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Revolutionizing Education: Navigating the New Landscape Post-COVID-19: A Scoping Review

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Abstract: Education systems worldwide have been significantly disrupted due to the COVID-19 pandemic, creating an immediate need for a revamp of conventional teaching and learning techniques. To explore how this has affected the educational landscape, a scoping review was conducted. This scoping review aimed to examine the changes that occurred in the education field and to explore how it has transformed the educational landscape review. Using Arksey and O'Malley's methodology, 51 articles were selected for analysis from two leading databases: Scopus and Web of Science. All chosen articles were then subjected to thematic analysis. Three main aspects impacted by this global event were uncovered, which are technological advancements and digital transformation, changes in pedagogy and teaching methods, and mental health and well-being issues. This scoping review provides valuable insights into one of the most critical sectors affected by COVID-19, which can assist with planning future strategies for similar crises.

Keywords: *COVID-19, impact, new landscape, scoping review.*

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Introduction

The COVID-19 virus, which originated in Wuhan, China, has rapidly evolved into a worldwide pandemic that has impacted not just public health but also various aspects of society such as the education field. The highly contagious nature of the virus and its ease of transmission between individuals have led to it spreading swiftly across borders through international travel and community transmission. This prompted the World Health Organization to officially declare a pandemic on March 11th, 2020 (Cucinotta & Vanelli, 2020). As countries struggled with managing their populations effectively during these unprecedented times, their education systems were hit hard by the disruptions caused by COVID-19. As schools and universities were forced to shut down temporarily in an effort to curb the spread of the virus, traditional modes of teaching and learning were interrupted. This disruption affected all age groups and demographics since anyone can get infected with COVID-19 regardless of background or age (Ding et al., 2021; Miyah et al., 2022). To contain the virus's spread and prevent further fatalities, governments across the globe implemented rigorous measures like social distancing, stay-at-home orders, and work-from-home policies. Consequently, this transformation has brought about innovative strategies that need to be employed to navigate the new educational landscape post-COVID-19.

The world as we knew it came to a grinding halt in early 2020 when the COVID-19 pandemic swept across the globe, leaving no aspect of life untouched. While technology played a crucial role in keeping us connected during these unprecedented times, its impact on education was particularly significant (Haleem et al., 2020; Timotheou et al., 2023). The abrupt closure of schools and universities exposed the vulnerabilities and limitations of traditional education systems that relied heavily on face-to-face interaction. As educators scrambled to adapt their teaching methods to online platforms, students were left grappling with new challenges such as digital inequality and a lack of social interaction (El-Soussi, 2022; Sahito et al., 2022). However, amidst this chaos emerged a glimmer of hope- an opportunity for education systems to step back and reflect on how they could use innovative technologies to revolutionize the way knowledge is

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imparted and acquired (Korneiko et al., 2023). The COVID-19 pandemic has presented a unique chance for us to navigate uncharted waters and embrace new approaches to learning.

Although the majority of available literature has primarily focused on COVID-19 from medical, public health, and biological perspectives, another academic approach is also gaining attention. Specifically, Pichardo et al., (2021) and Rakha (2023) have directed their research towards the impact of technological tools and online learning platforms during this pandemic. Further studies by Stoian et al. (2022), Turana et al. (2022), and Chandramohan and Pramila (2023) are dedicated to examining the effects of COVID-19 on technology adoption. It is essential to synthesize and evaluate the empirical data gathered in order to provide a comprehensive and well-organized perspective for future researchers. In conclusion, gathering evidence on these latest changes to our education system caused by COVID-19 is crucial for future researchers to understand what is happening and how everything relates.

As we navigate the new post-pandemic landscape, it is crucial to critically examine the revolutionary changes and their implications for the future of education. This scoping review undertakes a comprehensive analysis of the literature on revolutionizing education in the aftermath of COVID-19. By adopting a scoping review methodology, we aim to explore the breadth and depth of the research, shedding light on the multifaceted dimensions of educational changes, innovations, and challenges that have emerged in response to the pandemic. By undertaking this scoping review, we aim to provide a critical synthesis of the existing knowledge, highlighting the successes, shortcomings, and pressing issues in this evolving educational paradigm. This review seeks to inform policymakers, educators, and researchers about the complex challenges and opportunities faced in the post-pandemic era. It is imperative to critically examine the lessons learned from this disruptive period to envision a more equitable, inclusive, and resilient education system moving forward.

A scoping review is appropriate for complex or diverse topics that have not been thoroughly reviewed (Mays et al., 2001). Despite the absence of a clear definition to describe scoping review, the aims of this technique are to determine the key characteristics, patterns or factors found within the past findings in a given field, to identify and analyze knowledge gaps, and to serve as a precursor for a systematic review (Munn et al., 2018; Sucharew & Macaluso, 2019). A distinction can be made between a scoping review and systematic review based on various factors. Primarily, a scoping review is characterized by a more extensive inclusion of diverse research designs and methodologies. Additionally, a scoping review primarily provides an informative overview of the available studies without performing a critical evaluation of said individual studies or amalgamating the evidence from multiple sources (Munn et al., 2018).

