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POST-PANDEMIC HIGHER EDUCATION: SYSTEMATIC REVIEW OF IMPLICATIONS AND APPROACHES ON TEACHING AND LEARNING

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Abstract

The COVID-19 pandemic has disrupted higher education institutions worldwide, forcing a sudden shift to online learning and remote work. It is crucial to think back on the lessons learned and re-imagine the future of higher education as the crisis begins to subside. Most studies tend to focus on the challenges that were brought by the pandemic in institutions of higher learning. This article investigated the main challenges faced by people in the field and offered innovative approaches and answers for post-epidemic higher education. It explores the potential of technology to change teaching and learning processes, the value of adaptability and resilience in educational institutions, and the part multidisciplinary collaboration plays in tackling challenging global issues. A systematic review of peer-reviewed academic articles published between January 2020 and December 2021 was conducted. A total of 12 articles were selected according to the exclusion criteria. The article proposes a plan for reimagining higher education, using the theory of 'pandemic as a portal 'which considers the lessons learned from the pandemic and is aimed at creating a system better able to cope with new challenges in an equitable yet student-centered way, drawing on data derived from international case studies and emerging trends.

Keywords: Higher education, reforms, inequality, teaching and learning, covid 19 blended learning

Introduction

The global COVID-19 pandemic has significantly disrupted higher education systems worldwide, necessitating an urgent need for re-imagining and transforming the sector. This literature review examines the existing scholarship and research on re-imagining higher education post-pandemic, focusing on the challenges faced by institutions, innovative responses, and potential long-term transformations. The review aims to provide insights into the current discourse surrounding the future of higher education in a post-COVID-19 world.

The sudden onset of the pandemic posed numerous challenges for higher education institutions. These challenges included the abrupt shift to remote learning, the digital divide among students, financial constraints, and the mental health impact on both students and faculty. There was a clear digital divide, especially in developing countries. Some universities were caught off guard and they had to scramble to make sure that teaching and learning continued while grappling with long periods of movement restrictions. The issues of financial constraints exposed inequalities within societies and countries. Students from well-off counties and families could continue easily with their studies due to access to technology, that afforded them virtual learning. Scholars (Smith, 2020; Heanoy et al., 2021) emphasized the need for flexible and adaptable approaches to address these challenges effectively.

Furthermore, higher education institutions quickly adapted to the crisis, implementing innovative responses to ensure continuity of education. According to Broadbent et al (2023) there was a notable increase in online learning activities, authentic and scaffolded assessments, and online unsupervised exams post-pandemic. These changes were primarily driven by university-guided adaptations, time and workload pressures, continued COVID-19 challenges, local leadership, an individual desire to innovate, and concerns about academic integrity. Virtual learning platforms, video conferencing tools, and online assessment methods became essential components of remote education (Tsai *et al.,* 2020). Researchers (Goode *et al*, 2021; Garcia-Martinez et al., 2022) highlighted the

significance of professional development programs for faculty, enabling them to effectively navigate the virtual learning environment and design engaging online courses. These innovations and practices must be retained and carried on to the future.

The pandemic accelerated the adoption of technology in higher education. Universities and colleges embraced online learning management systems, virtual reality, artificial intelligence, and data analytics to enhance teaching and learning experiences (Altbach & De Wit, 2021). A study of Trumpeter *et al* (2022) demonstrated the potential of these technologies in promoting personalized learning, collaborative problem-solving, and data-driven decision-making in higher education institutions. In countries like South Africa, there was a rapid move towards investing in technology infrastructure to support online learning. This move also exposed inequities that existed among institutions of higher learning. There was a huge gap that was exposed between the previously disadvantaged universities (which are usually in the rural areas) and the well-resourced institutions in the urban areas. Teaching and learning were minimally disrupted at well-resourced institutions as opposed to previously disadvantaged universities. To overcome these challenges, some universities adopted hybrid learning models, which combined online and in-person instruction. This allowed for flexibility while adhering to safety guidelines.

