"Online Learning" Technology Solutions During the COVID-19 Pandemic:

An Empirical Study of Medical Technology and Allied Healthcare Student Perceptions

Milind Chunkhare, Symbiosis Institute of Health Sciences, Symbiosis International University (Deemed), India*

Sammita Jadhav, Symbiosis Institute of Health Sciences, Symbiosis International University (Deemed), India

ABSTRACT

The COVID-19 outbreak has greatly forced the education systems around the world to undergo rapid change. Given today's uncertainty, it is essential to understand students' online learning experiences during the COVID-19 pandemic. Despite the fact that many studies were investigated in this area, there is limited available information about the barriers, challenges, and the difficulties students face during online learning. This paper studies the online learning platforms' utilization during the COVID-19 pandemic for students' engagement in the Medical Technology and Allied Healthcare education. This paper looks at studying the various benefits of imparting education through e-learning, identifying the challenges faced by learners, and measures the satisfaction levels of learners. From the study, it emerged that students' satisfaction index in using e-learning technologies is high for courses in Medical Technology and Allied Healthcare education.

KEYWORDS

Allied Healthcare Education, Asynchronous Learning, Blended Learning, E-Learning, Medical Technology, Online Learning, Students' Satisfaction, User Experience

INTRODUCTION

Conventional Medical Technology and Allied healthcare education was imparted through 'face to face' didactic mode of academic delivery whereby the teacher or facilitator interactions with students were at the same time and at the same location on - campus. The academic delivery of theory- based learning, simulation - based training and practical training was thus imparted in real time.

The COVID-19 pandemic has prompted an unexpected void in the field of clinical training because of the nullification of conventional study methods and clinical practical teaching (Kui et al., 2020).

During the COVID-19 pandemic, online mode of learning has become the main education tool across all faculties. This research analyzed the various tools of imparting training to Medical Technology and Allied Healthcare education students in an online mode, thus fostering a continuum of learning, despite the stringent social distancing norms mobilized by the Government of India, preventing students from returning to campuses during the pandemic.

Medical Technologists and Allied health professionals work in various healthcare environments from hospital departments, wellness industry to diagnostic centers', research laboratories and the medical equipment industry, whereby they are required to exercise technical and scientific functions in the hi-tech healthcare space. They are categorized under various specializations according to their functioning departments in their respective fields.

Digital learning styles that are currently available in Medical Technology and Allied healthcare education is very heterogeneous. Additionally to the well-known classic styles, social media platforms, AV-based media, and interactive electronics enrich the environment for learning for these Allied healthcare students. Many technocrats are building digital learning experiences as assessment tools to promote learning through online exams (Kuhn et al., 2017).

Mobile & customized platforms are the current developments in digital learning services. Video conferencing has been utilized as a methodology of online clinical education by different organizations (Patel et al., 2021).

Furthermore, didactic customized modules has made it possible to assess measurement of learning outcome. (Coman et al., 2020). This study aims to evaluate whether online learning is of any benefit and can help Medical Technology and Allied Healthcare program students study more effectively

REVIEW OF LITERATURE

Medical Education

A virtual learning platform provides a reliable and excellent educational set-up that nurtures participation and association of the learners in Medical Education and can be a valuable solution for physical isolations. (Pei & Wu, 2019). The main obstacles to implementing online learning in medical education are negative attitudes and absence of strategies (O'Doherty et al., 2018).

"User experience (UE)" is an important parameter to assess the effectiveness of online learning products and modules. The parameter assesses the learning module based on its attractiveness, friendliness, operating speed, precision, understandability and good design (Hinderks. et al., 2019). Other than user experience, quality of learning can be improvised by providing robust administrative support and improvisation in the course content being delivered (Agarwal & Kaushik, 2020).

The advanced e-learning technology should not only engage the learner but also increase the interaction time with the peers & teachers (Caramihai et al., 2020). Advocates in the education sector feel that quality of learning(QoL) gets enhanced, if the learning system caters to spatial, behavioral and temporal cognitive properties of the learners (Challa et al., 2014)

Online learning during the COVID-19 situation obligated many teachers to be trained in the hardware & software aspect of essential computer skills (Cook et al., 2010). Multimedia platform can be used to impart computer skill training to the medical students (Del Arco et al., 2021). For medical students, online assessments through objective structured clinical & practical examinations (OSPE/OSCE) can be realized (Dutta et al., 2021).

A study on faculty perception revealed medical students are not attentive and they lose interest over period of time in online teaching technology (Elumalai & Sankar, 2020). This problem can be improved by devising strategies to optimize the curriculum and pedagogical delivery of the course content delivery (Jang & Kim, 2014). Although there are many benefits of online learning, there are a few weaknesses as well like lack of internet bandwidth, limited skill and computer literacy amongst the allied healthcare professionals (Jiang. et al., 2020; Khan et al., 2020). Also, there should be improved incentive policy and reward for the online resource material developed by the faculty (Langenau et al., 2014; Li et al., 2019). Finally a feedback mechanism to continuously monitor and upgrade the online system must be incorporated (Ng et al., 2021; Pinheiro et al., 2019).

Learners in medical education require simulation of a virtual patient for role play studies and medical skill practicing (Qiu et al., 2022). Social skills of the students can be honed by incorporating

Related Content

Reflection and Intellectual Amplification in Online Communities of Collaborative Learning
Elsebeth Korsgaard Sorensen (2004). *Online Collaborative Learning: Theory and Practice (pp. 242-261).*
www.irma-international.org/chapter/reflection-intellectual-amplification-online-communities/27725

Construct Validation of an Online Reading Strategy Inventory for Use in Iran
Jaleh Hassaskhahand Seyedeh Mona Gaskari (2014). *International Journal of Virtual and Personal Learning Environments (pp. 45-59).*
www.irma-international.org/article/construct-validation-of-an-online-reading-strategy-inventory-for-use-in-iran/133862

The Impact of Personal Learning Environments on Chinese Junior High School Students' Spoken English Narrative Competence
Menglin Zhang, Xiaoshu Xuand YunFeng Zhang (2023). *International Journal of Virtual and Personal Learning Environments (pp. 1-23).*
www.irma-international.org/article/the-impact-of-personal-learning-environments-on-chinese-junior-high-school-students-spoken-english-narrative-competence/329599

Integrating Tutoring Systems for Distributed Learning Environments
Fuhua Lin, Larbi Esmahiand Lawrence Poon (2005). *Designing Distributed Learning Environments with Intelligent Software Agents (pp. 184-217).*
www.irma-international.org/chapter/integrating-tutoring-systems-distributed-learning/8186

Stepping Out of the Classroom: Anticipated User Experiences of Web-based Mirror World Like Virtual Campus
Minna Pakanen, Paula Alavesa, Leena Arhippainenand Timo Ojala (2020). *International Journal of Virtual and Personal Learning Environments (pp. 1-23).*
www.irma-international.org/article/stepping-out-of-the-classroom/239582