Methodology

This study utilized the scoping review approach to analyze a wide range of literature that delves into how the landscape of education has transformed following the COVID-19 pandemic. The scoping review method is renowned for its capability to rapidly pinpoint research trends and outcomes associated with a particular research subject. To conduct this analysis, the researchers followed the five distinct steps proposed by Arksey and O'Malley (2005) in sequence, ensuring thoroughness while employing this technique.

Identifying the Research Question

To conduct a scoping review, the research questions were framed in such a way as to provide direction and focus for the study. The aim was to explore the educational landscape and its changing dynamics following the COVID-19 pandemic. In order to ensure a well-rounded perspective, we adhered to the guidelines of Arksey and O'Malley by crafting a research question that encompassed a wide range of topics. Levac et al., (2010) suggests that researchers should define the key concepts in their questions to establish the study scope more precisely. With this insight in mind, we proposed the following question: 1) What specific changes have occurred in the education field as a result of the COVID-19 pandemic?

Identifying Relevant Studies

During the initial stage of the study, a search process was carried out to identify relevant studies. Three phases were involved in the systematic searching strategies (Mohamed Shaffril et al., 2022). These phases were performed to ensure the conduct of a rigorous investigation (Figure 1).

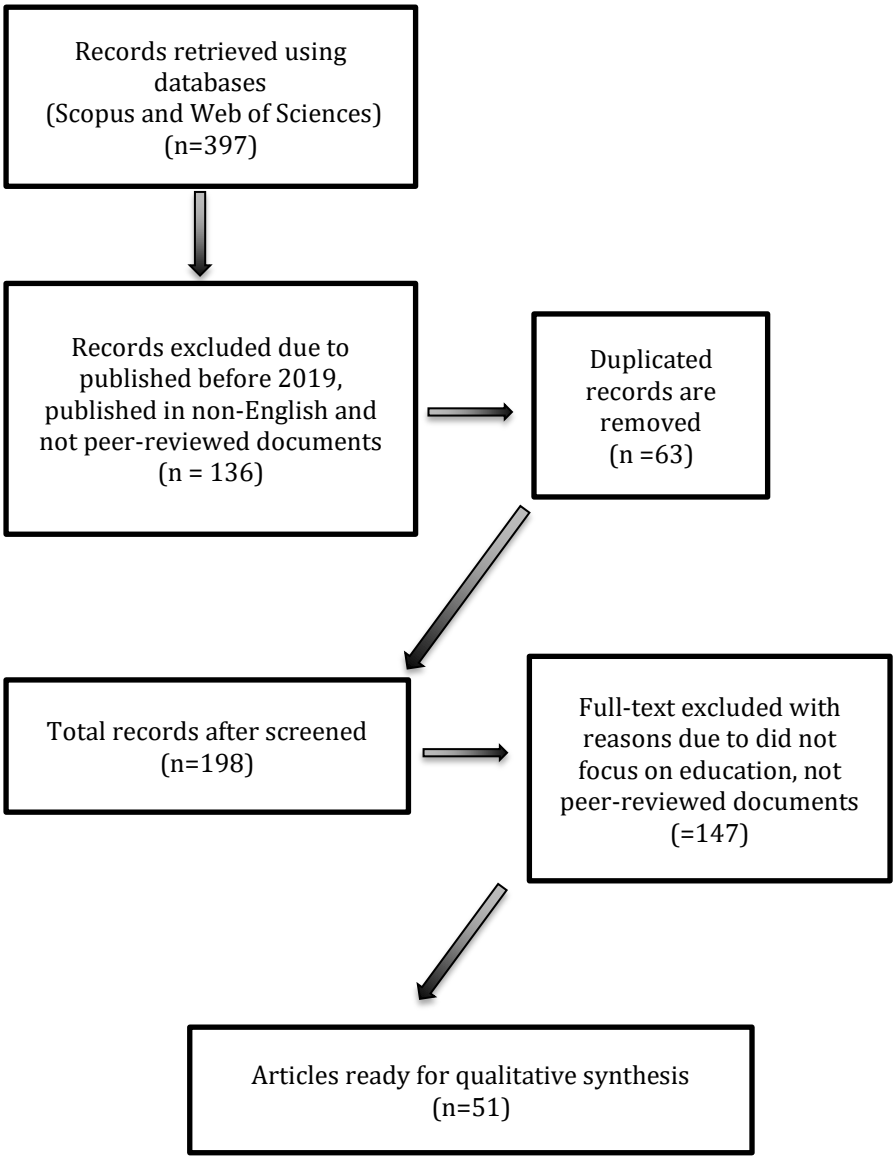

Figure. 1. Systematic searching strategies of the scoping review.

