (e) consequence (.32), (f) collaboration (.70), and (g) refocusing (.27).

The data obtained were analyzed by following the procedures in "SoCQ Quick Scoring Device" outlined by Hall, George, and Rutherford (1998). The raw score for each stage was calculated by summing the scores given the five items on each scales for each individuals. Then, the raw scores were converted into percentile scores. In order to give picture of the range of peak scores in the respondents, the number of respondents that were high on each stage was counted, and the mean percentile scores for each stage for the individuals was calculated and represented in both numerical and graphical ways.

RESULTS

The stage of concerns was simply interpreted with Peak Stage Score Interpretation, indentifying high stage score. This enables to see picture of the range of peak scores in the respondents. Table 3 illustrates the number of respondents that were high on each stage. The data indicated that Stage 2 – Personal is the strong concern among them about the e-learning. Of 35% preservice teachers in the study had a peak stage score at Stage 2. A high stage score means that individuals have concerns about the demands of the innovations and their potential to meet these demands. Accordingly, the results of the SoCQ indicated that preservice teachers at the department of Computer Education and Instructional Technology have high concerns about the demands required for e-learning and his or her incompetency to meet them.

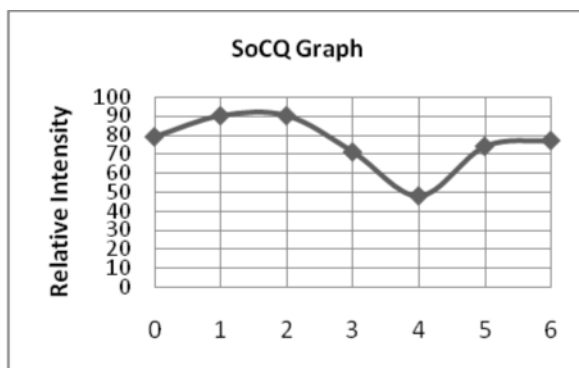
Table 3. Highest stage of concern about the e-learning (N=48)

Stage	The number of Individuals	%
Stage 0	11	23
Stage 1	14	29
Stage 2	17	35
Stage 3	4	8
Stage 4	0	0
Stage 5	1	2
Stage 6	1	2

Another way for the highest stage of concern is to aggregate individual data by developing a profile. The profile shows the individuals' mean score for each concern stage. Table 4 and Graph 1 indicate the aggregate group profile of the respondents in the study. The highest stages of concern for the aggregate data are Stage 1 and Stage 2. This means the preservice teachers as potential agent for e-learning hold informational and personal concerns. The second highest stage concern was Stage 0, representing that the respondents have little concern about e-learning because they focused on a lot of things besides e-learning. The low stage of concern for the aggregate data was Stage 4, indicating that the respondents have low concern about the effect of the use of e-learning on students.

Table 4. Group percentiles for each stage of concern

Stage	Percentile
Stage 0	84
Stage 1	91
Stage 2	91
Stage 3	71
Stage 4	43
Stage 5	72
Stage 6	77



Graph 1. Graph of the percentiles for each stage of concern

DISCUSSION and SUGESSTIONS

The results of the study indicated that the preservice teachers had high concerns on Stage 1 and Stage 2 as well as on Stage 0. Hall and et al. (1991) hypothesized that the concerns of individuals develop from being highest at awareness, informational and personal, to highest at management, and finally to highest at consequence, collaboration, and refocusing when they take the role as facilitator in the use of the innovation. Stage 4, 5 and 6 represent the concerns about the impact of the innovation

on students (Hall & Hord, 2001). Therefore, the results of the SoCQ are acceptable because the preservice teachers had chance of experiencing e-learning as a user rather than a person who organize and apply it. They may need more experience in the use of e-learning to consider its impact on students. Therefore, in order to facilitate the use of e-learning programs, it can be suggested that preservice teachers should be given opportunities to experience the e-learning programs as beyond a user.

The results of group percentiles for each stage of concern also clearly indicated that the preservice teachers had equal informational and personal concerns about the use of e-learning. Hall and et al. (1991) indicated that when individuals have equal or more intensive personal concern than informational concern, the higher personal concerns outweigh informational concerns about the innovation. In addition, the results related to peak stage score were also indicated that preservice teachers in the study had the highest personal concerns toward e-learning. Therefore, the preservice teachers are much more concerned about the demands of the e-learning, their skills to meet those demands and their role within the use of e-learning. Therefore, it may be suggested that the preservice teachers need more practical knowledge and skills about the e-learning.

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