

Attitudes of Dental Students Towards E-learning

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ABSTRACT

Objective: In this digital technology era, we want to see the attitudes of dental students toward E-learning, what sort of resources are they using and their preference for e-learning. **Study Design:** Descriptive Cross-sectional study. **Settings:** University College of Medicine and Dentistry, University of Lahore, Lahore Pakistan. **Duration:** 17-09-22 to 15-12-22. **Methods:** This was a descriptive Cross-sectional study conducted at the University College of Medicine and Dentistry, University of Lahore, Lahore Pakistan. A pre-validated questionnaire was used to collect data. Data were analyzed using SPSS v25. **Results:** Most of the participants agreed that e-learning helped them complete the learning activities more quickly. Almost 62.90% of participants agreed that e-learning enhanced their studies. 54.70% agreed that e-learning is a useful tool for distance education and 63.50% agreed that e-learning encourages them to search for extra material and resources. 40.90% of participants agreed that e-learning improves their learning efficiency. 49.70% agreed that the e-learning content is informative. **Conclusion:** E-learning has revolutionized dental education by providing greater accessibility, convenience, engagement, cost-effectiveness, and continuing education opportunities. It has made learning more inclusive and has expanded the reach of dental education beyond traditional boundaries. E-learning is no doubt the future of dental education.

Keywords: Introduction e-learning, Dentistry, Attitudes.

INTRODUCTION

As technology continues to advance, e-learning has become an increasingly popular method of education in various fields, including dentistry.¹ E-learning refers to the use of electronic media, such as the internet and digital devices, to deliver educational content. With the advent of e-learning, dentistry has experienced a significant transformation in the way students learn and practitioners carry out their duties. The integration of technology in dentistry has created an opportunity for the profession to be more accessible, especially for those who have limited access to education.²⁻³

E-learning allows students to learn at their own pace, place, and time. They no longer have to attend physical classes, which may conflict with their other activities. With e-learning, students can access course materials and study without having to commute, which means they can save time and money.⁴⁻⁵

E-learning has enabled many people to access dental education where it was previously impossible due to factors such as geographical location, cost, and time constraints. For instance, e-learning can enable a student in a remote area to access high-quality courses from a prestigious institution. E-learning has also made it easier

for dental professionals to continue learning and acquiring new skills without taking time off work.⁶⁻⁸

E-learning is more engaging compared to traditional learning methods. The use of multimedia resources like videos, animations, and simulations can make the learning experience more interactive and fun. Furthermore, e-learning can provide immediate feedback and make the learning experience more customized to the needs of the learner.⁹

E-learning is generally more cost-effective compared to traditional learning methods. Institutions offering e-learning courses can save on costs associated with infrastructure, physical resources, and teacher salaries. These savings can be passed down to students who may pay much less than they would for traditional courses.¹⁰

E-learning has enabled dental professionals to continue learning throughout their careers. They can access courses on the latest techniques, procedures or equipment. This helps dental practitioners stay up to date with industry changes and advancements.⁸

METHODS

Study design: Descriptive Cross-sectional study conducted at the University College of Medicine and Dentistry, University of Lahore, Lahore Pakistan. The duration of the study from 17-09-22 to 15-12-22.

The sample size was calculated with 80% confidence level, 5.1 % margin of error and by taking an expected percentage of barriers (Lack of interaction with colleagues 55.92%. A total of 159 responses were collected for Attitudes toward e-learning among students and post-graduates.

The questionnaire had two sections. The first section consisted of questions about demographic variables, including age, study year, gender, marital status, and preference for electronic device/tool use. The second section included 18 questions about attitudes toward e-learning systems, organised into three subgroups: usefulness, ease of use, and preference for an e-learning system. The answers were obtained through the Likert scale ranging from strongly disagree to agree strongly.

Data were analysed using SPSSv25. A Cronbach's alpha test was performed for the reliability of the data questionnaire. The chi-square test was applied to see an association between gender and area of study with questions related to attitudes and barriers towards e-learning.

RESULTS

Out of 159 participants, 70% were females and 30% were male. The participants were the first to final-year BDS students, house officers and post-graduate trainees. The response rate was highest among the second-year BDS students (25.7%). Most participants were unmarried. Most of the participants were using the laptop as a tool for their e-learning (55.9%), followed by mobile phones (21.3%).

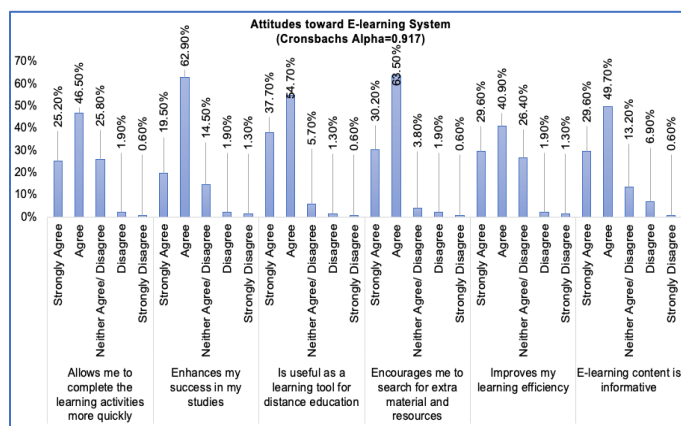
Table 1: Statistical Analysis of Attitude towards E-learning

		Frequency (n)	Percentage %
Academic Year	1 st year	30	18.6%
	2 nd year	40	25.7%
	3 rd year	20	12.2%
	4 th year	30	18.6%
	House officer	30	18.6%
	Post-Graduation	09	5.6%
Marital Status	Married	17	10.6%
	Unmarried	142	89.3%
Tick the Devices you use	Desktop	15	9.4%
	Laptop	89	55.9%
	Mobile	34	21.3%
	M+L	6	3.7%
	D+L+M	4	2.5%
	D+M	11	6.9%

Our results showed that most of the participants agreed that e-learning helped them complete the learning activities more quickly. Almost 62.90% of participants agreed that e-learning enhanced my studies. 54.70% agreed that e-learning is a useful tool for distance education and 63.50% agreed that e-learning encourages them to search for extra material and resources. 40.90% of participants agreed that e-learning improves my learning efficiency. 49.70% agreed that the e-learning content is informative.