To ensure that all possible articles were considered, synonyms and multiple keywords were used. This method helped to get rid of the bias in finding information and broadened the range of things that were searched for. One of the primary keywords used was "New norm, post COVID-19 and Education," along with related words such as "coronavirus," "SARS-CoV-2," "new landscape," "changing effects," "teaching" and "learning." Boolean operators OR or AND, as well as phrasal-level search were applied whenever feasible (Khatiwada, 2015)(Table 1).

Table 1. Keywords and Search Terms Used in The Scoping Review

Databases	**Keywords used**
Scopus	TITLE-ABS-KEY ((("New normal" OR "chang*" OR "adapt*" OR "impact") AND ("educat* process" OR " teach* process " OR " learn* process") AND ("after") AND (" COVID-19" OR "covid-19" OR "coronavirus" OR "SARS-CoV-2" OR "COVID-19 pandemic")
Web of Science (Wos)	ALL=((("New normal" OR "chang*" OR "adapt*" OR "impact") AND ("educat* process" OR " teach* process " OR " learn* process") AND ("after") AND (" COVID-19" OR "covid-19" OR "coronavirus" OR "SARS-CoV-2" OR "COVID-19 pandemic"))

This study relied on two main indexing databases, Scopus and Web of Science (WoS), which were recommended by Gusenbauer and Haddaway (2020) due to their high citation rate among researchers. As a result, we initially sourced 397 articles from two prominent databases, namely Scopus and Web of Science (WoS). According to Kitchenham and Charters (2007), authors have the freedom to choose any relevant criteria for their research so long as it addresses the research question. To ensure accuracy and precision in the findings, a rigorous examination of all 397 article titles and abstracts was conducted during this study to ensure that they met the inclusion and exclusion criteria (Table 2).

Table 2. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Written in English	Systematics review articles, book series, chapter in books, conference proceedings
Documents that focus on education especially published when COVID-19.	Documents were duplicates or not in context
Documents publications year from 2019	

The criteria specifically required that only English language papers would be considered for selection, as recommended by Linares-Espinós et al. (2018). This decision was made in order to avoid any confusion that may arise from different languages, to minimize the costs associated with translation, and to reduce the overall time consumption during the research process. By carefully selecting these specific criteria, the researchers were able to streamline the study's focus while ensuring high-quality data representation. To ensure the inclusion of high-quality articles in the scoping review, only peer-reviewed documents published from 2019 onwards were selected. As a result of this rigorous process, 136 articles were deemed unsuitable as they did not meet the exclusion an inclusion criteria. Only 261 articles made it to the next stage where both their abstracts and original texts were scrutinized in detail to identify those that best suited the research objectives.

Study Selection

After removing 63 duplicates articles, the assistance of Microsoft Excel and Nvivo version 12 software was utilized to narrow down the identified studies. As COVID-19 is a new global issue with rapidly changing dimensions, it is essential to consider reliable studies that can offer insight into its potential impact on education systems worldwide. Before the final article were chosen, 198 articles were re-examined to ascertain adherence to the selection criteria. At this stage abstracts were read to determine the suitability of the article. The full article was skimmed if the article suitability was not clearly conveyed in the tittle. Due to the expected human error and bias, we do a data checking step. This step performed by three researchers in parallel and independently. Any discrepancies in their findings were discussed and resolved. As result, 147 articles were excluded as they deviated from the COVID-19 and education field and were not peer-reviewed articles. Therefore, finally 51 articles were finally selected for the scoping review.

Charting the Data

Using the fourth step of Arksey and O'Malley's framework for scoping reviews as a guide, the researchers charted the data in an organized manner. All 51 articles were carefully examined and details such as author(s), year, and finding results were recorded. In order to present this information in an easily readable format, a summary table including all of this vital information was created by the team. This table (Table 2) is a comprehensive collection of all important aspects pertaining to each study included in this particular literature review which will aid the further analysis and comparison between them.

Table 3. Description of the Articles

Authors	Finding
(Jarrah & Alkhasawneh, 2023)	Augmented reality can improve distance education adoption and student engagement.
(Vuckovic et al., 2023)	This study provides valuable insights into measuring information system success in e-learning contexts and emphasizes the importance of workforce agility in achieving it.
(Presti, 2023)	ICT is essential for education and can transform the learning environment by redesigning space, modifying communication and socialization processes, and encouraging digital literacy.
(Shrivastava, 2023)	This study provides insights into the role of artificial intelligence in education for educational institutions seeking to adapt to technological advancements.
(Napaporn et al., 2023)	This study highlights the importance of incorporating technology into teaching methods to meet the changing needs of learners in the digital age while also addressing the limitations that can impede their progress.
(ElSayary, 2023)	Developing the teachers' digital competencies will benefit the students' use of technology and prepare them for future jobs and challenges.
(Safonova & Guner, 2023)	The article focuses on a factor analysis of the assessment of the students' knowledge in mathematics based on online entrance testing using an internet browser and the webcams of applicants
(Wang & Qing, 2023)	Student performance was found to improve when they were satisfied with the learning approach they were using.

