

A Pharmacy Students' perception of a web-based interactive tool effect on teaching and learning

Khlood Aldossary

Assistant Professor of Pharmacy Practice, College of Pharmacy, Princess Nourah Bint Abdulrahman University, 11671, Riyadh, Saudi Arabia.

Correspondence: Khlood Aldossary, Assistant Professor of Pharmacy Practice, College of Pharmacy, Princess Nourah Bint Abdulrahman University, 11671, Riyadh, Saudi Arabia. Email: Kmalossary@pnu.edu.sa, Kmalossary@outlook.com

ABSTRACT

This article explores the perception of the student of a web-based interactive tool and its effect on teaching and learning satisfaction. The sample of the survey taken from the student of the 5th-year pharmacy of Pharmacy at Princess Nourah University from 9th February 2020 to 3rd March 2020. The questionnaire sent through email and the response was recorded. The student response rate was 76% (73 out of 96). Of the total, 84% believed that the class Question website has improved their interaction and engagement with the instructor in the classroom and make them aware of their misunderstanding regarding class materials. More than 80% satisfied and recommend using the ClassQuestion website in future courses. In conclusion, the positive relationship between instructor and student's learning satisfaction demonstrates the importance of student-instructor interaction. It is empirical that the ClassQuestion website provided students valued interaction with an instructor and helped them in memorizing lectures more conveniently.

Keywords: Interactive; Student; Perception; Experience; Web-based

Introduction

Learning is the process of acquiring knowledge^[1-3]. Interaction is an integral component of students learning, success, and effectiveness of education.^[4-6] The usefulness of traditional lectures has been questioned, and instructors search for alternatives to present, engage, and improve learning and academic performance.^[7] As a result, the use of computerized demonstration is actively used in every class.^[8,9] The internet now becoming part of our daily practices, web-based interaction with student allow a teacher to communicate with them from anywhere and from any device.^[4] The use of web-based technology in teaching settings has initiated to assist the traditional education methods.^[10] Students can access the help of

the internet, can communicate with teachers, submit their assignments, receive instructions, actively participate in class, and can ask questions.^[10] Due to a synchronized nature, it eliminates the restrictions of time and location, and these characteristics help students who are unable to attend universities or college classes to complete courses.

Whereas, another part of web-based interaction is through tutorials. Web-based tutorials define as a computerized demonstration that is used as a practical learning exercise, while it can also apply to enhance student learning.^[11] Studies have been done to explore the outcome of web-based tutorials, along with class lectures on students. For instance, a study reported that students showed higher scores who used web-based tutorials along with the traditional class as compared to controls.^[12] Similarly, in another study, they reported that psychology students who, along with attending lectures also learned using web-based tutorial scored better in the examination as compared to those who only learned from conventional lecture method.^[13] Some studies examined the relationship between students' interaction, learning, and satisfaction. For instance, a study reported the importance of feedback.^[14] The researcher investigated the student's perception of the web-based course. However, the lecture has delivered by a qualified teacher; they found that students felt frustrated and due to inadequate

Access this article online

Website: www.japer.in

E-ISSN: 2249-3379

How to cite this article: Khlood Aldossary. A Pharmacy Students' perception of a web-based interactive tool effect on teaching and learning. *J Adv Pharm Edu Res* 2020;10(3):107-110.
Source of Support: Nil, Conflict of Interest: None declared.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

feedback. [14] Some concerns and criticisms about the use of web-instruction are that there is no of face to face interaction between students and teachers, about the quality of education, before that an intensive time needed to develop and deliver web-based tutorials. [15, 16] However, some studies support web-based tutorials as it provides an interactive learning environment and different learning style, students have the opportunity to learn anytime according to their convenience and most important students can gain knowledge through many applications. [17, 18] Given the above points, it is crucial to explore the role of interaction using a web-based learning tool. And if the web-based communication improves or delays student learning abilities. That is why it is empirical to investigate the nature and student's perception of learning and interaction by using a web-based environment. The objectives of the study were to explore the interaction of students with their instructors in the classroom using the use of a web-based tool; what was the perception and satisfaction of students about the use of this tool and its effect on their learning experience.

Methods:

A descriptive survey-based study was conducted to address the research questions. The sample of the survey was taken from the student of the 5th-year pharmacy of Pharmacy at Princess Nourah University from 9th February 2020 to 3rd March 2020. All students were registered in the Pharmacotherapy-7 course at college. A questionnaire was distributed to the students via email to get their feedback. The student response rate was 76% (73 out of 96). The collected data were analyzed using SPSS version 24.0 for Windows.

We used the "ClassQuestion" website, which is free, and teachers and students can access it from any device, whether on smartphones or computers. It is one of the easiest ways to use a classroom response system that allows teachers to get students' live feedback quickly by asking them questions to test their comprehension during class time. Moreover, it is a useful way to ask questions to many students at the same time. We used this website to investigate the response of the students about the web-based interaction between learners and instructors.