The pandemic also exposed the digital divide, exacerbating existing inequalities in access to education. Scholars (Bates, 2020; Mathrani & Umer, 2022) emphasized the importance of bridging this divide to ensure equitable education. Initiatives such as providing internet connectivity to underserved communities, loaning laptops to students, and designing inclusive online courses have been suggested as strategies to promote equal access to education. In South Africa for example the leap from face-to-face teaching to online delivery methods exposed the already existing digital divides among the institutions Moyo et al (2022)

Among other changes that were brought about by the pandemic was the reconceptualisation of learning spaces. Before the pandemic, learning was primarily known to be taking place in a classroom, especially in many countries in the developing world.

The COVID-19 epidemic had a significant impact on education all around the world and changed how learning spaces were conceptualized in several ways. The following are some significant ways that COVID-19 impacted the change in learning spaces:

The shift to remote learning prompted a re-evaluation of physical learning spaces on campuses. Scholars (Russo et al., 2021; Johnson & Smith, 2022) discussed the potential transformation of traditional classrooms into collaborative and interactive spaces, incorporating technology and flexible furniture arrangements. Moreover, immersive learning experiences may be provided beyond physical classroom walls through the integration of virtual and augmented reality technologies.

Alternative locations, like libraries, community centers, and even public parks, were transformed into learning spaces to meet the needs of education during the pandemic because traditional classrooms were less able to accommodate them, and many students were learning remotely.

The pandemic brought students' welfare and mental health to light. As a result, facilities for relaxation, mindfulness, and stress reduction were added to learning spaces.

This literature review highlights the challenges faced by higher education institutions during the COVID-19 pandemic and the subsequent innovative responses and transformations. The review stresses the need for technological progress and inclusive practices, as well as reconfiguring physical learning spaces to meet the future needs of higher education. The long-term impact of this transformation, and the development of sustainable strategies for post-pandemic Higher Education, will also need to be further explored.

Research Question

The study examines the lessons learned in higher education during Covid 19 and the implications for teaching and learning practices following the pandemic. Also, how can these changes lead to re-imaginations of teaching and learning in Higher education?

Theoretical approach

The study adopted Arundhati Roy's concept of the 'pandemic as a portal. In an article entitled "The Pandemic Is a Portal", published in 2020, Arundhati Roy, a renowned Indian author, and activist, expressed her views on the COVID-19 pandemic. In this piece, she describes the pandemic as a portal for societal change and suggests that it may offer opportunities to turn things around.

The pandemic has been a wake-up call, exposing and magnifying the existing inequalities and injustices in our societies, according to Roy (2020). She argues, that in addition to the disparities between access to healthcare, education, and basic needs, this has shown that our economic, social, or political systems are fragile.

Roy's view is that the pandemic represents a turning point, an opportunity for reflection and change. She believes it opened the way for us to conceive and build a fairer, just world. In her opinion, the crisis has shown that our lives are intimately linked and called for collective action and solidarity.

She stresses the need to learn from the mistakes of the past in order not to rush back into an "old routine" that causes inequalities, ecological degradation, and exploitation. Instead, Roy is calling on us to think about the injustices suffered by those who have been left behind in this epidemic and consider how we can prepare for a future that deals with such fundamental issues.

In general, we are challenged by Arundhati Roy's idea of the pandemic as a gateway for reflection and transformation because this crisis is more than an interruption. She's asking people and societies to take advantage of this moment to make the world more equitable, humane, or sustainable.

Methods

Many methodological approaches can be employed to construct a review of available literature on the re-imagination of higher education globally. This study's chosen methodology is often referred to as an integrative review. This method is based on a research strategy that attempts to locate and situate literature within an identified framework (Torraco, 2016).

The method was deemed suitable for the research because it allowed researchers to exclude those articles that were irrelevant to the research.

The databases used in this review were sourced from the following search engines: Ebsco (6 databases), Informit (4 databases), and Proquest (8 databases). The integrative review draws on some of the rigor of systematic reviews in terms of search strategies and inclusion and exclusion criteria (Turnbull et al,2021).

