Students' Perceptions to e-learning

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Abstract: *"Will e-learning replace classroom learning in undergraduate medical education?" a question that needs an answer. E-learning can be defined as technology-based learning in which learning materials are delivered electronically to remote learners via a computer network. In the past few years, e-learning has become as a promising solution to lifelong learning and continuous medical education thus thousands of online courses, degrees and certificate programs are offered by universities worldwide. In an attempt to cope up with the recent trends in medical education, DMC and DPC intend to introduce a new online learning management system (LMS) in their curriculum which provided an opportunity to survey and compare attitudes and perception of DMC and DPC students towards different facilities offered by the LMS and to online learning in general .This study showed that students preferred mixed mode and web supplemented courses rather than a web dependent course or fully online courses. A successful and enjoyable LMS experience should be accompanied by strategies to improve the access to the internet, computer and improve the broadband width. "Will e-learning replace classroom learning in undergraduate medical education?" This is a question that will remain for debate in medical education field especially at the undergraduate level; depending on the methods /strategies of course delivery, teaching/learning environment, students' and faculties' attitude and perception to LMS and e-learning.*

Keywords: *e-learning, higher education, learning management system (LMS).*

I. Introduction

Will e-learning replace classroom learning in undergraduate medical education? What makes a successful online environment? What makes a learner successful in an online environment? What creates barriers or challenges to e-learning? The need to answer these questions and more others is increasing as Internet technologies become more readily available and accessible, in formal and informal contexts [1]. E-learning can be defined as technology-based learning in which learning materials are delivered electronically to remote learners via a computer network. In the past few years, e-learning has become as a promising solution to lifelong learning and continuous medical education thus thousands of online courses, degrees and certificate programs are offered by universities worldwide [2].

In addition to programs and courses, most universities now require access to basic course information on line; such as the syllabus, resource lists, and instructors' office hours [3]. Even when it is not required, educators are increasingly developing an online presence for their courses via the Internet [4]. In an attempt to cope up with the recent trends in medical education, Dubai Medical College (DMC) and Dubai Pharmacy College (DPC) intend to introduce a new online learning management system (LMS) in the academic year 2014-2015 which provided an opportunity to survey and assess the attitude and perception of DMC and DPC students towards different facilities offered by the LMS and e-learning. The primary objective of the study is to assess students' attitude and perceptions towards LMS and e-learning, the secondary objective is to identify areas of weakness and strengths in LMS and e-learning to have an insight for a successful implementation of LMS and e-learning in DMC and DPC.

II. Research design and Data collection

The study was conducted in Dubai Medical College (DMC) and Dubai Pharmacy College (DPC). Two Online Physiology courses were designed using free online platform (LMS). Course 1; addressed DPC first year student (N=62), course2 addressed DMC second year student (N=48); both courses were conducted over a period of 6 weeks. Online practice self – test was designed in each course to evaluate the LMS as an assessment tool.

By the end of each course students who voluntarily accepted to participate in the study were asked to sign a consent and to respond to a validated questionnaire using Likert scale (where 5 strongly agree, 4 agree, 3 neutral, 2 disagree, and 1 strongly disagree). Open ended questions and free responses were used to assess areas of weakness and strength in LMS and e-learning. Anonymity of the participants was maintained throughout the study. Data entry and analysis were done using SPSS.

III.   Results

The response rate was 93% (102 students). 85% of the participants aged between 18-21 years, 58% have an English educational medium background and only 6 % of them were using the LMS and e-learning for the first time. 98% of the participants believe in LMS and e-learning as teaching/learning methods, 94% have been using the online teaching resources as 4% attended online conferences, 46% attended online lectures and workshop and 50% were taking online tests. 89 % of the participants believe of the benefits of online practice tests as 85% were practicing it mostly in the form of USMLE tests. 98% of the participant used the online test offered during this study.

Assessing students' perspective towards LMS and e-learning showed that 79 % founded the LMS easy to use. 70% accessed the LMS without a problem; 30% had difficulties related to the internet and Wi-Fi connections. 74% found that LMS had eased their access to the course material and 72% believe that LMS made the learning /teaching materials available 24/7 which facilitated their time management and made it easy for them to access the course off campus. 77% believe that the announcements uploaded on the LMS made them updated by any modifications, assignments and quizzes occurring throughout the course.