Table 3. Continued

Authors	Finding
(Rakha, 2023)	Collaborative learning improves student participation in online classes.
(Alkhnbashi & Nassr, 2023)	The study concludes that face-to-face learning provides benefits like social interaction and effective communication that are lacking in online learning.
(Maatuk et al., 2022)	Institutes should provide training sessions for staff and students to overcome any potential drawbacks associated with e-learning.
(Alqahtani et al., 2022)	Investing in technological capabilities is crucial for supporting innovative human resources to adapt to uncertain work environments.
(Mushtaha et al., 2022)	The most significant advantage of online learning implementation was flexibility. Sudden implementation had discouraging implications for mental health and socialization
(Rachmawati et al., 2022)	Post COVID-19, hybrid learning is used as an alternative method. Teachers support hybrid learning for students with learning disabilities in inclusive classes by providing clear instructions, reducing anxiety in online spaces, special assistance, and adaptive learning media.
(Winarno et al., 2022)	This text discusses the impact of the COVID-19 pandemic on education and how it has affected traditional teaching methods.
(Stoian et al., 2022)	This study provides practical suggestions for improving face-to-face education by adapting it contextually according to student needs through methods like blended learning. Stakeholders may consider these suggestions for future sustainable education solutions.
(Lewin & Barzilai, 2022)	This study shows that "active tutorials" give students the most confidence in their mastery and that active students benefit more than passive ones.
(Turana et al., 2022)	This study suggest that infrastructure (internet access) and competency are necessary for e-learning success in schools.
(Chandramohan & Pramila, 2023)	The study highlights that virtual learning replaced face-to-face instruction during the pandemic, which took its toll on disadvantaged students who lacked social interaction.
(Rodríguez-Galván et al., 2022)	The feedback provided by the teacher exhibited a noticeable improvement with a heightened degree of positivity and recognition for the efforts put in by students.
(Ghazal et al., 2022)	Different e-learning platforms were used in universities, such as Microsoft Teams, Moodle, and Google Classrooms. The three learning types included in the study are face-to-face, blended, and online learning.
(Alblihed et al., 2022)	The students preferred online education, with the applied health students being the most satisfied and medical students being the least satisfied. After schools reopened, blended learning was preferred.
(Giovannella, 2022)	The teachers' tech and teaching abilities improved, and the educators worked better together.
(Akramy, 2022)	Afghanistan's higher education institutions faced disruptions due to limited access and student challenges like learning practices and anxiety.
(AL-Ali & Marks, 2022)	Education's digital transformation has gaps and challenges such as a lack of vision and competency. Improvement is needed in collaboration and data structure.
(Pichardo et al., 2021)	Mentimeter facilitated student participation and engagement in synchronous and asynchronous learning.
(Bashir et al., 2021)	Students mostly had positive experiences with online open-book assessments and good internet. However, some faced technical issues or were in an inadequate workspace.
(Zhao & Watterston, 2021)	Education should make three changes post-COVID: a developmental and personalized curriculum, student-centered and purposeful pedagogy, and the delivery of instructions utilizing both synchronous and asynchronous learning.
(Rodríguez-Galván et al., 2022)	This study details the methodological process for creating a tool for the identification of COVID-19 potential contagion situations in sports and physical education before, during, and after practice and competition.
(Nugroho et al., 2021)	The pandemic has led to finding many suitable learning methods which may decrease risk of burnout.