A 5-point Likert-type questionnaire was used in this study, ranging from 1 as "strongly agree" to 5 as "disagree". A survey comprises five questions based on the ClassQuestion website, perception, and attitudes of students about the use of the website in course. And a student's teacher web-based interaction.

Results

Data from 73 students were collected. Of the total, 84% believed that the class Question website has improved their interaction and engagement with the instructor in the classroom and also make them aware of their misunderstanding regarding class materials. Of total 75.3% strongly, while 15.10% do agree to a website makes their learning experience more fun compared to the traditional classes. (Fig 1)

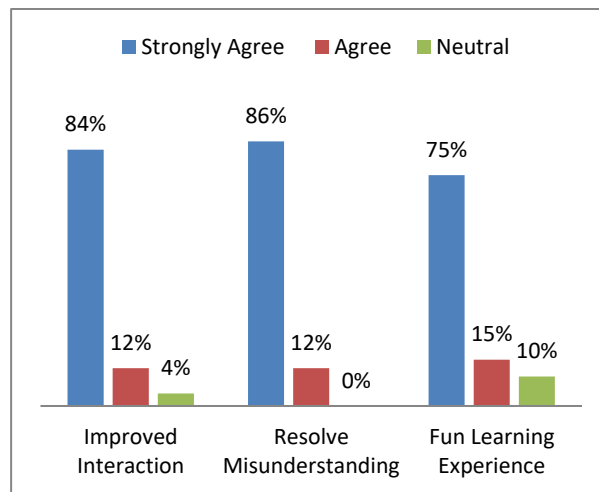


Figure 1: Feedback of student concerning the use of the website (n=73)

Of the total, 85% agreed that they would recommend using the ClassQuestion website in future courses, and 81 percent were satisfied by the use of the website. (fig 2)

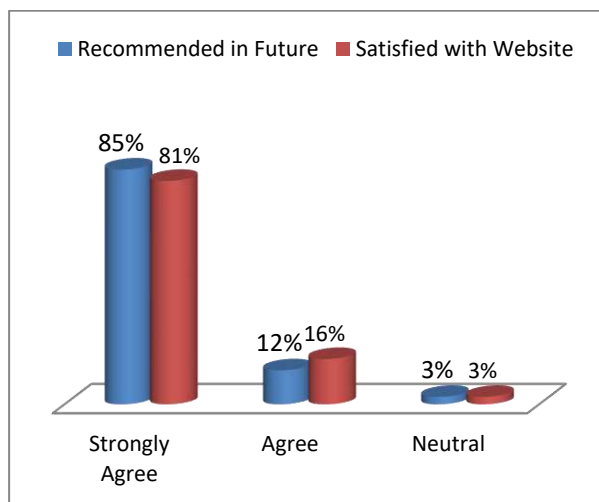


Figure 2: level of satisfaction and future recommendation for the use of the website (n=73)

Open-ended question:

Ten out of seventy-three respond to this question, "Comments on your experience with ClassQuestion website". Some of the comments dealt with teacher/instructor, the advantage of using this website, interaction, satisfaction, clarification of misunderstanding, and others. Categorization of feedback according to some common responses shown in Table 1.

Responses	Number of times reported
About website	20
Helpful and satisfied	50
Interactive	30
Student-teacher interaction	65

Discussion:

The above findings of the study suggest that student and teacher interaction using website ClassQuestion contributes to a high level of students' satisfaction and improve the learning environment. The teacher can interact with many students at the same time, and it is compatible with a traditional class lecture. It greatly facilitates the interaction between instructors and students. The results showed that students like to use the ClassQuestion web tool in the future to enhance their learning abilities at any time and anywhere.

Our results are consistent with other studies that focused on the interaction and learning process, and they reported that the interaction is pivotal in learning outcomes.^[19-21] Similarly, our findings also support the results of other researchers who encouraged interaction as the main factor for students learning and satisfaction.^[22, 23]

Open-ended responses of the results show that the students appreciated this meaningful interaction with the teacher. For example, below are some comments authenticate the importance of students and teacher interaction,

- It was a good experience; it was different from traditional classes.
- I loved using class questions because it helped me to understand and evaluate my understanding of the material.
- It helped me apparent misunderstanding and to recap what I learned and helped me to remember information for the exam.
- It was easy to use and motivated me to be focused on the whole lecture so I can solve the questions correctly and the doctor feedback was so constructive

These enhance the student-to-instructor interaction, and this led to student satisfaction. Moreover, the student feels it is easy to communicate with the instructor, more engaged in the learning process, and later use this feedback in the examination. Communication and interaction are essential in any form of education; while students and teachers both find sources to deliver information, level of understanding, and create feedback.^[10] Data of this research also support that frequent interaction more likely the students feel satisfied with the learning process. There are some limitations to the study. First, the responses collected through email. The variables were perceptual measures as the students asked to assess their perception about the Classquestion website used for interaction with an instructor. The small sample size utilized, so the result could not be generalized.

