Original Research Article

Faculty development needs assessment for online teaching

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ABSTRACT

Background: Academic staff members, who are responsible for teaching and training, should be aware of the principle of online course design, development, and implementation. The aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses.
Methods: The current study applied online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support. The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.
Results: The results of this study revealed a significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online courses. The female responder was higher than males. Regarding the use of software, although the majority of participating staff members in this study use almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively.
Conclusions: From this study, it could be concluded that it is essential to organize comprehensive faculty development training courses for staff members to help them in conducting their online courses or converting their face-to-face courses to blended courses effectively.

Keywords: Faculty development, Needs assessment, Online teaching

INTRODUCTION

The widespread utilization of technology in business and social environments offers a "pedagogical shift." The era of technology has brought great expansion in development and introduction of online courses as well as technology tools for teaching and learning strategies. Many of these tools are based on Web 2.0 technology. They are widely used for both synchronous and asynchronous communication. Moreover, they facilitate interaction between instructors and learners.[1,2]

The development of distance learning courses and programs are based on sound pedagogical principals. [3] Development for these courses and programs aimed primarily to create desirable conditions, support effective self-directed learning and facilitate interpersonal communication in a virtual classroom environment.[4]

Course development in distance learning may follow one of many instructional design approaches such as ADDIE. "The ADDIE Model of Instructional Design is the systematic approach to the Analysis, Design, Development, Implementation, and Evaluation of training.[5]

Academic staff members and other healthcare professionals, who are responsible for teaching and physician training, should be aware of the principal of course design, development, implementation, and therefore, they need to follow one of the instructional design approaches such as the ADDIE Approach. Following such approach requires developing essential skills for each phase with its theoretical background. As this is not the case for all staff members conducting online courses, therefore, they are facing many challenges in developing their online courses and dealing with all available technology tools and software required for conducting distance learning healthcare courses.

So, the aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses. In addition, this study also, aims to evaluate the level of helpfulness of different types of training and support.

METHODS

The current study was conducted during the first semester of the academic year 2016/2017 in the period from September to December 2016. The study is based on a similar study done in 2009 by Crews et al at the Center for Teaching Excellence, University of South Carolina.[6]

The results of the current study were discussed in relation to the results obtained in University of South Carolina to compare the results with figures Based in United States.

So, we applied online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support.[6]

The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.

The survey was conducted through Survey Share (www.surveyshare.com), and the link to the survey was sent by e-mail to staff members who registered for workshops of the Medical Education Department, College of Medicine, King Abdulaziz University.

Forty-two staff members responded to the survey out of fifty-five who received the link, giving a response rate of 76%.

The collected data were analyzed with descriptive statistics using the Statistical Package for the Social Sciences (SPSS, version 16.0 for Microsoft Windows 7). The values were expressed as percentages of each response over the designed scale.

RESULTS

The result of the current study revealed statistically higher response of female staff than male staff at all categories of subjects enrolled in it.Regarding the academic categories, the junior staff are more keen of participating than seniors (assistant professors; 19/42, associate professors; 7/42 and professors 8/42) with little presentation of staff assistants (demonstrators 4/42& lectures 4/42) (Table 1).

Regarding the assistance needed to implement online tools, the results of the survey are presented in Table 2. It revealed that the Blogs, surveys, course management systems, wikis and assigned space for social networking; the majority of staff want to use but need help (64.29%, 64.29%, 57.14%, 57.14% and 50.00% respectively). The tools used in comfort without need of help are; online courses with audios (21.43%) then instant messaging, online lectures with videos, podcasts and assigned space for social networking (14.29% for each). Some staff members gives response of that they don't know what this is regarding podcasts (50.00%), E portfolios, streaming videos (35.71% for each) and lastly wikis (28.57%).

Table 1: Demographic data of staff members who participated in the needs assessment survey.

	Total	Male N (%)	Female N (%)	P value
Professor	8	2 (25)	6 (75)	<0.05
Associate professor	7	1 (14.2)	6 (85.2)	<0.05
Assistant professor	19	4 (21)	15 (79)	<0.05
Lecturer	4	1 (25)	3 (75)	<0.05
Demonstrator	4	1 (25)	3 (75)	<0.05
Total	42	9 (21)	33 (79)	<0.05

Table 2: Level of assistance needed to implement online tools.

