

## GIFTED' TEACHERS STAGES OF CONCERNS FOR INTEGRATING E-LEARNING IN THE GIFTED SCHOOLS IN JORDAN

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### ABSTRACT

No study has investigated the gifted' teachers stages of concerns for integrating e-learning in their teaching. Thus, this study was conducted to explore these concerns. Mixed methods were used to gather data around the research questions. A number of 22 gifted' teachers participated in this study. The Arabic version of the Stage of Concern Questionnaire (SoCQ) was used and followed by interviews. The results showed that the participants' scores of self-concerns (Stages 0, 1, and 2) are relatively high, the task concern (Stage 3) is lower, and the impact concerns (Stage 4, 5, and 6) are low as well. Results revealed a low interest of the participants in the e-learning relative to other activities. Females have positive concerns towards e-learning and higher interest in e-learning than males, while negative concerns towards e-learning found in males' profile.

**Keywords:** E-learning, Gifted' Teachers, Gifted Schools, Stages of Concerns, Concerns Based Adoption Model (CBAM).

### INTRODUCTION

E-learning as a term is now used in order to capture the general intent to support a broad range of electronic media such as Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV and CD-ROM and this will give more flexibility in learning. Stockley (2004) defines e-learning as the delivery of a learning, training or education program by electronic means. Learning has changed to become more attractive with animations, visuals and sounds, playing games and full of other activities that are available any time and any place. Ballard (2000) claims that technology rearranges the system of education. It offers new ways of learning for students in addition to new ways for the teacher to present and provide knowledge in the teaching process.

Computer technology is changing the whole process of teaching and learning globally (Embi, 2007). Additionally, the teacher's roles, the student's roles and the educational management have also been changed according to the new changes in the educational environments and in designing, performing and introducing the educational performance under such circumstances. Therefore, the roles of teachers have been changed from dictator to organizer for educational programs.

E-learning serves as an alternative to traditional classes, so learning is no anymore related to a specific location but it can be taken anywhere outside the class. The process of learning is concerned with attitudes, values, skills and knowledge, and has the ultimate goal of effecting a change in performance and behavior which achieve the objective of adding value to an organization or individuals. In this kind of settings, the true potential of e-learning lies principally in its ability to provide on-tap learning which is available anytime, anywhere and with the necessary network to enable collaboration. Therefore, the potential for an organization like a school or any educational institute engaged in e-learning is that it can be in a state of continuous learning or continuous change. In other words, e-learning can be a force or enabler for changing the process of teaching and learning.

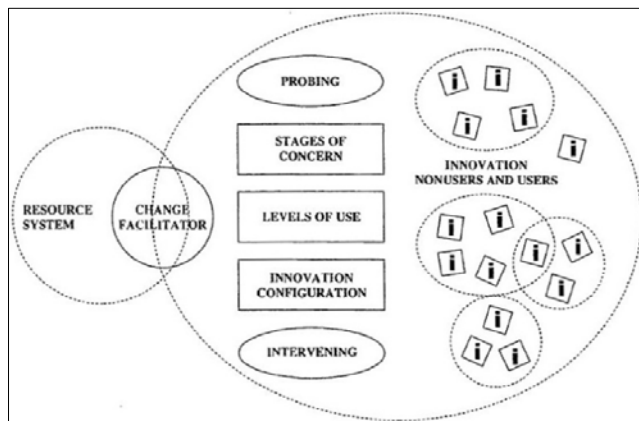
Mackenzie-Robb (2004) mentioned that e-learning and changes to an organization must be seen against a broader background of often conflicting issues and dynamics. In other words, an organization does not change simply by implementing the change as e-learning projects go but requires also a consideration for individual needs during the initiation, implementation and institutionalization of change in an organization.

The theoretical framework for this study lies in Hall and Hord's (1973) Concerns Based Adoption Model (CBAM). Originally developed in 1973, the model is primarily concerned with describing, measuring, and explaining the process of change experienced by teachers attempting to implement new curriculum materials and instructional practices. CBAM describes how individuals develop as they learn about an innovation or a new application and the stages of that process (Horsley & Loucks-Horsley, 1998).