After the total examination of each paper,12 papers were found to have been related to the research focus which is a re-imagined post-COVID-19 higher education. Search engine keywords were higher education and future university-imagine. Only English-language peer-reviewed journal articles based on COVID-19 and the re-imagination of Higher Education-related issues were included. A date range of January 2021 to December 2022 was applied to all searches. A total of 18 unique papers were initially identified from the database search. After a total examination of each paper,12 papers were found to have been related to the research question.

Table 1 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Publications 2021-2022	Publications before 2021
Papers published in English only	Papers in languages
Primary empirical research	Reviews or theoretical articles
Journal articles, full-text, open access	Free-based papers, blogs

Findings and Discussion

Globally, the COVID-19 epidemic has had a severe impact on higher education systems, necessitating considerable reforms and changes to how education is delivered. In response to the epidemic's concerns, scholars have investigated several elements of reinventing higher education, including many aspects of teaching and learning. The pandemic has expedited higher education institutions' digital transformation, requiring the incorporation of technology into various elements of teaching, learning, and administrative procedures. Research has highlighted the relevance of institutional preparation for digital transformation, as well as the requirement for comprehensive policies. Almarzouqi and Aydin (2021) conducted research on the role of digital transformation in higher education, identifying significant success factors and difficulties. Many businesses instantly implement lockdowns and social isolation measures to accommodate remote employment. Institutions applied different means in the search for solutions to cope with the impacts of the pandemic and enable students to achieve real learning outcomes (Ramirez-Barrera et al,2024).

This demanded the rapid adoption of digital tools and technologies such as project management software, cloud-based collaboration platforms, and video conferencing. The forced adoption of remote work by organisations who were previously unwilling to do so has had a long-term new technique, digital transformation, and the future of learning. Here are some significant research findings on the redesigning of higher education following the COVID-19 pandemic:

Hybrid and Online Learning

The pandemic accelerated the adoption of hybrid and online learning models in higher education. Research has shown that these models can offer flexibility and accessibility, enabling students to learn remotely and engage with course materials at their own pace. A study by Hodges et al. (2020) examined the transition to online learning during the pandemic and highlighted the importance of instructional design and faculty training to ensure effective online teaching and learning experiences. The hybrid and online learning models offered an opportunity for effective teaching and learning to universities that have fewer resources. For example, the previously disadvantaged universities in South Africa adopted both models during the hard lockdown.

Digital Transformation

The pandemic has expedited higher education institutions' digital transformation, requiring the incorporation of technology into various elements of teaching, learning, and administrative procedures. Research has highlighted the relevance of institutional preparation for digital transformation, as well as the requirement for comprehensive policies. Almarzouqi and Aydin (2021) researched the role of digital transformation in higher education, identifying significant success factors and difficulties. Many businesses instantly implement lockdowns and social isolation measures to accommodate remote employment. This demanded the rapid adoption of digital tools and technologies such as project management software, cloud-based collaboration platforms, and video conferencing. The forced adoption of remote work by organisations that were previously unwilling to do so has had a long-term effect on how work is organized.

Student Engagement and Support

A multifaceted approach combining technology solutions, emotional support, and flexible policy was needed to help students cope with the COVID-19 pandemic. To ensure a meaningful and effective learning experience in these difficult times, educational institutions need to consider the well-being and success of their students.

Research has explored various strategies to promote student engagement in online and hybrid learning environments. For instance, a study by Howard et al. (2021) discussed the importance of social presence and instructor-student interaction in online courses, highlighting the positive impact on student engagement and learning outcomes.