Online Tools	I want to use, but need help (5) N (%)	I use, but need new ideas (4) N (%)	I use and am comfortable; I do not need help (3) N (%)	I don't want to use (2) N (%)	I don't know what this is (1) N (%)	No response N (%)
Blogs (e-journaling, Blogspot)	64.29	28.57	0.00	0.00	7.14	0.00
Course management systems (Blackboard, Moodle)	57.14	21.43	7.14	0.00	14.29	0.00
E-portfolios (through Blackboard, web page)	42.86	14.29	7.14	0.00	35.71	0.00
Instant messaging (AOL)	35.71	0.00	14.29	0.00	50.00	0.00
Online lectures with audio (PowerPoint)	42.86	21.43	21.43	7.14	7.14	0.00
Online lectures with video (Breeze, Camtasia)	42.86	7.14	14.29	7.14	28.57	0.00
Podcasts (video/lecture viewed on computer, iPod)	28.57	7.14	14.29	0.00	50.00	0.00
Streaming video (web-based video)	42.86	21.43	0.00	0.00	35.71	0.00
Surveys (Blackboard, Flashlight, Survey Monkey)	64.29	7.14	7.14	0.00	21.43	0.00
iPod or similar product with audio only	42.86	14.29	7.14	0.00	21.43	14.29
IPod or similar product with video	42.86	21.43	7.14	0.00	21.43	7.14
Assigned space for social networking (web page, Breeze meeting, Facebook)	50.00	21.43	14.29	0.00	14.29	0.00
Wikis (through Blackboard, wikispaces.com)	57.14	7.14	7.14	0.00	28.57	0.00

Table 3: Level of assistance needed to use software tools.

Software Tools	I want to use, but need help (5) N (%)	I use, but need new ideas (4) N (%)	I use and am comfortable; I do not need help (3) N (%)	I don't want to use (2) N (%)	I don't know what this is (1) N (%)	No response N (%)
Databases (Access)	28.57	64.29	7.14	0.00	0.00	0.00
E-mails (Outlook)	7.14	57.14	35.71	0.00	0.00	0.00
Presentations (PowerPoint)	0.00	78.57	21.43	0.00	0.00	0.00
Screen/voice capture (Camtasia, Captivate, Jing)	50.00	7.14	14.29	0.00	28.57	0.00
Spreadsheets (Excel)	28.57	50.00	21.43	0.00	0.00	0.00
Web page design (Dreamweaver)	50.00	7.14	7.14	0.00	35.71	0.00
Word processing (Word)	7.14	35.71	57.14	0.00	0.00	0.00

Table 4: Helpfulness of different types of training and support.

Type of support/training	Extremely helpful (5)	Helpful (4)	Somewhat helpful (3)	Not helpful (2)	I don't know what this is (1)	No response
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Session for department, college, senior campus, regional campus (brainstorming)	35.71	50.00	7.14	0.00	7.14	0.00
CD-ROM/DVD training (self-paced training)	28.57	42.86	14.29	0.00	14.29	0.00
Online synchronous meetings (Breeze)	35.71	7.14	28.57	0.00	28.57	0.00
Online asynchronous meetings (Breeze)	42.86	7.14	21.43	0.00	28.57	0.00
One-time events (faculty forums by current faculty, experts in the field)	42.86	35.71	7.14	0.00	14.29	0.00
Series of meetings (community of practice with face-to-face sessions)	35.71	50.00	7.14	0.00	7.14	0.00
Streaming videos (Internet-based training)	35.71	35.71	14.29	0.00	14.29	0.00
Written web resources (information on center for teaching excellence website)	21.43	50.00	21.43	0.00	7.14	0.00

The levels of assistance needed to use software tools are illustrated in Table 3. The most widely used tools in comfort without need of help are word processing (57.14%), emails (35.71%), PowerPoint presentation and spread sheets-excel (42.43% for each) as well as screen/voice capture (14.29%). The tools that they want to use but need help are presented mainly as screen/voice capture and Web page design (50% for each). Then after that database-access and spreed sheets-excel come (28.57% for each). While, web page design gives 35.71% (they don't know what this is).