Horsley and Loucks-Horsley (1998) defined CBAM as a set of tools for understanding and managing change in people. CBAM is considered a parallel process of change that each individual goes through whenever he/she engages in something new or different. CBAM has become a change model widely used by those individuals planning for staff development accompanying any educational innovation (Rakes & Casey, 2007). The concerns

model identifies and provides ways to assess seven stages of concern (Horsley, 1996). These stages show how an innovation moves through sequentially (Ensminger, Surry, Porter, & Wright, 2004).

According to Newhouse, Trinidad, and Clarkson (2002), CBAM examines the process of development of a new innovation in three different ways namely: (1) Stages of concern, (2) Levels of use, and (3) Innovation components as shown in figure 1. The first two are explanatory in nature, while the third is considered diagnostic in nature.



**Figure 1:** The Concern Based Adoption Model (Adapted from Hall & Hord, 2001)

**STAGES OF CONCERN (SOC)**

Stages of Concerns (SoC) describe the effective dimension of change: how people feel about doing something new or different, and their concerns as they engage with a new program or practice (Horsley, & Loucks-Horsley, 1998). It is used to measure teachers’ concerns about an innovation they are expected to implement (Hall & Hord, 2001). According to Hord, Rutherford, Huling, Austin, and Hall, (1987) stage of concern is a tool which identifies teachers concerns in different stages during a change process. Hall, George, and Rutherford (1986) identified seven kinds of concerns which reflect early self (concerns about how the innovation personally affects the individual), task (concerns about how the innovation is managed), and impact (concerns about how the innovation impacts others as shown in Table 1. Moreover these concerns which may present itself as emotions, perceptions, attitudes and feelings appear to be developmental in that the earlier concerns are lower in intensity while the later concerns are more intense (Hall & Hord, 2001). For the purpose of the current study, stages of concerns are used to understand and describe to what extent the gifted’ teachers are concerned about using e-learning in teaching and learning process.

Table 1: Stages of Concern Resource (Adapted from Horsley, & Loucks-Horsley, 1998)

Dimension	Stages of Concern	Expressions of Concern
Self	Awareness	I am not concerned about it.
	Informational	I would like to know more about it.
	Personal	How will using it affect me?
Task	Management	I seem to be spending all of my time getting materials ready.
Impact	Consequence	How is my use affecting clients?
	Collaboration	I am concerned about relating what I am doing with what my co-workers are doing.
	Refocusing	I have some ideas about something that would work even better.

**Gifted’ Schools in Jordan**

They are public co-education schools for academically gifted students called King Abdullah II Schools of Excellence. The first school was established in Zarqa city by the beginning of 2000 /2001 (with 553 students), then the JMOE build a school every two years to be six schools by the year 2010 with a total number of (1935) students. The other five schools where in Irbid (with 551 students), Salt (327 students), Tafielah (81 students), Aqaba (198 students), and Ajloun (225 students) (Al-Shabatat, 2011).

The objectives of these schools were to help gifted students develop their abilities, skills and personalities, and develop their leadership and self-learning skills to be innovative leaders in their society. The students are selected based on four fundamental criteria, namely, the general aggregation for the students should be 95% and above, test for the Academic readiness, IQ test (135 and above), and personal interview. On the other hand, JMOE selects the best teachers who show high levels of teaching and personal competencies to work in these (JMOE, 2010).

### RELATED LITERATURE

Alfieri (1998) conducted a study to identify the stages of concern of Defense Systems Management College Faculty about Technology-Based Education and Training. His results showed that the scores of self-concerns (Stages 0, 1, and 2) are relatively high and close to each other (within 2%), the task concern (Stage 3) is much lower, and the impact concerns (Stages 4, 5, and 6) are even lower with tailing-up of the participants' profile at Stage 6. Further results showed that 42% of the participants expressed their highest concerns at Stage 2 while 26% chose State 0 as their highest stage. Also 17% participants chose Stage 1 as the highest while 85% had their highest Stage of Concern in either Stage 0, 1, or 2.

