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Exploring the Drawbacks of Online Classes in Higher Education

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KEYWORDS

Online education, drawbacks, E-learning, economical &universally accessible

ABSTRACT

The virtual mode of education has several advantages as well as drawbacks. The current qualitative research aimed to highlight the drawbacks associated with online classes. To comprehend the subject problem the students of higher education and faculty members were reached through purposive sampling for data collection. The data was collected through online interviews from 12 university students and 12 faculty members. The data processing was supported by a thematic analysis that revealed three major findings i.e. unfavorable teaching-learning environment in online classes. Secondly, the ineffectiveness of online classes for science subjects; and research also pointed out the health problems associated with online education/classes. Teaching and learning environment can be improved if teachers and students manage an isolated room for online classes. Cheating in online exam can be discouraged by introducing open-book exam, and ineffectuality of online classes for science subjects can be enhanced by adapting blended education. Health problems caused by online classes may not be eliminated but can be reduced to some extent by adopting good practices.

INTRODUCTION

The application of technology and technological resources in education are associated with instructional technology (Kidd & Song, 2008). The education that is delivered through the Internet is called online education. Online education is known by different names such as e-learning, virtual learning or distance education etc. Online classes can be asynchronous and synchronous; in the former, there is no live interaction between instructors and learners but students are provided with recorded lectures or notes to understand the topic whereas in the latter case, teachers and students both interact online concurrently. Such a mode of education may be blended or entirely over the Internet (Horn & Staker, 2011).

The application of technology in academia was already at its peak in 21st century. However, the coronavirus pandemic has further increased the demand and importance of educational technology and e-learning by transforming teaching-learning activities from offline to online. Instructional technologies have been used decades back in the modern world and recently a few years back stepped into developing countries too (Nawaz & Kundi, 2010). Online education has been growing swiftly throughout the world at all levels. According to Forbes virtual learning in 2015 was at $107 bn and would be $350 bn in 2025. According to educationists, educational technology could dominate tertiary education and have the potential to substitute the traditional way of teaching-learning process (Cambridge, 2010; Govindarajan & Srivastava, 2020).

No doubt online education is considered economical and universally accessible at all levels. In addition, due to application of ICT in education has enhanced the teaching and learning experiences (Songkram, 2015). Manageability is one more benefit of virtual education where students and teachers are not bounded by time and location (Songkram et al., 2015). The interaction among learners and mentors is vital to make the teaching and learning process effective and an online education environment facilitates interaction among the stakeholders.

Despite several advantages, the online mode of education also has some drawbacks. According to Arkorful and Abaidoo (2015), online education is being controlled remotely in which teachers and students do not interact with each other so that interaction is less as compared to the traditional teaching-learning process. Motivation plays a vital role to achieve academic objectives so it is important to keep the learners motivated to meet their academic objectives. In fact, in online classes, it's challenging to keep students motivated to achieve their academic goals (Raspopovic et al., 2017). However, in Pakistan much work has not been done on drawbacks of online classes post pandemic. In this connection, the present inquiry has explored the drawbacks of online classes.

Purpose / Objectives of the Study

1. Exploring the environment for teaching and learning in the online classes.
2. To examine whether online classes are appropriate for science subjects and practical subjects (Lab work) or not.
3. Disclosing the health problems caused due to online classes.

Significance and Rationale

The outcomes of the study would help educational stakeholders in understanding and improving ergonomics of online classes for better teaching and learning experiences. The current research has also contributed to comprehend the appropriateness of online classes for science subjects. In addition, the findings would support in realizing and diminishing health problems caused due to online classes.

Online education /classes have been used since long in the developed world and growing in developing countries since last two decades. However, during the pandemic, the entire educational system transformed to online because of lockdown across the world. Online classes have numerous benefits as well as weaknesses. Much work has already been done before and after COVID-19 regarding pros and cons of online education. However, in Pakistani context substantial work has not been carried out after pandemic on drawbacks of online classes. Hence, the findings of the contemporary study would help educational stakeholders to comprehend the problems associated with online classes and diminished them.

RESEARCH QUESTIONS

1. How is the environment in online classes?
2. Are online classes appropriate for science or practical subjects?
3. What health problems can be caused due to online classes?