Table 3. Continued

Authors	Finding
(Valeeva & Kalimullin, 2021)	The article suggests that a standardized model for teacher training could be developed based on the experiences of larger institutions that were able to provide high-quality distance and blended learning
(Limniou et al., 2021)	Teachers should consider how digital technologies could enhance student flexibility and promote critical thinking.
(Mocanu et al., 2021)	The advantages perceived by students about online activities included increasing their free time while disadvantages included technical problems and poor socialization.
(Zhou & Zhang, 2021)	Students gain skills beyond classrooms using this online platform but it requires initial teacher training in digital tools for effective performance.
(Tavitiyaman et al., 2021)	Students with high agreeableness and openness experience higher levels of learning, technical, and financial anxiety.
(Almahasees et al., 2021)	Challenges identified included adapting to online education, lack of interaction and motivation, technical issues, data privacy, security concerns, and difficulties faced by deaf or hard-of-hearing students.
(Turnbull et al., 2021)	Hybrid was found to be the optimum mode for teaching during COVID-19 while the on-campus students perceived there to be more student support than off-campus students.
(Gaeta et al., 2021)	Findings indicate that negative emotions such as anxiety, boredom, and frustration were present among participants during confinement.
(Harianja et al., 2021)	Feasible and effective interactive multimedia can be used as medium for teaching French during the pandemic.
(Khan et al., 2021)	The study also highlighted how the lecturers were affected by fatigue due to teaching within a 'COVID-19 safe' environment.
(Dadhe & Kuthe, 2021)	Online education has been a solution but it has posed challenges in rural areas where there is poor internet connectivity and power supply.
(Shevchenko et al., 2021)	Ukrainian institutions faced challenges with the transition, harming both students and professors.
(Gudiño Paredes et al., 2021)	Remote proctored exams minimize academic dishonesty; sense of obligation and being watched as motivators for honesty; lack of privacy and anxiety as concerns. Impact on personal academic honesty.
(Almazova et al., 2020)	Challenges in online learning: computer literacy, university support, and staff and student readiness; Methodological differences in online teaching.
(Suparman et al., 2020)	Community partnership programs improved the teachers' ability of online learning
(Kurok et al., 2020)	Implementation technology in education depends on teacher initiative, student willingness, and technical capabilities.
(Giovannella et al., 2020)	Digital pedagogy is recognized as significant and necessary for future teacher training.
(Saif Almuraqab, 2020)	55% of students liked distance learning.
(Bai et al., 2020)	Students preferred physical classrooms; Factors contributing to lower satisfaction with remote instruction.
(Pintarič & Kravanja, 2020)	Challenges when implementing practical components of STEM education.
(Tartavulea et al., 2020).	Institutional support, trust, and formative assessment effectiveness were positively associated with online education, which had a moderate positive impact.

Collating, Summarizing and Reporting Results

In order to methodically review the literature, the fifth stage of the scoping review process involved collecting and organizing all relevant information from various sources. This included collating, summarizing, and reporting on the results obtained through extensive research. As per Arksey and O'Malley's (2005) framework, this stage is essential in providing an overall picture of what has been reviewed so far. Although the following section aims to give a general overview of the literature reviewed, it is important to note that it does not aim to synthesize the evidence nor to combine the conclusions obtained from different studies. Instead, it presents the findings as a coherent narrative based on thematic construction. This qualitative study adopted the thematic analysis to assess the captured data. This analysis identified the themes based on the patterns retrieved from the selected studies based on their similarities and correlations between the abstracted data (Braun & Clarke, 2006). The purpose behind this approach is to identify the common themes and patterns that emerge across multiple sources for deeper analysis and understanding. Data that were similar or related to each other were grouped under a specific theme during the initial stage of synthesis. The research questions led to the discovery of three main aspects: technological innovations and digital transformation, pedagogical

shifts and teaching strategies, and mental health and wellbeing. By doing so, researchers can obtain valuable insights into specific areas of inquiry and develop novel perspectives that could help advance knowledge in their respective fields.

Findings/Results

Based on the year of publication (Figure 2), it can be observed that there has been a significant rise in the number of publications pertaining to this specific topic. This could indicate a growing interest in the subject matter or an increased urgency to investigate and understand it more thoroughly. The table provides publication years that show changes in research on post COVID-19 education. The year 2021 had the highest number of publications, at 18 studies, which suggests a significant focus on studying the immediate response to the pandemic. In 2022, there were 13 studies that shed light on how educational adaptations were transitioning. Ongoing research efforts and up-to-date insights into the evolving educational landscape are shown by the 12 publications from 2023. The initial response to the pandemic is represented by eight studies from 2020. These trends reveal an ongoing interest in exploring the long-term effects, challenges, and innovations in education resulting from COVID-19.

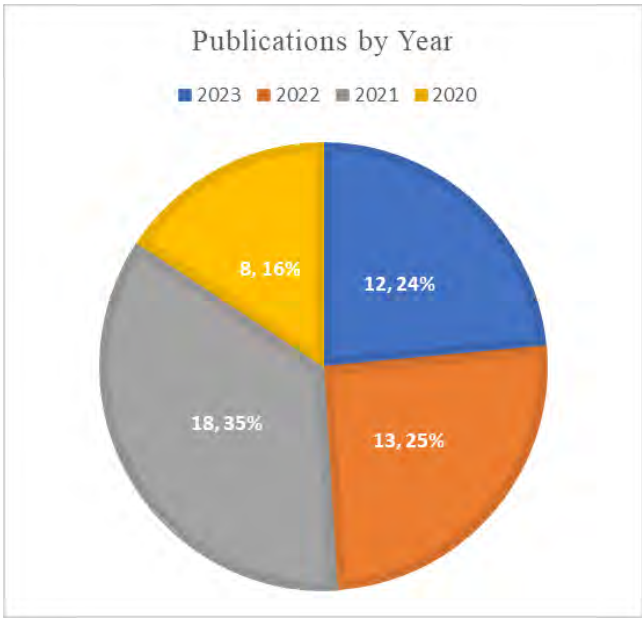

Figure 2. Publication by Year

Figure. 3. Map Represented the Number of Articles Published by Country Selected in this Study