Alshammari (2000) conducted a study to identify concerns that teachers experienced when implementing the Information Technology curriculum in all intermediate schools in Kuwait and to examine the differences among teachers' reported stages of concern based on gender and experience. He found that teachers had four high concerns related to personal, collaboration, informational, and refocusing stages, while low concerns were found at the awareness and management stages. Further, results indicated that most of teachers were at the mixed-concern level. Collaboration stage was the greater concern for both females and males. However, males had higher refocusing concern while females had higher concerns about management.

Alias and Zainuddin (2005) explored the concerns of a group of International Islamic University Malaysia (IIUM) lecturers regarding a technological innovation. Their results showed that the participants had high scores at Stage 0 (Awareness), Stage 1 (Information), and Stage 2 (Personal). They referred these results to low interest of the participants in the innovation relative to other activities, a lack of understanding of what the innovation involves, and the participants were very concerned over the impact of the innovation on their professional duties and responsibilities. They also examined the highest scores for the participants and found that the Stage 2 concerns are almost as high as Stage 1 concerns and a tailing-up of the participants' profile at Stage 6. They anticipate these results to the changing slope of the stages of concerns' profile pointing that the relative intensity of Stage 6 (Refocusing) is greater than the relative intensity of Stage 5 concerns. Finally, they reported a positive concern towards collaborating and working with others in adopting the innovation and most participants were not concerned about the management (stage 3).

Overbaugh and Lu (2008) investigated the effects of a teacher professional development program funded by a No Child Left Behind (NCLB) grant on program participants' (teachers') stages of concern toward instructional technology integration into curriculum. They also explored differences in the concern levels among the participants from different school levels, age groups, and gender. They implemented pre-post-follow-up survey on 377 participants. Their results revealed that the program was successful in reducing participants' self-based concerns while increasing their impact-based concerns about technology integration. Awareness concern was very low at the pretest point and the management concerns were relatively low. Further, they found high impact-based concerns - Consequence, Collaboration, and Refocusing - at the presurvey point. Regarding the concerns' results by gender, males were found to have higher concerns at the Personal and Management stages than female teachers.

Rakes and Spaulding (2009) explored teachers' learner-centered beliefs and concerns regarding instructional technology. They analyzed the concern profile for learner-centered teachers (n=43), non-learnercentered teachers (n=7) and for all respondents (N=66). The results showed that all three profiles were similar and referred to as non-user profiles. Self-concerns (Stages 0 - Awareness, 1 - Informational, and 2 - Personal) were high and the impact concerns (Stages 4 - Consequence) regarding students were much lower, stages 5 - Collaboration, and 6 - Refocusing were lower than self-concerns with the exception of the Stage 6 - Refocusing for the learner-centered respondents.

AL-Rawajfih, Fong, and Idris (2010) conducted a study to examine teachers' stages of concerns in the discovery schools in Jordan and the level of the integration of e-learning into their teaching. They found that discovery schools' teachers are dominantly at the stage of 'personal' on the different stages of concerns. Further, no differences were found in teachers' concerns due to gender. However, teachers in the 1-5 years of teaching experience were placed at the stage of 'collaboration' while the rest were at the 'personal' on the different stages

of concerns. It was found that teachers' stage of informational, stage of management and stage of consequence explains most of the variance of the integration of e-Learning.

Zamani, Abedi, Soleimani, and Amini (2011) investigated teachers' Stages of Concern toward Information and Communication Technology in Secondary Schools of Isfahan. Their results indicated that most of the teachers were in the personal stage of concern (Stage 3). They interpreting this by noting that there is no special plan for using ICT in the Iranian schools and then to integrate it in the schools' curriculum programs. Also they mentioned that there was a lack of teachers' knowledge and skills in using computers which kept them in the third stage. However, there were no significant differences among participants' stages of concern according to their genders.