LITERATURE REVIEW

This study is supported with the theory of online collaborative learning suggested by Harasim (2012). Online collaborative learning theory is based on cognitive development theories such as conditions for deep learning (Marton, 1997; Entwistle, 2000), conversational learning (Pask, 1975) and construction of knowledge (Scardamalia & Bereiter, 2006). According to this theory, learners work in a team to understand and produced new information to solve problems rather than memorizing already available information. Harasim's theory focused on three major components including generating and organizing ideas, and intellectual convergence.

Unfavorable Teaching-learning Environment in Online Classes

A teaching-learning environment refers to the physical, social, and psychological factors that affect the process of instructing and studying. According to Van Der Bles et al. (2019) an educational environment comprises "learning space, the curriculum, the teacher, the learners, and the resources and tools used in the educational process" (p. 2). A well-designed teaching-learning environment can facilitate students' engagement, motivation, and achievement. Furthermore, an inadequate environment may hinder the progress of learners' performance. Research has demonstrated the importance of the environment in promoting effective educational settings. Instance, a study by Freeman et al. (2014) noticed that problem-based enquiry promotes students' achievement. Similarly, a study by Roseth, Johnson, and Johnson (2008) found that a cooperative learning environment, which emphasizes collaboration and teamwork, improved students' achievement and motivation.

The research has disclosed that the teaching-learning environment in virtual education is less effective than a physical setting. A certain level of self-discipline, time management, and motivation is required from students but unfortunately in online classes, students seem unable to manage these things properly (Dhawan, 2020). In online education, it is challenging to provide quality feedback to students so they could not find out if they are heading in the right direction or need to improve their understanding of the topic (Bozkurt et al., 2020). Online learning requires high-quality audio for students to hear lectures and participate in discussions effectively. Poor audio quality can be a major barrier to learning in the online environment (Bolliger, Supanakorn, & Boggs, 2010). Video conferencing is an essential tool for online learning, and the lack of camera capabilities can limit the ability of students to see and interact with their peers and instructors. This can lead to a weaker sense of community and lower engagement (Borup, West, & Graham, 2012).

The Ineffectiveness of Online Classes

Online education has provided many benefits but assessing and evaluating students' performance is still challenging. The assessment and evaluation in online courses have been identified as problematic (Kebritchi et al., 2017). Research further highlighted that traditional assessment methods such as multiple-choice tests may not be effective in assessing complex skills and that there is a need for alternative methods that can assess critical thinking. The assessment of learners is challenging in online classes

because of less one-on-one communication, which can lead to difficulties in monitoring students' activities and behaviours during assessments (Du & Xu, 2020).

The systematic review about 51 studies to see effectiveness of virtual learning found that online courses were generally as effective as traditional courses for undergraduate and graduate students in a various disciplines like business, pedagogy and social sciences (Means et al., 2009). Another study compared the persuasiveness of online and traditional method at graduate-level for statistics subject and found that while students in both groups performed similarly on exams, those in the traditional course reported higher levels of gratification with the subject and their mentor (Robinson et al., 2020). Other studies have found that online classes can be particularly effective for courses that focus on knowledge transfer or technical skills, such as computer programming or accounting (Sitzmann et al., 2010). However, some courses that require more interaction and collaboration, such as language learning or creative writing, may be less effective online.

Health Problems Associated with Online Classes

There are several health problems associated with online classes which may affect both physical and mental health, including Cervicalgia and Umbago, obesity, anxiety, and depression. The epidemic had a severe effect on mental conditions of learners who took online classes and they experienced elevated level of anxiety and sadness (Viner et al., 2020). The research further indicated that the learners who already had mental health issues were more likely to experience these adverse impacts.

In order to see how college students' physical and mental condition were affected by the virtual classes amid pandemic. The study found that online learning was associated with increased sedentary behavior, insomnia, stress and anxiety compared to in-person learning (Singh et al., 2021). The authors suggested that strategies to promote physical activity, sound sleep habits, and mental health support should be integrated into online education programs to mitigate these negative effects.

METHODOLOGY

Research Design

The current qualitative study applied phenomenological research approach to disclose the drawbacks of online classes. In the phenomenology, researchers examine the past experiences and opinion of the individual (Flynn & Korcuska, 2018). This approach typically involves collecting data by interviews and focus groups. The basic aim of this method is to describe the nature of the phenomenon (Creswell, 2013). This approach of inquiry is a better way to comprehend social or individual problems. It is often used in social sciences, psychology, education, and in other fields (Creswell & Creswell, 2017). This is an interpretive approach concerned with understanding the complexities of human experience (Denzin et al., 2023).