Table 2 lists the characteristics of the final 51 research articles. Regarding the sample country (Figure 3), among the countries included in the review, Indonesia and the United Arab Emirates emerged as the most prominent contributors, with six studies each. The Russian Federation and Saudi Arabia closely followed with four studies each, showcasing their significant engagement in research on post-COVID-19 education. Italy, Mexico, Spain, the United Kingdom, and the United States all had three studies each, highlighting their active involvement in investigating the educational changes and challenges brought about by the pandemic. Two studies each were found from Egypt, Jordan, Pakistan, Romania, and Ukraine, underscoring the attention given to these countries' educational contexts. Additionally, Afghanistan, Afghanistan, Australia, Brazil, China, Germany, Hong Kong, India, Iraq, Israel, Macao, Poland, Portugal, Qatar, Serbia, Slovenia, and Thailand had one study included in the review. This distribution reflects the global interest and extensive efforts to explore and understand the multifaceted implications of the COVID-19 pandemic on education across diverse national contexts. The findings emphasize the need for a comprehensive understanding of the various responses, innovations, and obstacles in order to navigate and revolutionize education in the post-COVID-19 era.

Discussion

Our research was centered around two research questions which guided the entire theme. In order to gather relevant information related to the educational landscape following the outbreak of COVID-19, data was extracted from the various studies selected for analysis. We used the qualitative approach of thematic analysis to scrutinize and categorize the patterns within the collected data. All themes were identified that shared similarities and correlations between the abstracted information (Braun & Clarke, 2006). In this stage of the synthesis, data points that were similar to or related to each other were pooled in a specified theme. The entirety of the themes examined in this analysis have been expounded upon as follows:

Technological Innovations and Digital Transformation

The COVID-19 pandemic acted as a catalyst for the rapid adoption and implementation of various technological tools and platforms in the education field. Online learning platforms such as Moodle and Canvas, virtual classrooms like Zoom and Microsoft Teams, and educational apps such as Khan Academy and Duolingo have become integral components of new education (Nizhenkovska et al., 2022; Pichardo et al., 2021; Rakha, 2023; Setiadi et al., 2021). These technological innovations have provided opportunities for remote learning, enabling access to educational resources and facilitating interactive engagement between students and teachers (Shrivastava, 2023). For instance, the research by Ukhov et al. (2021) found that the utilization of virtual classrooms enabled teachers to deliver live lectures, facilitate discussions, and provide real-time feedback to students, thereby enhancing the learning experience.

However, the literature also highlighted several challenges and considerations associated with this digital transformation. Issues related to internet access, particularly in underserved communities, were identified as significant barriers to equitable access to education (Senthil Kumaran & Periakaruppan, 2023; Turana et al., 2022). The digital divide resulting from disparities in technological infrastructure and digital literacy skills further exacerbated educational inequities (Kurok et al., 2020). Studies have shown that students from lower socioeconomic backgrounds and rural areas face challenges when accessing reliable internet connectivity and possessing the necessary digital skills to fully engage in remote learning (Akramy, 2022; Dadhe & Kuthe, 2021). To address these issues, researchers and policymakers emphasize the need for proactive measures such as government investments in broadband connectivity and targeted interventions to bridge the digital divide (Giovannella, 2022). For instance, Senthil Kumaran and Periakaruppan (2023) recommend the implementation of community-based programs that provide internet access points and digital literacy training in underserved areas to enhance educational equity.

Overall, while technological innovations have played a transformative role in education post-COVID-19, careful attention must be given to address the digital divide and ensure equitable access to quality education for all students. Government policies and initiatives are needed to bridge the gap in internet access and digital literacy skills, particularly in underserved communities. Furthermore, investments in comprehensive teacher training programs that focus on digital pedagogy and the effective use of technology are crucial in terms of maximizing the potential of these innovations and promoting inclusive and high-quality education.

