

Extended Abstract

**Investigating Teachers' Stages of Concern toward Information
and Communication Technology in Secondary Schools of Isfahan:
Concern Based Adoption Model**

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Introduction

Literature review about the barriers of using new technologies in education indicates that the most important problems in the implementation process are teachers' attitudes and their interests in adopting new technologies. For adopting an innovation, there are different models that show the important factors in the implementation process and the relationships between them. Concern based adoption model (CBAM) is one of these models that was developed by Hall and Hard in 2001 and was selected as theoretical framework for doing this research. This model is composed of three parts: (i) stages of Concern (ii) levels of Use, and (iii) innovation Configuration. Stages of Concern (SoC), deals with expressed adopter's concerns and issues related to his or her experience with, or perception of, the innovation, i.e, how teachers perceive an innovation and what feelings teachers have about it. Therefore, the main purpose of this paper was to

determine the teachers' stages of concern toward ICT in accordance with Concern Based Adoption Model (CBAM). The second purpose was to investigate the teachers' stages of concern according to demographic information. Based on the mentioned objectives, the research questions were as followings:

- 1- In what stages of concerns, are teachers in the Concern Based Adoption Model (CBAM)?
- 2- Are there any differences among teachers' stages of concern according to their demographic information such as age, gender, school type, academic majors and levels of education?

Methodology

This study was a descriptive one. For collecting data, standardized questionnaire of Hall and Hard about stage of concern was used. The SoC questionnaire is a self-report survey developed by Hall and Hard to understand the adopters' feelings and perceptions. The SoC questionnaire has been tested for reliability (alpha-Cronbach's coefficients range from .64—.83) (Hall & Hard, 2001). The questionnaire included a series of statements. Participants responded according to the relevance of the statement to them at that time. Participants respond by selecting the degree of relevance on an 8-point scale: 0 indicates irrelevant, 1 shows— not true for me now, through to 7—7 indicates that the statement is very true for me now. Statements that participants respond vary from I am not concerned about the innovation to / would like to discuss the possibility of using the innovation. In addition to the 35 Likert-scale type items, the SoCQ used for this study included open-ended questions. 110 teachers were randomly selected as a sample of secondary education in Isfahan in 1387-1388. For analyzing data independent t-test and MANOVA variance were used.

Results

The results indicated that most of the teachers were in the personal stage of Hall and Hard stage of concern (awareness, informative,

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personal, management, consequence, collaboration, refocusing) with highest frequencies percentage of 22.7. In the personal stage, teachers are skeptical about their capabilities and their self efficacies for using new technologies. In this stage, adopters do not know what the essential needs and professional requirements for implementing the innovation are. Because of the centralized educational system in Iran, teachers are wondering if it is their responsibility to integrate technologies in the curriculum or it should be done by educational administrators. If it is their responsibility, what should they do? What sources and requirements should exist for implementing it? Does the structure of society let them think about this subject?

Results also indicated that teachers' stages of concern in using new technologies were different according to the schools' location. The teachers, who worked in the schools with higher socio-economic status, were in the higher stage of concern. The reason is because the schools which were located in these districts had more access to educational facilities and computer labs. Some of the classes of these schools were connected through local network and had access to Internet facilities. So, teachers and students of these schools had more access to computer hardware and software and were more knowledgeable about computers and were more interested in using them. Findings showed that there were meaningful differences between teachers' concerns according to their degrees. Teachers with MA and Ph.D. degrees were more interested in using information and communication technology in their lessons. The reason is that graduate students use computer and internet more than undergraduate students in Iranian universities and they have to do a lot of research work so they are more knowledgeable about it. Therefore, more ICT knowledge and skills cause more internet usage. The results also indicated that teachers' states of concern were different according to the subjects that they were teaching. Math and computer teachers were more knowledgeable about computers and were more interested in using new technologies. There were no meaningful differences among participants' stages of concern according to the genders.

In general, results indicated that most of teachers in this study were in the third stage of concern based adoption model (CBAM). The main reasons are because ICT is not integrated in the schools' curriculum programs and there is not a special plan for using it in the Iranian schools. Lack of teachers' knowledge and skills in using computers is the other reason for keeping them in the third stage.

The results of this study would be beneficial for curriculum planners, educational policy makers and teachers' training centers administrators. ICT should be included in the pre-service and in-service teachers' training programs. Increasing teachers' knowledge and skills about ICT will cause them to be more interested in using the new technologies. More financial support should be provided for deprived districts to provide more facilities for low socio-economic schools.

Keywords: Information and Communication Technology, Concern Based Adoption Model, Stage of Concerns, Secondary Education.