Assessing students' perspective towards LMS and e-learning's ability to be used as an assessment tool was done through designing and conducting an online practice self –test which revealed that ; 91% of the student found that online practice self –test has helped them to identify their knowledge gaps in the course, 94% believed that it helped them to clarify areas to focus on during their studying of the course/module.84% believed that it helped them identify area of strengths and weaknesses in their knowledge.80% believe that it helped them to understand the lectures, teaching materials/readings better.82% gained new knowledge from the online practice self- test.89% believe that it made them more aware of the learning objectives /outcomes of the course/module.86% believed that it increased their readiness to the summative assessment.77% believed that online practice self –test may improve their performance in the summative assessment yet 82% felt that it made them apprehensive to the summative assessment. 96% believe that on line practice self -test should be implemented into more courses in DMC/DPC as 98% believed that availability of the on line practice self- test in all the courses could improve the knowledge gained from each course and their performance in the summative assessment.

Assessing students perspective to different course teaching modalities; 4% preferred to have a fully online course, 23% preferred a full traditional classroom course and 73% preferred mixed mode - web supplemented courses- rather than a complete web dependent course.

IV.   Discussion

This study tried to assess the undergraduate medical students' perceptions and attitude toward e-learning and LMS to have an insight on the requirements for a successful e-learning and LMS from the learners' point of view and found that students were enthusiastic to participate in the study and to use the e-learning and LMS (response rate 93%) and 98% of the participant believe in LMS and e-learning as a teaching/learning method and 94% had an earlier experience with e-learning in the form of attending online lectures, conferences, workshops and taking online tests which reflect good starting point of the new trend in DMC and DPC with a promising assurance of students' acceptance to the new trend .

The study's findings spotted the lights on e- learning and LMS's availability, flexibility, self–control and convenience and identified them as areas of strength of the e-learning and LMS perceived by the students. Students believed that it was easy to use, eased their access to the course material and made it available 24/7 as well as off campus which enhanced their time management and learning experience and outcomes. Also LMS and e-learning kept them on the track and updated about the modifications, assignments, and quizzes occurring throughout the course as they had an instant alert from the system even on their mobiles; this feature of the e-learning and LMS was appreciated by both the students' and the researcher 'faculty' .

These findings were in accordance with other studies who found flexibility; self-control and convenience as area of strength in online learning were students had reported that it is easy to work in collaborative groups without rearranging everyone's schedule which is the case in traditional -face to face-courses in addition to flexibility with time. [5-7]. Chizmar and Walbert [7] reported that choices related to the learning experience were positive, as learners were free to choose from a diverse learning experience the approach that would suits them most. Poole's [8], Murphy and Collins [9] reported that students participated in discussions in online courses at their most convenient time , complete assignments and tasks at anytime and mostly accessed the teaching/learning material from their homes at ease and convenience e.g weekends, early morning or even late evening.

As e-learning and LMS can be used in one of the fundamental key point of students' teaching/learning experience which is students' assessment, this study investigated students' perspective to the online tests through designing an online test in each course- using different assessment modalities; MCQs, EMI and SAQ. The participation in the test was not compulsory yet the response rate was 92%.The researcher found that more

than 70 % of the students believed that the online test had helped them to: identify their knowledge gaps in the course; clarify areas of focus while studying the course/module; identify areas of strength and weaknesses in their knowledge; facilitated their understanding of the lectures and teaching materials and increased their awareness of the learning objectives / outcomes of the course/module [10].

More than 80% of the students' felt that practicing online test would improve their performance in the summative assessment and that it should be implemented in other courses as well yet 82% of the students felt that it made them more apprehensive toward the summative assessment but the researcher found this apprehension as a positive point that may enhance students' performance in the summative assessment if it is utilized in a constructive way – more study and self preparing for the assessment with more emphasis on the course/module learning objectives and outcomes.

The study's findings were similar to other studies were students favored online and computer based test over the paper and pen test because of: the independence from seating position; the better image quality; the ability to proceed at their own peace; the MEQ had better image quality compared to paper and pen test and they had a neater answer script and better indication of answer length [11-13].

What could be the possible challenges in the use of e-learning and LMS? This study found that 79% of the participant founded the LMS easy to use and 70% accessed and used it without a problem; yet 30% had difficulties related to the internet and Wi-Fi connection. This is in accordance with other studies that reported the technical problems as a major challenge for the use of technology in learning. Definitely, it is essential to overcome this problem to ensure useful and enjoyable e-learning and maximal usage of the LMS. This can be accomplished by multiple approaches: provide overviews of the tools used for the course or hands on workshops with the technology used in online learning tools; provide support to the students and ease their stress by letting them understand that the problems do exist and is going to happen – most likely at the most inconvenient time. A successful and enjoyable LMS and e-learning experience should be accompanied by strategies to improve the access to the internet, computer and improve the broadband width. [14, 15].