Pedagogical Shifts and Teaching Strategies

The COVID-19 pandemic has necessitated a fundamental reevaluation of traditional teaching methodologies, leading to a significant transformation in pedagogical practices. Educators worldwide were compelled to adapt to remote and online learning environments, requiring innovative approaches to engage students effectively (Limniou et al., 2021; Senthil Kumaran & Periakaruppan, 2023). The literature has highlighted various pedagogical shifts and strategies employed during this transition. For instance, many educators have embraced blended learning, combining online and in-person instruction, to create a more flexible and interactive learning experience (Mushtaha et al., 2022; Wang & Qing, 2023). Additionally, the flipped classroom model has gained traction, where students engage with instructional content prior to the class and use synchronous sessions for collaborative activities and deeper discussions (Lewin & Barzilai, 2022). Kong (2021) found that these pedagogical shifts have enhanced student engagement and motivation, as well as

encouraged active participation and critical thinking skills. Furthermore, project-based learning approaches have been increasingly utilized, providing students with opportunities for hands-on, inquiry-based learning experiences (Winarno et al., 2022). These pedagogical shifts have facilitated greater student autonomy, personalized learning, and the development of essential 21st-century skills.

However, the literature has also highlighted challenges associated with the implementation of these pedagogical shifts. Educators have faced barriers such as limited technological resources, lack of training, and the need for ongoing support to effectively integrate technology into their teaching (Almazova et al., 2020; Liu & Ko, 2022; Saif Almuraqab, 2020). Additionally, adapting pedagogical strategies for diverse student populations and ensuring equitable access to educational opportunities were both identified as critical considerations (Liu & Ko, 2022). It has become evident that educators need access to professional development programs and support networks to enhance their capacity to deliver effective remote and blended instructions (Suparman et al., 2020). Providing teachers with the necessary tools, training, and ongoing professional development opportunities is crucial to successfully implementing pedagogical shifts and ensuring quality learning experiences for all students (ElSayary, 2023).

In conclusion, the literature highlights the significant pedagogical shifts and teaching strategies that emerged in response to the COVID-19 pandemic. These shifts encompass blended learning, flipped classrooms, and project-based approaches, emphasizing student engagement, autonomy, and critical thinking skills. While these pedagogical shifts have shown promising results, careful attention must be given to support educators in their implementation. The provision of adequate technological resources, ongoing professional development opportunities, and support networks are essential to empower educators when adapting their teaching practices and maximizing the potential of the pedagogical shifts in the post-COVID-19 educational landscape.

Mental Health and Wellbeing

The pandemic and the subsequent shift to remote learning has had a profound impact on the mental health and wellbeing of students, educators, and the overall educational community. The literature highlights the heightened levels of stress, anxiety, social isolation, and emotional exhaustion experienced by students during this challenging period (Harianja et al., 2021; Tagare, 2023). The disruption to regular routines, separation from peers, and the blurring of boundaries between home and school environments have all contributed to increased psychological distress. Furthermore, educators have faced significant emotional and professional challenges while navigating the complexities of remote teaching, supporting their students' wellbeing, and managing their own work-life balance (Watermeyer et al., 2021).

Recognizing the importance of mental health and wellbeing, educational institutions and policymakers prioritized initiatives to support the psychological needs of students and educators. Strategies such as promoting mental health literacy, providing counseling services, and fostering a sense of belonging and connectedness were identified as crucial elements in promoting wellbeing during this transition (Darkwa & Antwi, 2021; Watermeyer et al., 2021). The literature emphasizes the significance of social-emotional learning (SEL) programs in equipping students with skills to manage stress, build resilience, and foster positive relationships (Bailey & Weiner, 2022). Additionally, creating opportunities for open communication, establishing regular check-ins, and promoting self-care practices were highlighted as essential components in fostering a supportive and healthy learning environment (Watermeyer et al., 2021).

However, the literature also identified challenges and limitations in relation to addressing mental health and wellbeing in the remote learning context. Limited access to mental health resources, the digital divide, and the difficulty of identifying and addressing student needs remotely were identified as key barriers (Chandramohan & Pramila, 2023). Educators also faced challenges in recognizing and responding to their students' emotional wellbeing in the absence of face-to-face interactions. The literature emphasizes the importance of comprehensive mental health support systems, professional development for educators in trauma-informed practices, and partnerships with external mental health organizations to address these challenges effectively (Gaeta et al., 2021).

In conclusion, the literature underscores the significant impact of the COVID-19 pandemic on the mental health and wellbeing of students, educators, and the educational community. The findings highlight the need for comprehensive and proactive strategies to address mental health challenges, support wellbeing, and foster a nurturing and inclusive learning environment. Collaborative efforts among educational institutions, policymakers, mental health professionals, and communities are essential in order to provide accessible resources, promote mental health literacy, and develop sustainable support systems for the wellbeing of all stakeholders in the post-COVID-19 educational landscape.