When asked about ease of use, 35.80% agreed that e-learning made their learning easier at the same time 35.80% neither agreed nor disagreed about this statement. 39.60% agreed that e-learning reduces the cost of education. Most of the participants believed that e-learning efficiently manages their time and provides them with resource material needed for their studies Figure 2.

Figure 1: Usefulness of e-learning



When asked about their preference for e-learning most of the participants agreed that they prefer to take courses that are in e-learning (44.70%). 55.90% of the participants preferred to use e-books for their learning. 35.80% agreed while 31.40% disagreed that e-learning is a better tool than face-to-face education as a learning process. 45.30% agreed that they recommend e-learning to other students and 42.10% agreed that they enjoy e-learning in their studies Figure 3.

Figure 2: Ease of use of e-learning

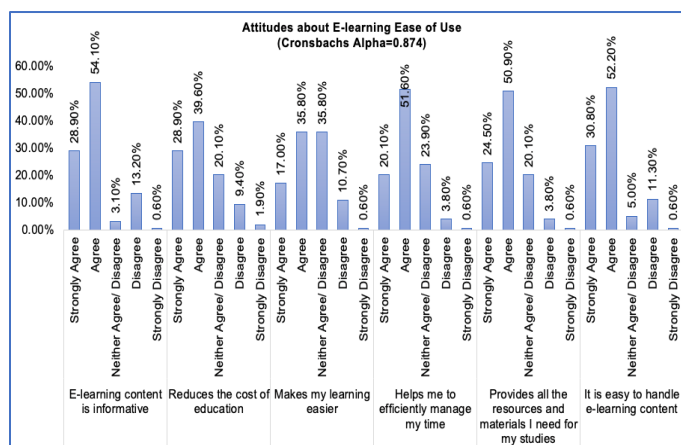
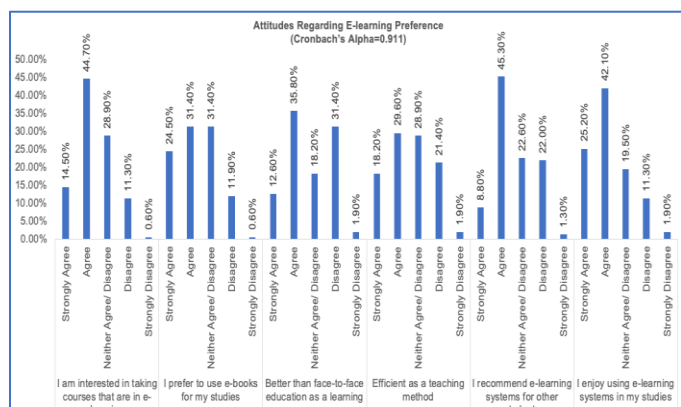


Figure 3: Preference for e-learning



DISCUSSION

A systemic review conducted by Santos et al reported that they faced problems like bad internet connections, poor knowledge and handling of technology by the faculty members and content transition to online education.¹¹ Our study has reported different problems that the cost of internet charges for using the internet for e-learning and lack of support services from tutors served as barriers towards e-learning.

A study conducted in Nepal by Tuladhar et. Al. and other studies¹² revealed that online classes students were disturbed by electricity problems and bad internet connectivity. Secondly, the majority of students agreed that online classes were not as effective as classroom classes. The responses recorded from students in our study were different and indicated that teachers prefer conventional methods of teaching and research and similar in a manner were not as effective as classroom classes.

A study conducted by Noor et. Al. in New Delhi indicates that the majority of the students preferred face-to-face learning.¹³ Most of the students had difficulties with using the new technologies for the use of e-learning. They faced interruptions in internet speed while using many online platforms for education. Many students reported that they felt like lack of communication among their peers while using e-learning.

Badea A. et al and other studies¹⁴⁻¹⁶ found out e-learning would be a more effective method rather than traditional methods of learning or teaching.¹⁴ Our students also liked and preferred e-learning over other traditional educational methods.

CONCLUSION

In our study, students felt that e-learning is effective and improves education and the key benefit of e-learning is the flexibility it provides regarding time.

Educating Non-clinical years about e-learning in their earlier educational year will help them to overcome their barriers.

There are some barriers that we need to overcome as an institute and instructor i.e. Low bandwidth and Lack of technical support.

Overall, the e-learning system seems very helpful and useful.

LIMITATIONS

Single institutional study with a small sample size.

This study did not compare the preference of different e-learning modalities for example virtual vs recorded lectures.

SUGGESTIONS / RECOMMENDATIONS

We recommend that instructors should improve student interaction by conducting virtual classes that include asking questions and using case-based discussion.

Instructors should improve the interaction of students by engaging them in different group activities.

Institutes should make sure that there should be technical assistance available to resolve any issues faced by students or instructors.

Students should make sure about their attention and good quality of internet connection.

CONFLICT OF INTEREST / DISCLOSURE

None.

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