Sampling Technique

The present study applied purposive and snowball sampling to reach participants that is typically used in phenomenological studies. In purposive and snowball sampling, a sample is formulated based on questions, for example, participants' experiences characteristics, or expertise (Palinkas et al., 2015). Therefore, for this study researcher has collected data only from those students and faculty members who went through online classes.

Instruments and Data Collection

In phenomenological inquiry, a sample size is not predetermined, but rather determined by the principle of data saturation; where the sample size is determined by the saturation point (Hennink, Hutter, & Bailey, 2020). However, according to Creswell (1998) a sample for phenomenological research would be from 5 to 25 individuals. To comprehend the drawbacks of online classes, online interviews were conducted with 12 students and 12 faculty members of various universities. Interviews were conducted through online (Google meet) and recorded with the consent of participants. Interviews are a common way for collecting statistics in qualitative study (Denzin & Lincoln, 2017). In the phenomenological research, Interviews allow researchers to collect detailed information about participants' experiences, perspectives, and beliefs (Fontana & Frey, 2008).

Data Analysis

The data processing was completed through thematic analysis as it is considered apposite for data processing wherein interviews are used to collect data (Sundler et al., 2019). All the interviews were conducted in Urdu and then transcribed into English. Following the Saldana handbook, firstly anchor codes were formulated for each research question. Subsequently, the whole transcript was coded in line with those codes. Then, categories were created by using codes and eventually themes were generated by combining categories. Thematic analysis is commonly applied for data processing in the qualitative approach (Braun & Clarke, 2006). In this method, researchers recognize the pattern in the data

to use it for addressing the research questions (Braun & Clarke, 2006).

Figure 1

Data Analysis Procedure

RESULTS

The data processing was carried out through thematic analyses which produced three themes i.e. the teaching-learning environment in online classes, online classes for science/practical subjects, and the health problems caused due to taking part in online classes. The data was obtained by conducting online interviews with faculty members and students. The responses of faculty members were denoted by TR (Teacher Respondent) and students by SR (Student Respondent).

The Teaching-learning Environment in Online Classes

Teachers and learners both highlighted that the teaching-learning environment in online classes was not conducive. There were many factors which make online classes unproductive for creating a good teaching and learning environment. In online classes, there was "no interaction among the learners" (SR1). A noise-free setting is vital for effective teaching and learning however "background noise was unavoidable during online class" which was troubling for both students and teachers (SR3). Due to noise during online classes, "I shifted my teaching from live online classes to recorded lectures" (TR1). In physical classes, the interaction and involvement of students are always greater than in online classes (TR6 & TR9). In the online education system, e-examination was also questionable as students committed cheating to get good grades "There were some students who obtained good marks and even those students were unable to compete in the physical classes with me but in online classes, those students had good marks than me" (SR7). No doubt, it is difficult to "ensure the credibility of remotely conducted examination" (TR8).

Online Classes for Science and Practical Subjects

The faculty members and students pointed out, online classes are not effective for science subjects such as physics, chemistry, biology etc. one of the medical students told that he took online classes to complete the course during COVID-19 but was "not satisfied as I could not do practical while medical courses are based on practical" (SR2). Similarly, SR4 responded that "being a biotechnology student, we have to complete courses with the combination of theory and practical but because of covid, teachers taught online about theory". TR8 said, "I am an engineering design teacher, it was too difficult to teach this course online because we need to do a lot of practical work to complete the course".

Health Problems Associated with Online Classes

Research participants also disclosed some health problems associated with online classes as SR-5 told his "eyesight badly affected due to taking online classes, facing digital screen for a longer time". One of the participants highlighted he suffered from "back pain because of sitting in front of the computer" for a longer time to take online classes and complete assignments on the computer (SR9). Likewise, SR-10 stated that she felt "mental fatigue and headache during online classes". One of the faculty members highlighted that he suffered from "depression due to having online teaching" during COVID-19 (TR9).

