Implementation of e-learning during COVID-19

Mitja Tanjga[1]

1 University of Banja Luka

Abstract

This research paper explores the challenges of e-learning during the COVID-19 pandemic. With the rapid shift to online education, many students and educators have encountered problems related to technology, communication, and student engagement. The paper examines the impact of these challenges on students' learning outcomes and mental health. Additionally, it explores how educational institutions have attempted to mitigate these problems, including the development of new e-learning platforms and the implementation of support programs for students. The research highlights the importance of addressing these challenges to ensure that e-learning remains an effective means of continuing education during the pandemic and beyond.

Keywords: e-learning, COVID-19, online education, technology, communication, student engagement, learning outcomes, mental health, e-learning platforms, support programs.

Introduction

The COVID-19 pandemic has created unprecedented challenges for education systems globally, leading to the adoption of e-learning as an alternative means of delivering education. While e-learning has been around for several years, its widespread adoption due to the pandemic has exposed several challenges that affect the effectiveness of e-learning. This research paper examines the problems associated with e-learning during the COVID-19 pandemic.

Main e-learning issues

E-learning, or online learning, has become a crucial means of delivering education during the COVID-19 pandemic. However, several challenges associated with e-learning affect its effectiveness. Some of the main problems with e-learning are:

Digital divide: Unequal access to technology and the internet among students is a significant challenge facing e-learning. Students from low-income households and rural areas are more likely to lack access to the necessary technology and

Internet for e-learning, leading to a significant disparity in educational opportunities.

Lack of technical skills: Not all students and teachers are familiar with the software and tools required for e-learning, affecting the effectiveness of online learning. Some students may not have the necessary technical skills to navigate e-learning platforms effectively. This problem is more prevalent among older teachers who may not be as comfortable with technology as their younger counterparts.

Lack of interaction: In e-learning, the interaction between students and teachers is limited, leading to a lack of motivation among students. Students may feel isolated and miss out on the benefits of face-to-face interaction with their peers and teachers.

Assessment challenges: Assessing students' learning and progress can be challenging in e-learning, especially with the use of automated assessment tools. Teachers may need to develop new strategies for assessing student learning and providing feedback.

Technology issues: Technical problems, such as slow internet connections or system crashes, can disrupt e-learning sessions and affect the learning experience.

Access to resources: E-learning requires students to have access to resources such as textbooks, videos, and other learning materials. Students who lack access to these resources may not be able to participate fully in e-learning.

Equity issues: E-learning can exacerbate existing equity issues, such as gender and socioeconomic disparities, in education. Students from disadvantaged backgrounds may not have the necessary resources or support to participate fully in e-learning, leading to further inequities in education.

It is important to address these challenges to ensure that e-learning is an effective means of delivering education. Governments, educational institutions, and teachers can work together to bridge the digital divide, provide necessary technical skills and resources, promote interaction between students and teachers, and ensure equitable access to e-learning opportunities.

E-learning in China during Covid-19 – case study

In higher education, e-learning has been widely adopted in China during the COVID-19 pandemic. Universities across the country have moved their courses online to ensure continuity of education. The Chinese government and educational institutions have taken several measures to facilitate e-learning in higher education.

One of the primary measures taken by the government was to provide funding to universities to support the development of online courses and the purchase of necessary hardware and software. This funding was particularly important for universities that had limited experience with e-learning.

Many universities in China have also developed online learning platforms, which have been widely adopted by students and faculty. These platforms offer a range of resources, including pre-recorded video lectures, live-streamed classes, and

interactive discussion forums.

Another important initiative was the development of MOOCs (Massive Open Online Courses) by Chinese universities. These courses provide free online education to students from all over the world and have been an effective means of promoting e-learning during the pandemic. The Chinese government has also supported the development of international partnerships between Chinese universities and universities from other countries to promote online learning.

Despite these initiatives, e-learning in higher education in China during the pandemic has faced several challenges. One of the main challenges has been the lack of interaction between students and faculty. In a traditional classroom setting, students can interact with their peers and faculty members, which can enhance the learning experience. However, in an online environment, this interaction is limited, and students may feel isolated.

Another challenge has been the assessment of student learning. Online assessments can be challenging, and there are concerns about academic integrity and cheating. Universities have had to develop new assessment strategies to ensure the validity and reliability of online assessments.

Overall, e-learning has been an effective means of continuing education in China during the COVID-19 pandemic. However, it is important to address the challenges associated with e-learning to ensure that students receive a quality education. Universities and the government can work together to develop effective e-learning strategies, promote interaction between students and faculty, and ensure equitable access to online learning resources.