In very recent times, Jordan embarked on an ambitious plan to make full use of the information technologies potential in order to maximize its ability to compete in local, regional, and global markets. This kind of initiatives was also extended to the educational system when e-learning began to be integrated in Jordanian schools as a part of its national modernization and development plans (Al-Fayoumy, 2003). The ministry of education in Jordan invests in gifted education in the gifted schools (King Abdullah II for Excellence). Much support was being pushed to these schools; in terms of infrastructure and human resources. These schools supplied with various equipment, computer and science labs, libraries, and sport materials. E-learning tools were among these equipment including computers, smart boards, data shows, and internet. Yet, there is no sufficient and clear data available based on empirical research to identify teachers' concerns and beliefs toward integrating e-learning in their classes neither what concerns do they have in e-learning integration? Thus, these issues embark the need for investigating such concerns and shed the light on an important spot in gifted education; integrating e-learning in their classes. The current research was guided by the following research questions:

1. What is the concern profile most associated with the gifted' teachers in Jordan?
2. What are the predominant stages of concerns for the gifted' teachers in Jordan?
3. What concerns do gifted' teachers have in e-learning integration?

## METHODS

Mixed methods were used in this research to analyzed gifted teachers' stages of concerns (awareness, informational, personal, management, consequence, collaboration and refocusing) based on the Concerns-based Adoption Model (CBAM).

### Participants

According to Hall, George, and Rutherford (1986) in SoCQ manual, concern analysis can be used either for individuals or groups. This justifies using a small sample size especially when qualitative methods are being employed. Therefore, a total number of 22 teachers (12 males, 10 females) were selected from three major schools of King Abdullah II for Excellence which are dedicated for gifted students in Jordan.

### Instrument

The Stages of Concern Questionnaire (SoCQ) was developed to detect the concerns of individuals during the change process (Hord et al., 1987). Self-concerns consist of awareness, information, and personal; task concern is management; and impact concerns include consequence, collaboration, and refocusing. Each stage of these seven subscale concerns is represented by five statements on a 35-item Stages of Concern Questionnaire (SoCQ). For the purpose of examining gifted teachers' concerns about the implementation of the E-learning in gifted' schools in Jordan, the Arabic version of Stages of Concern Questionnaire (SoCQ) was used. This version was translated into Arabic and checked for validity and reliability by AL-Rawajfih (2010). He reported that the translated questionnaire is reliable with internal consistency of (0.87). SoCQ reflects a respondent's concern about the adoption of an innovation, a new program, or instructional approach. Respondents were asked to circle a number between 0 to 7 on a Likert-type scale to reflect their present concerns about their involvement or potential involvement in integrating e-learning in teaching gifted students. The number 0 means that the given statement is irrelevant as a concern at this time; number 1 reflects an untrue concern statement; number 4 indicates that the given statement is presently somewhat a true concern; and number 7 represents a very true concern at this time.

## FINDINGS

For research question #1 "*What is the concern profile most associated with the gifted' teachers in Jordan?*" The total score for each stage and percentile tables have been established which readily convert raw stage scores to percentile figures (see Hall & Hord, 2001). From these percentile figures, stages of concern profiles can be plotted that identify the peak or predominant stages of concern and the relative intensity of other concerns. Since