DISCUSSION

The Teaching-learning Environment in Online Classes

The contemporary study indicated that the factors such as lack of student-student and student-teacher interaction, and unnecessary background noise from both teachers' and students' sides make the learning environment detrimental. Cheating in the online examination due to improper checks and balance also spoil teaching-learning activities. The learning environment is cyberspace where teachers and learners interact with each other for the acquisition of education. According to Akcaoglu and Lee (2016), the educational sphere should facilitate involvement, teamwork, and interaction between students and their mentors. Inversely, the environment in online classes is detrimental to both the teaching and learning process as it imposes isolation; weakens the relationship between teacher-student and peers. At the same time, a recent study disclosed that students of tertiary education preferred online classes because of diverse learning opportunities and higher engagement of learners with teachers and learning resources (Alzahrani, 2022).

The literature has shown both positive and negative facets of the environment in online classes. However, present research established that environment in virtual classes is not apposite for both teaching and learning activities. There are several factors which make the online educational system inappropriate for learning such as access to the internet, digital skills

and resources required to take online classes properly (Hussain & Nauman, 2022).

Online Classes for Science and Practical Subjects

The findings of the current research established that the online mode of education is not effective for science subjects in which students need to use labs for hands-on experience. Lab work is an integral part of science education that provides students with an opportunity to develop scientific skills, attitude and problem-solving skills in learners (Gericke, Högström, & Wallin, 2022). Nevertheless, the virtual mode of education does not facilitate laboratory work for students (Gamage et al., 2020). The study conducted during the coronavirus pandemic indicated that learners of engineering courses were happy to work with virtual labs as they improve learning (Kapilan, Vidhya, & Gao, 2021). Virtual laboratories can be used in online education where students can conduct experiments but they cannot be the substitution for physical laboratories (Vasiliadou, 2020).

Practical work is essential along with theory for science, engineering, and medical students regardless of online and traditional education. No doubt, online education has several advantages but seems to fail to provide a conducive laboratory environment for students. This problem can be resolved by adopting the blended mode of education where students can take theoretical classes online and practical work in physical laboratories.

Health Problems Associated with Online Classes

The current research pointed out, online classes may cause health problems such as weakened eyesight, back pain, headache, mental fatigue and depression. Online classes may cause several health problems to the user if they use them for longer periods without any rest in between. Research showed that during the pandemic due to excess use of digital gadgets, users suffered from sedentary behaviour which leads to health problems like obesity and musculoskeletal disorder (Kim, Kim, & Lee, 2021). Both teachers and students use electronic devices for various purposes in their daily life. In addition, during the pandemic, they also took online classes that longish their presence in front of electronic devices which led to digital eye strain (Alabdulkader, 2021).

The coronavirus pandemic has accelerated the demand for online education across the world at all levels. Online mode of education has several advantages along with some downsides; the need is to utilize its upsides and overcome downsides. We can reduce health problems caused by online classes by taking a halt after a specific period during virtual studies. In addition, the ergonomic arrangement of the workplace or study place during virtual studies may diminish health problems for users (Singh & Ahlawat, 2021). Likewise, blue light-blocking glasses could also help to reduce the problem of digital eye strain (Singh, Downie, & Anderson, 2021). Several techniques can be practised to minimize the effect of online studies which may cause stress and depression.

Limitations of the Study

No research is perfect, every research has some shortcomings. The contemporary study has two main limitations which are as below:

- The data was collected from students and faculty members of the universities whereas students and teachers of colleges and schools could also been included.
- The current qualitative inquiry applied phenomenological research design which cannot be generalized. However, this study can be generalized by conducting further research by using mixed method.

CONCLUSIONS

The online classes have many benefits as well as drawbacks; several researches have already been conducted regarding online education. Unfortunately, in Pakistani context much work has not been done on weaknesses of online classes after pandemic. Hence, the current study has explored the drawbacks of online classes including poor teaching and learning environment, ineffectiveness of online classes for science subjects and negative impact on health. Further research can be conducted on the findings of present study to reform online classes.

RECOMMENDATIONS

1. Cheating in online examination can be discouraged by introducing open-book exam and to avoid background noise during the online class, both teachers and students should manage a noiseless environment for online classes.
2. Online classes can be more effective for science subjects if we adopt the blended mode of education.
3. Several health problems are associated with online education; these problems cannot be eliminating completely. However, the severity of these problems can be minimized by taking proper sleep, breaks amid online study, taking healthy food, doing regular exercise, using blue light glasses and setting up a comfortable learning environment for online classes.

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