Conclusion

In summary, the emergence of COVID-19 has brought about a massive shift in the education field. This shift has been fueled by three main themes: technological innovations and digital transformation, pedagogical shifts and teaching strategies, and mental health and wellbeing. These three themes have been explored in detail through a scoping review which has highlighted their profound impact on education during this crisis. The need for digital transformation has become more crucial than ever before as schools remain closed due to the pandemic. Teachers around the world have had to adapt to new pedagogical approaches that allow flexible learning environments while ensuring that the students

remain engaged and motivated throughout their studies. Additionally, there is also an increased need for mental health support among students who may be struggling with the various changes brought about by the pandemic. The focus on wellbeing must not be overlooked as it is critical in maintaining good academic performance and overall success in life. The scoping review provides insight into all of these considerations that educators must take into account to deliver quality education during such challenging times.

The field of education has experienced a significant transformation with the advent of technological innovations and digital transformation. This shift has brought about new opportunities for remote learning, engaging interactive teaching methods between students and teachers, and enhanced the access to educational resources that were once inaccessible. While this development is undoubtedly beneficial, it is important to acknowledge that the swift adoption of these tools has worsened the existing disparities in society. The digital divide has become more apparent as underprivileged communities and students lack reliable internet connectivity or the necessary skills required for navigating online platforms. Therefore, effective measures such as substantial investments in broadband connectivity are imperative to bridge this gap. Governments and policymakers must take proactive steps to address these inequities by implementing targeted interventions aimed at ensuring access to quality education for all. By investing in broadband infrastructure and providing assistance programs, disadvantaged students will be able to acquire vital digital literacy skills that will enable them to participate fully in today's educational landscape. Consequently, this will create equal opportunities for children from all backgrounds to learn the critically needed skills that will help them succeed academically and professionally alike.

In response to the challenges presented by remote and blended learning, the education field has implemented a range of pedagogical shifts and teaching strategies. These include blended learning, flipped classrooms, and project-based approaches that have demonstrated promising results in enhancing student engagement, independence, and critical thinking abilities. However, the successful integration of these strategies into the existing curricula is dependent on providing teachers with comprehensive support (Amro & Borup, 2019). Unfortunately, many educators are not equipped with sufficient technological resources or receive inadequate training for such shifts in teaching styles, which hinders their ability to navigate this new pedagogical landscape effectively (Alenezi et al., 2022). Without proper ongoing support and professional development opportunities for teachers to advance their skills, the potential of these shifts may not be fully realized. Therefore, it is vital that all stakeholders acknowledge and address this issue so as to foster an inclusive and high-quality education system that benefits students from all backgrounds.

The current transformative period has brought about significant concerns regarding the mental health and wellbeing of students, educators, and the educational community. This is due to the disruption of regular routines, social isolation, and increased stress. All stakeholders have been affected by this situation which has taken a toll on their psychological wellbeing. Although efforts have been made to prioritize mental health support during this time, remote learning poses unique challenges that make it difficult to provide access to essential resources and identify student needs. Consequently, there is a pressing need for comprehensive and proactive strategies to tackle these challenges. Such strategies require collaboration among educational institutions and mental health professionals as well as external organizations. The aim here will be to provide accessible resources that allow ease of access for all who are in need while fostering an environment of support. Furthermore, skills that equip students with ways in which they can navigate emotional disruptions must be introduced as part of such strategies. The creation of such an environment will play a critical role in ensuring that not only are the students empowered but also adequately supported during these turbulent times.

As we take a moment to look back and analyze what we've learned from the COVID-19 pandemic, it's essential that we tackle the current educational landscape with a critical approach. We need to focus on addressing the existing disparities that have been amplified by the rapid advancements in technology, changes in teaching methods, and the toll on mental health and wellbeing. It is imperative for governments, educational institutions, policymakers as well as communities to come together in order to bridge the digital divide. Furthermore, providing extensive support for educators and introducing sustainable mental health initiatives will be crucial in the creation of a holistic environment for students to grow and learn. To achieve this, all parties involved must make a concerted effort towards building an adaptive education system that is inclusive of all student needs while nurturing their full potential. The ultimate goal should be shaping a brighter future where every individual can thrive regardless of their background or situation.

Recommendations

To navigate these complex challenges and seize the opportunities presented, governments, educational institutions, policymakers, and communities must unite. Bridging the digital divide, offering robust support for educators, and establishing sustainable mental health initiatives are not just measures for the present but a blueprint for fostering an inclusive and adaptive educational ecosystem. By committing to these principles, we can ensure that education remains a pillar of personal growth and societal progress, even in the face of unprecedented challenges.

Limitations

Researchers can combine scoping reviews with bibliometric or systematic reviews to enhance their understanding of a research topic. Future research should focus on specific subjects to provide detailed insights by narrowing the scope and focusing on domains. Combining scoping reviews with bibliometric analyses can provide valuable information about publication trends, key authors, and influential studies in a field.

Scoping reviews identify gaps and map evidence, but limitations include lack of standardization, depth, and focus. To improve, they need standardization, integration with other review types, and specific subject focus for increased utility in research and decision-making.

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