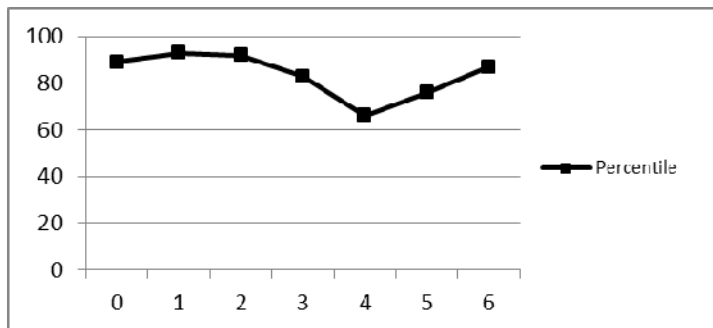
change is a developmental process, the concerns of any one individual adopter (user) about an innovation will not be static; instead, they will shift in time (assuming continued use of the innovation). A concerns profile may represent the user at different stages of concern such as that of a nonuser or very early user. The mean raw stage scores for the entire group of participant determines the composite stages of concern profile for the teachers. Table 2 below displays the raw scores of all the participants at each stage of concern. The lowest mean (20.91) was for Stage 0 (Awareness) while the highest (27.36) was for Stage 3 (Management). Both males and females reported their lowest concerns at Stage 0 (Awareness) with means of (22.42) and (19.10) accordingly, while they reported their highest concerns at Stage 3 (Management) with means of (27.08) and (27.70).

**Table 2:** Raw scores, means, and percentiles of participants' stages of concerns

Participants	Gender	Stage 0	Stage 1	Stage 2	Stage3	Stage 4	Stage 5	Stage 6
		awareness	informational	personal	management	consequence	collaboration	refocusing
1	Male	28	27	28	31	33	26	29
2	Male	29	29	23	31	26	26	31
3	Male	28	29	28	28	22	25	31
4	Male	17	15	12	17	11	9	17
5	Male	12	11	16	24	13	17	20
6	Male	23	21	32	28	25	29	27
7	Male	28	22	29	29	19	29	25
8	Male	21	21	25	26	18	25	25
9	Male	24	23	26	31	28	26	18
10	Male	13	29	26	23	22	28	20
11	Male	23	20	23	28	30	28	28
12	Male	23	26	27	29	29	29	33
13	Female	23	25	28	25	25	23	27
14	Female	17	26	26	26	28	28	26
15	Female	14	19	16	16	23	16	20
16	Female	24	20	26	27	20	35	35
17	Female	14	28	27	35	29	28	35
18	Female	22	29	27	31	26	28	33
19	Female	18	25	24	27	21	25	22
20	Female	18	18	28	32	16	28	20
21	Female	17	27	28	28	30	28	20
22	Female	24	27	27	30	26	25	33
Means (Males)		22.42	22.75	24.58	27.08	23.00	24.75	25.33
Means (Females)		19.10	24.40	25.70	27.70	24.40	26.40	27.10
Percentiles (Males)		97	97	98	99	97	97	98
Percentiles (Females)		96	98	99	99	98	99	99
Means (M&F)		20.91	23.5	25.09	27.36	23.64	25.5	26.14
Percentiles (M&F)		89	93	92	83	66	76	87

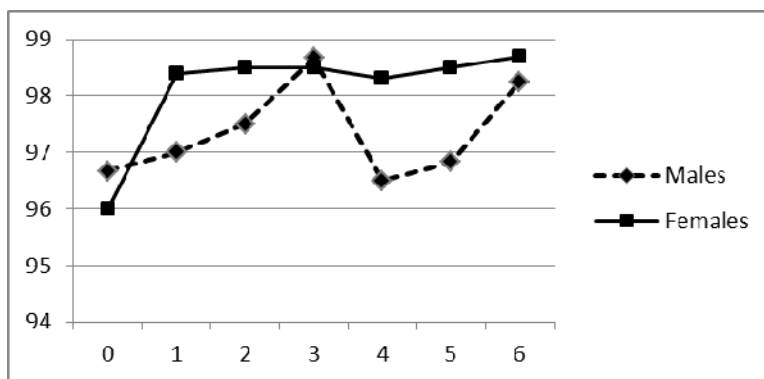
Interpretations of the participants' profiles are derived from SoCQ guidelines by Hall & Hord (2001) and its Stages of Concerns' theoretical framework. Figure 2 represents the participants' percentiles at the vertical axis

and the stages of concerns at the horizontal axis. The scores of self-concerns (Stages 0, 1, and 2) are relatively high and within (9 %) of each other, the task concern (Stage 3) is lower, and the impact concerns (Stage 4, 5, and 6) are also low. Tailing-up of the profile appears at Stage 6.