Methods

This study employs a qualitative research approach to investigate the problems associated with e-learning during the COVID-19 pandemic. A statistical method was used as well as the analytical, and method of synthesis.

Results

This research indicates that e-learning during the COVID-19 pandemic faces several challenges. The most significant challenge is the digital divide, which refers to unequal access to technology and the Internet among students. Students from low-income households and rural areas are more likely to lack access to the necessary technology and internet for e-learning. This has led to a significant disparity in educational opportunities, with students from disadvantaged backgrounds being at a disadvantage.

Another problem is the lack of technical skills among teachers and students. Not all students and teachers are familiar with the software and tools required for e-learning, affecting the effectiveness of online learning. This problem is more prevalent among older teachers who may not be as comfortable with technology as their younger counterparts. Additionally, some students may not have the necessary technical skills to navigate e-learning platforms effectively.

To support the above statement an online survey with 21 questions was developed applying Google Forms. The survey was distributed among students of various HE institutions of the Republic of Srpska from May 27, until June 11, 2020. The questionnaire has 4 divisions. The first division consist of demographic questions, the second was about personal Internet infrastructure and devices used for online classes, the third was about e-learning and technology used by HE institutions and the fourth division held questions about student's satisfaction with the e-learning process during lockdown.

The article presents a fourth division of questions.

Online or traditional teaching?

Question 1: "Is online teaching better than traditional classroom teaching?"

"No" was in 62.2% of the answers and "In part" was in 21.4%. Students emphasize "face-to-face" human interaction in front of online communication channels.

The survey did not investigate reasons for student dissatisfaction but as some authors (Krishnan, 2016) point out that student satisfaction depends on various factors such as student ICT literate level, learning discipline, interaction, and isolation level. Others (Martin and Bolliger, 2018) stand out student engagement is crucial for the rising level of satisfaction in an e-learning environment. Furthermore, a study (Venkatesh, 2019) from Australia state, "Social interaction is an important component in ensuring perceived satisfaction with BIL (blended integrated learning)."

Question 2: "What is your biggest complaint about online teaching?"

"I don't have a feeling that I am studying for real." was in 37.1% of answers and "Teacher is missing." was in 32.7% of cases marked as the second biggest downside of online classes. "Colleagues students and class feeling is missing" was the answer for 22.4% of participants. This is understandable because the COVID-19 lockdown forced students to confinement at their homes and transfer to online classes that happened fast so, students needed more time to adopt new models of learning and start collaborating with fellow students and teachers.

A Malaysian study (Krishnan, 2016) where more than 80% of participants preferred face-to-face interaction with teachers supports the study. Similarly, the Vietnamese (Pham et al., 2019) study points out the significance between student satisfaction and lecturer proficiency. Australian (Mestan, 2019) study, additionally, states that students do not prefer online e-learning elements.

Authors' apostrophe "engaging and meaningful learning communities as a means of supporting students' social relations and the learning experience "(Nortvig et al., 2018).

Discussion

The digital divide is a significant challenge facing e-learning during the COVID-19 pandemic. Students who lack access to

technology and the internet are more likely to fall behind in their studies, which can have long-term negative consequences. This problem requires a comprehensive approach that involves providing students with access to technology and the Internet and ensuring that the infrastructure necessary for e-learning is in place. Governments and educational institutions can work together to bridge this gap by providing financial support for students from low-income families, ensuring that students have access to devices and the internet, and investing in the necessary infrastructure.

The lack of technical skills among teachers and students is also a significant challenge. Teachers and students require training to use e-learning tools and software. Providing technical support can also be beneficial in addressing this problem. Governments and educational institutions can provide training for teachers and students on how to use e-learning tools and software and provide technical support to help students and teachers who experience technical problems.

Another challenge associated with e-learning during the COVID-19 pandemic is the lack of interaction between students and teachers. In traditional classroom settings, students can interact with their teachers and classmates, ask questions, and receive immediate feedback. However, in e-learning, this interaction is limited, and students may feel isolated, leading to a lack of motivation. Addressing this problem requires a different approach to e-learning that incorporates more interaction and collaboration between students and teachers. This is achievable using video conferencing tools, discussion forums, and virtual group projects.

Conclusion

E-learning has become an essential tool for providing education during the COVID-19 pandemic. However, the challenges associated with e-learning highlight the need for a comprehensive approach to address the digital divide, provide necessary technical skills to both students and teachers and promote interaction between students and teachers. Policymakers and educational institutions must work together to ensure that all students have equal access to technology and the Internet, provide technical support and training to students and teachers, and incorporate more interaction and collaboration in e-learning.

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