In conclusion, the positive relationship between instructor and student's learning satisfaction demonstrates the importance of student-instructor interaction. It is empirical that the ClassQuestion website provided students valued interaction with an instructor and helped them in memorizing lectures more conveniently. With the progression of technology and the findings of the study suggested that the use of interactive tool combined in a learning environment link both physical and time dimension to bring the university/college and students together

as a virtual community. The study conducted in a single university and single class. Therefore, Future research should more aggressively investigate and replicate at other universities and determine the frequency of interaction and learning styles relative to Web-based environments.

Acknowledgment:

The author would like to thank all the 5th year PharmD students who participated in this study. Special thanks to Ms. Rahaf Albalwi and Ms. Afaf Alshehri, PharmD candidates for their support.

This research was funded by the Deanship of Scientific Research at Princess Nourah bint Abdulrahman University through the Fast-track Research Funding Program.

References

1. Sarabi N. Nursing Students' Experiences from Two Methods of Teaching: Film Preparation and Demonstration of Physical Examinations. *Int. J. Pharm. Phytopharm. Res.* 2019; 9(2): 14-20.
2. Nasiri Ziba F, Bozorgvar A, Hannani S, Haqqani H. Achievement Motivation and Its Relationship with some Demographic Factors among OR Students at IUMS in 2017. *J. Pharm. Phytopharm. Res.* 2018; 8(6): 72-80.
3. Abbasi M, Anabestani T. Educational Computer Games and their Role in Improvement of Teaching and Learning. *World J. Environ. Biosci.* 2017; 6(SI): 15-18.
4. Bruning K. The role of critical thinking in the online learning environment. *International Journal of Instructional Technology and Distance Learning.* 2005;2(5):21-31.
5. Burnett K, Bonnici LJ, Miksa SD, Kim J. Frequency, intensity, and topicality in online learning: An exploration of the interaction dimensions that contribute to student satisfaction in online learning. *Journal of Education for Library and Information Science.* 2007:21-35.
6. Fresen J. A taxonomy of factors to promote quality web-supported learning. *International Journal on E-learning.* 2007;6(3):351-62.
7. Jain A. Students 'Perceptions Of Workshop Based Introductory Macroeconomics Tutorials: A Survey. *Economic Papers: A journal of applied economics and policy.* 2006;25(3):235-51.
8. Seal KC, Przasnyski ZH, Leon LA. How levels of interactivity in tutorials affect students' learning of modeling transportation problems in a spreadsheet. *Decision Sciences Journal of Innovative Education.* 2010;8(1):75-94.
9. Guy R, Lownes-Jackson M. Assessing the effectiveness of web-based tutorials using pre-and post-test measurements. *Interdisciplinary Journal of E-Learning and Learning Objects.* 2012;8(1):15-38.

10. Sher A. Assessing the relationship of student-instructor and student-student interaction to student learning and satisfaction in Web-based Online Learning Environment.
11. Bliwise NG. Web-based tutorials for teaching introductory statistics. *Journal of Educational Computing Research*. 2005;33(3):309-25.
12. Desrochers MN, House AM, Seth P. Supplementing lecture with simulations in developmental disabilities: SIDD software. *Teaching of Psychology*. 2001;28(3):227-30.
13. Wilson SP, Harris A. Evaluation of the psychology place: A Web-based instructional tool for psychology courses. *Teaching of Psychology*. 2002;29(2):165-8.
14. Hara N, Kling R. Research in brief: Student distress in web-based distance education. *Educause Quarterly*. 2001;24(3):68-9.
15. Arbaugh JB. Virtual classroom characteristics and student satisfaction with internet-based MBA courses. *Journal of management education*. 2000;24(1):32-54.
16. Tyler-Smith K. Early attrition among first-time eLearners: A review of factors that contribute to drop-out, withdrawal, and non-completion rates of adult learners undertaking eLearning programmes. *Journal of Online Learning and Teaching*. 2006;2(2):73-85.
17. Birch D, Sankey M. Drivers for and obstacles to the development of interactive multimodal technology-mediated distance higher education courses. *International Journal of Education and Development using ICT*. 2008;4(1):66-79.
18. MacKinnon G, Williams P. Models for integrating technology in higher education. *Journal of College Science Teaching*. 2006;35(7):22.
19. Pimentel MdGC, Yaguinuma CA, Martins DS, Zaine I, editors. Anchoring interactive points of interest on web-based instructional video: effects on students' interaction behavior and perceived experience2019: ACM.
20. Collison G, Elbaum B, Haavind S, Tinker R. Facilitating online learning: Effective strategies for moderators: ERIC; 2000.
21. Palloff MR, Pratt K, editors. Learning together in community: Collaboration online2004.
22. Chou SW, Liu CH. Learning effectiveness in a Web-based virtual learning environment: a learner control perspective. *Journal of computer-assisted learning*. 2005;21(1):65-76.
23. Lee H-J, Rha I. Influence of structure and interaction on student achievement and satisfaction in web-based distance learning. *Journal of Educational Technology & Society*. 2009;12(4):372-82.