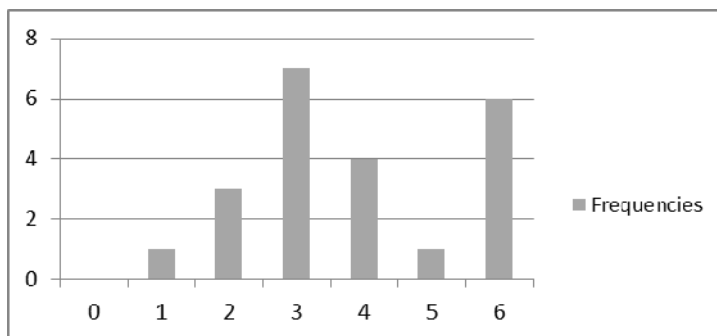
**Figure 2:** Stage of concern profile (One group profile)

The scores of self-concerns (Stages 1, 2, and 3) for females are relatively high and within (2 %) of each other, while low Stage 0 (Awareness) and the task concern (Stage 4) is relatively high. Females are as concerned with the personal changes that e-learning may bring to them as they are with understanding more about the change itself. A smooth tailing-up appears in Stage 6 for females' scores as they have stable and positive concerns towards e-learning. The scores of self-concerns (Stages 0) for males are relatively higher than females. The highest scores for males were in Stage 3 (Management), while their lowest score were in Stage 4 (consequence) shows that concerns related to student outcomes were low comparing to females. However, a strong tailing-up appears in Stage 6 for males as shown in figure 3.



**Figure 3:** Stage of concern profile (Two groups' profile)

For research question #2 “*What are the predominant stages of concerns for the gifted’ teachers in Jordan?*” The High Stage Scores were also examined for the participants. These scores are important primary indicators in the interpretation of the participants’ concerns. Figure 4 shows that 7 out 22 (32%) of the participants expressed their highest concerns at Stage 3. Also, 6 (27%) chose State 6 as their highest stage, one participant (0.05%) chose stage 1, another one (0.05%) chose Stage 5, another 4 (18%) chose Stage 4, and another 3 (14%) chose Stage 2 as the highest. Since 77% of the participants had their highest Stage in either Stage 3, 4, or 6, this may reflect a “positive” nonuser profile. It also shows the participants’ concern about the consequences of the innovation for the students. Most participants are not concerned about the collaboration (Stage 5).



**Figure 4:** High stage scores of participants

For research question #3 “*What concerns do you have in e-learning integration?*” In order to have a better and more comprehensive understanding of gifted teachers’ concerns about integrating e-learning in gifted schools in Jordan, interviews with the participants was conducted and analyzed using an inductive qualitative approach. Many interviewees’ responses centered on the management (stage4) as they will be spending all of their time getting materials ready. Many others concerned about accessibility to technology resources: they either did not have sufficient hardware and/or software, or the equipment was too old or slow. Typical comments included: “the only concern I have is the availability of technology so that the students and teachers can use the resources as often as needed and possible;” “We have no sufficient printers, no video cameras, no laptops, and no necessary software;” “Our school doesn’t have the resources to facilitate the use of some technologies. Many interviewees were concerned about e-learning concept and tools. Some commented: “I like to know more about e-learning tools, applications, and experiments;” “I’m interested to read more about e-learning;” “I’m aware of the importance of e-learning in the schools nowadays”. Time management was another big concern for teachers. Most interviewees expressed that they loved to use technology, but to design a technology-integrated lesson took significantly more time because they had to search for appropriate computer programs and software, schedule the use of labs or devices, assemble/set up equipment, and guide students in the mechanics of operating the technology. Several teachers were also concerned about the availability and efficiency of technical support staff. They complained that hardware and software problems could not be resolved in a timely manner, which caused interruption to their normal instruction. Finally, many interviewees expressed their concern about students’ use of e-learning tools. They shared the belief that guiding students to use technology in learning appropriately and effectively must be taken into consideration when exposing students to technology. Typical comments were: “Sometimes I’m worried that students are too fascinated with the effects of technical tools and ignore what should be the real issues of interest;” “there are too many inappropriate sites and materials for students.... Maybe teachers should help students locate helpful, credible, and appropriate materials”. However, many participants were not interested in collaboration to work with others in integrating e-learning; “I would rather work on using technologies in teaching by myself”. Other teachers do not like to collaborate in using technologies in the school”. These results are consistent with the quantitative findings and more explanations for the participants’ responses.