As noticed in Table 4, the extremely helpful types of training and support are presented as (42.86%) for both online synchronous meetings and onetime event, then sessions for Department College, senior campus come (35.71%). The helpful types are sessions for department, series of meeting and written web resources (50% for each).the mostly presented as that they don't know what this is- is online synchronous meetings (28.57%).

DISCUSSION

Redefining the staff role to fit requirements of technology-savvy students necessitate a form of pedagogical shift that needs to reexamine the role of the traditional teacher.[7,8] Although some staff members make great efforts to be life-long learners, others may need more guidance and reassurance. This ambiguity appears when discussing compensation to take on new responsibilities, meeting new expectations or obtaining tenure and/or promotion. With all the "rapid and unpredictable" expense of time, money, and effort in creating new workload models to aid technology, faculties sometimes discover the implementation of such technology is frustrating. So, adequate training and support could be helpful in minimizing the possibility of poor faculty retention.[9]

The role of the instructor in online courses is markedly different from that of face-to-face courses in terms of technology, as instructors often need assistance with software, hardware interfaces, system access.[10,11] management systems like Blackboard, Moodle, blog systems like edublog, e-portfolios, instant messaging, online lectures in different formats, online surveys, and the use of iPods in class, social networks, and wikis.[12,13]

The social role of the instructor in online courses also largely differs from that of face-to-face courses. This social role includes, but is not limited to, building a learning community, helping students work in groups, and establishing a culture for productive interaction. Furthermore, an important role of online courses instructors is to keep online discussions on track and maintain group harmony. In addition, some online instructor's managerial responsibilities are required that include monitoring students' records, but student–instructor interaction is reported to be variable in online student satisfaction and persistence.[14,15]

The results of this study illustrated the significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online

courses. These tools include blog systems, course management systems, e-portfolios, online lectures with audio, podcasts, streaming video, iPods or similar products with audio only, assigned space for social networking, and wikis.

The staff need most help utilizing blog systems (e-journaling, Blogspot) (64.29%) and surveys (Blackboard, Flashlight, Survey Monkey) (64.29%) in their course, followed by course management systems and wikis, both are (57.14%). In comparison, the study by the Center of Teaching Excellence, University of South Carolina found the staff needed most help with podcasts followed by surveys and online lectures. In the current study, about 50% of participants did not know how to use instant messaging and podcasts, and 35% did not know about streaming videos. In the study done by Crews, Brown and Miller, The staff need most help utilizing Podcasts (video/lecture viewed on computer, iPod) (39.01%) and surveys (Blackboard, Flashlight, Survey Monkey) (38.07%) in their course, followed by Online lectures with video (Breeze, Camtasia) (31.47%). However, the study by the University of South Carolina showed that less than 10% of its participants did not know these systems, except for wikis, which 21.8% of its participants did not know. The significant difference in the results related to the level of assistance needed to implement online tools may reflect the United States' long history of using those tools.

Although the majority of participating staff members in this study uses almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively. About 50% of participants need help using screen/voice capture and web page design software. In a study by Crews, Brown and Miller, 42% of participants needed help with web page design, whereas less than 30% of participants needed help with other software tools. Regarding developing new ideas, the instructors needed the most help (19%) with presentations (PowerPoint).[6] This indicates that a gradual implication of online courses is mandatory rather that dramatic shift from onsite to online training.[2]

Regarding different types of training and support, staff members participating in this study prefer a variety of modes for receiving support and help in developing their e-learning skills, but there is no preference for a specific tool or method. In the study by University of South Carolina, the results indicate that participants favor face-to-face training than online training.[6] Moreover, the type and depth of training differs and no accurate measurable rule of its judgment.[16]

The higher response of female staff than males was also, reported previously by Ramírez-Correa.[17] They concluded that significant differences between males and females when adopting an e-learning platform training were documented in their study. Moreover, one of the obvious finding in our study is that junior staff are more keen on participation in online courses and training than seniors. This result is in accordance with a previous Australian study by Knightley 2007.[18]

CONCLUSION

The present study could conclude that it is essential to organize comprehensive faculty development training courses for staff members to help them in conducting their online courses or converting their face-to-face courses to blended courses effectively. These courses should include an introductory course and provide training on instructional design, the use of technology tools, and assessment techniques in online courses with special motivating measures for senior and male staff members. It could be a responsibility of Medical Education Department and E-Learning Unit at the College of Medicine to develop, run and upgrade these faculty development training courses.

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