In addition the free responses in this study raised certain issues that are useful for both students and teachers teaching in e-learning courses. The organization of the course is a crucial factor for a successful and enjoyable e-learning, it has to be established and maintained by the students and faculty throughout the course. The course learning objectives/outcome should be provided to the students at the beginning of the course, deadlines should be precisely declared for each and every leaning/teaching activity in the course. Compliance of both students and faculty will always be essential in the e-learning as teachers should be prompt in their response to the students. Students should maintain organization and compliance to the course by proper time management and organize their schedule to make the checking of the course website as part of their daily routine activity [12-14]

"Will e-learning replace classroom learning in undergraduate medical education?" This is a question that will remain for debate in medical education field especially at the undergraduate level as in accordance to other studies, this study found that 4% of the students preferred to have a fully online course, 23% preferred a full traditional classroom course and 73% preferred mixed mode - web supplemented courses- rather than a complete web dependent course.

V. Limitations and recommendations

Conducting this study in single discipline and specific target group is considered as limitations of the study that could hinder generalization of the finding thus further research involving multidisciplinary courses and associating students' perceptions with their outcomes is recommended.

VI. Conclusion

The current study not only reported positive students' perception and attitude toward e-leaning and LMS system but also spotted the light on the availability, flexibility and convenience of e-learning as features and area of strengths. It also diagnosed the technical problem as a major challenge in e-learning and emphasized on the fact that a successful and enjoyable LMS and e-learning experience should be accompanied by strategies to improve the access to the internet, computer and improve the broadband width.

References
[1]. Hofmann, D.W. Internet-based distance learning in higher education. Tech Directions. 2002; 62(1), 28–32.
[2]. Dongsong Zhang, J. Leon Zhao, Lina Zhou, and Jay F. Nunamaker, Jr. Can e-learning replace classroom learning? Communications of the acm. 2004 May; Vol. 47, No. 5 pg.75-79.
[3]. Leonard, J., & Guha, S. Education at the crossroads: Online teaching and learners' perspectives on distance learning.Journal of Research on Technology in Education. 2001; 34(1), 51–57.
[4]. Brown, S.T., Kirkpatrick, M.K., & Wrisley, C.D. Evaluative parameters of a Web-based nursing leadership course from learners' perspectives. Journal of Nursing Education 2003; 42(3), 134–147.
[5]. Petrides, L.A. Web-based technologies for distributed (or distance) learning: Creating learning-centered educational experiences in the higher education classroom. International Journal of Instructional Media, 2002; 29(1), 69–77.

[6].   Schrum, L. Oh, What wonders you will see: Distance education past, present, and future. Learning and Leading with Technology.2002; 30(3), 6–9, 20–21.
[7].   Chizmar, J.F., & Walbert, M.S. Web-based learning environments guided by principles of good teaching practice. Journal of Economic Education.1999; 248–264.
[8].   Poole, D.M. Student participation in a discussion-oriented online course: A case study. Journal of Research on Computing in Education.2000; 33(2), 162–177.
[9].   Michael K. Barbour .Secondary Students' Perceptions Of Web-Based Learning. The Quarterly Review of Distance Education. 2008; Volume 9(4), pp. 357-371.
[10].   Lim EC1, Ong BK, Wilder-Smith EP, Seet RC. Computer-based versus pen-and-paper testing: students' perception.Ann Acad Med Singapore. 2006 Sep; 35(9):599-603.
[11].   Vrabel M. Computerized versus paper-and-pencil testing methods for a nursing certification examination: a review of the literature. Comput Inform Nurs 2004; 22:94-8.
[12].   Lee G, Weerakoon P. The role of computer-aided assessment in health professional education: A comparison of student performance in computer-based and paper-and-pen multiple-choice tests. Medical Teacher 2001; 23:152-7.
[13].   Hill, J.R. Overcoming obstacles and creating connections: Community building in Web-based learning environments. Journal of Computing in Higher Education. 2002; 14(1), 67–86.
[14].   Liyan Song, Ernise S. Singleton, Janette R. Hill, Myung Hwa Koh . Improving online learning: Student perceptions of useful and challenging characteristics Internet and Higher Education 7 .2004;59–70