## DISCUSSIONS

The current study was conducted to capture a detailed picture of the gifted teachers concerns about integrating e-learning in their schools. The low Stage 0 (Awareness) score indicates a high interest in the e-learning relative to other activities. On the other hand, the high Stage 1 (Information) score reveals a lack of understanding of what the e-learning involves, and the high Stage 2 (Personal) score gives an indication that the group is very concerned over the impact of the e-learning on their professional duties and responsibilities. The Stage 2 concerns are almost as high as Stage 1 concerns indicating that the personal concerns are essentially the same as the informational concerns. The participants are as concerned with the personal changes that e-learning may bring to them as they are with understanding more about the change itself. The tailing-up of the profile at Stage 6 is an important finding which refers to the changing slope of the SOC profile, specifically, the condition where the relative intensity of Stage 6 (Refocusing) is greater than the relative intensity of Stage 5 concerns. This characteristic in a nonuser profile is interpreted by Hall and Hord (2001) as indicative of a resistance to the innovation, or possibly a desire to re-direct or modify the innovation which is the e-learning in the current study. Moreover, Hall and Hord (2001) describe individuals with this type of profile (nonuser with tailing-up Stage 6) as they seem to be negative toward the innovation. These results are consistent with Alfieri (1998), Alshammari (2000), Alias and Zainuddin (2005), Overbaugh and Lu (2008), Rakes and Spaulding (2009), AL-Rawajfih, Fong, and Idris (2010), and Zamani, Abedi, Soleimani, and Amini (2011).

Females are as concerned with the personal changes that e-learning may bring to them as they are with understanding more about the change itself. The smooth tailing-up in Stage 6 indicates a little resistance to the e-learning or possibly modify their implementation of the e-learning. In other words, females have stable and positive concerns towards e-learning. This indicates that males have lower interest in e-learning than females. The highest scores for males were in Stage 3 (management) which reveals task concerns that include logistics and efficient use of resources. A strong tailing-up appears in Stage 6 for males indicates a strong resistance to the e-learning or possibly modify their implementation of the e-learning. In other words, males have negative concerns towards e-learning. These results contradict with Zamani, Abedi, Soleimani, and Amini (2011), Overbaugh and Lu (2008), and Alshammari (2000) as they reported no differences among males and females in their concern profile.

## CONCLUSION AND RECOMMENDATIONS

The Concerns-Based Adoption Model (CBAM) has been used for the first time only in this study to explore gifted teachers' stages of concerns for integrating e-learning in teaching-learning processes. The results of this study would be beneficial for educational policy makers, teachers' training centers, and curriculum planners. Furthermore, e-learning should be included in the pre-service and in-service teachers' training programs. Increasing teachers' knowledge and skills about e-learning will make them more interested in using the new technologies. However, the results of this study revealed that teachers experienced collaboration concerns, thus, the administrations and the principals of the gifted schools are recommended to develop a policy that encourages peer collaboration and coaching. Classroom visits and teachers meetings are highly recommended to help teachers learn from each other. It is recommended to provide both in-site and on-Web support for teachers during the implementation process. Further studies should include a longitudinal research to follow the changes in teachers and concerns over time. Also, further research should address the relationships between stages of concern and other factors, such as school district, age, and teacher qualifications and experiences. An emphasis on innovation, rather than the technology should be adopted which gives opportunities for teachers to try new teaching and learning methods, and that encourages them to support each other and share knowledge and skills. Finally, the findings discussed would provide avenue and references for future studies.

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