Future of Learning

The pandemic has raised questions about the future of learning in higher education. Researchers have explored emerging trends and innovations that may shape the future of education. A report by the World Economic Forum (2020) discussed the concept of "learning ecosystems" and the integration of lifelong learning, micro-credentials, and personalized learning pathways. The report emphasized the importance of adaptability and collaboration in designing the future of higher education. Otto et al. (2024) highlights critical factors and barriers related to emerging practices which support students' interactions with teachers, content, and each other, as well as the emerging competencies that these practices will require. Future implications are that teaching and learning take place anywhere, this calls for a change in approaches and attitudes towards teaching and learning in general. There may be an increasing incidence of mixed learning models that combine Internet and in-person training. This will allow for a richer personal learning experience and help students learn to control their learning.

University for Social Imagination

Although most of the research has focused on the teaching and learning of new methods that came into play during the pandemic, the issue of the university as a multifaceted social space was also thrust into the spotlight.

During the lockdown stages, it became clear that universities ceased to be spaces for socialisation and interactions between lecturers and students. Citing Henry Mence of Sunday Times (2020), De Wit & Altbach (2022) say "In fact, the pandemic has underlined the demand for what universities do." At the opening of the academic year in Europe and North America, governments and institutional leaders have been calling for reopening campuses, so too have some faculty and many students. Online education was acceptable for a short period to tackle the first wave of the pandemic. The argument forwarded by De Wit & Altbach (p;3) is that evening during the pandemic universities have proven to be more than just education providers, they are "living communities of faculty and students, inside, but even more outside of the classrooms. "Students are unlikely to commit large amounts of time and money to consume online content. Students go to universities to meet great people, have inspiring conversations with faculty, collaborate with researchers in the laboratory, and experience the social life on campus".

This simply means that even in the future universities will remain spaces where ideas are shared, and new knowledge is developed.

These research findings highlight the need for innovative approaches, digital transformation, and student-centric strategies in the reimagining of higher education post-COVID-19. As institutions continue to navigate the challenges posed by the pandemic, these insights can inform decisions and initiatives aimed at building a more resilient and inclusive higher education system.

Conclusions

The COVID-19 pandemic has been a catalyst for change in higher education, prompting a re-evaluation of traditional teaching methods, administrative practices, and the overall structure of institutions. The article reported on the systemic review of peer-reviewed articles from journals published between 2021 and 2022, outlining how the pandemic has resulted in many changes in the way teaching and learning take place in HE. The integrated review enabled the inclusion and exclusion of selected studies around the world. The theory of seeing the pandemic as an opportunity rather than a disaster highlighted that covid 19 has been a catalyst for re-imagination of future higher education. The reviewed studies have emphasised that if we look towards the future, it is evident that the post-pandemic era offers an unparalleled opportunity to re-imagine higher education for the better.

The results also conclude that technology has shown to be an effective enabler in this transforming process, making learning experiences more adaptable and accessible.

Globally, new opportunities for student and lecturer interaction, research, and information exchange have emerged because of the integration of digital tools and platforms. The future of higher education cannot, however, be determined solely by technology. Since change is unavoidable and agility is necessary to stay relevant in a world that is changing quickly, educational institutions need to foster adaptation and resilience to succeed in this attempt. By breaking down academic silos, institutions can assist students in becoming well-rounded problem solvers who can find innovative and creative solutions to challenges in the real world.

Additionally, a student-centered strategy needs to be at the center of a reinvented higher education landscape.

The landscape of higher education needs to be reimagined with a student-centered approach at its core. Students' abilities and passions can be nurtured by embracing tailored learning avenues and experience opportunities, which will improve their academic success and general happiness. Inclusion must come first in the effort to reimagine higher education. To ensure that education continues to be a transformative force for everyone, regardless of circumstance or background, it is imperative to address concerns of fairness, diversity, and accessibility.

The path to re-imagining higher education after the epidemic may be difficult, but it is a journey worth taking. By learning from the lessons of the COVID-19 crisis and embracing innovation, collaboration, and inclusivity, higher education can emerge stronger, more relevant, and better equipped to shape the leaders and problem-solvers of tomorrow. This transformative vision will enable educational institutions to play a crucial role in building a more resilient, equitable, and sustainable future for generations to come.

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