CULTIVATING IMPACTFUL PEDAGOGY IN THE POST-COVID ERA FOR SUSTAINABLE EDUCATION

FRIDAY TIETIE OMENE
Department of Curriculum Studies and Educational Technology, Faculty of Education and Extension Services. Usmanu Danfodiyo University, Sokoto State, Nigeria
enaks42008@gmail.com

PETER DASO OJIMBA
Department of Mathematics/Statistics, Faculty of Natural and Applied Sciences, Ignatius Ajuru University of Education, Rivers State, Nigeria
daso.ojimba@iaue.edu.ng

&

IBAAN GOGO ZALMON
Department of Mathematics/Statistics, Faculty of Natural and Applied Sciences, Ignatius Ajuru University of Education, Rivers State, Nigeria
zalmon.gogo@iaue.edu.ng

Abstract

This paper focuses on cultivating impactful pedagogy in the post-COVID era for sustainable education. It highlights the concepts of curriculum and impactful pedagogy and discusses the impact of COVID-19 pandemic on the education system. The paper deliberates on rethinking pedagogy as a mechanism to address pandemic-induced challenges and promote overall student growth and identifies strategies for cultivating impactful pedagogy for sustainable education. Among other suggestions are to ensure effective integration of digital technology into the curriculum and teachers should transform instructional practices to enable learners to play active roles in their learning.

Keywords: *Curriculum, instruction, pedagogy, post-COVID, technology*

Introduction

The outbreak of the Coronavirus, officially termed COVID-19 by the World Health Organization (WHO), was recognized as a 'Public Health Emergency of International Concern' on January 2nd, 2020 (Berkeley, 2020). The virus first emerged in late December 2019 in Wuhan, the capital city of Hubei Province, China, and quickly spread across continents, leading to the WHO declaring it a pandemic on March 11, 2020, and the grim milestone of surpassing a hundred thousand global deaths on April 10, 2020 (Wassenaar & Zhou, 2020). The COVID-19 pandemic profoundly impacted all aspects of life, education inclusive. The traditional classroom-based learning model was disrupted, necessitating swift adaptations to remote teaching methods for educators worldwide. However, amid the challenges, positive outcomes emerged, potentially reshaping education in the post-covid era. The pandemic served as a catalyst for reevaluating teaching and learning approaches, prompting the development of new and innovative instructional methods to ensure adaptability and sustainability in education. Consequently, a shift towards a more impactful and effective curriculum and instruction pedagogy occurred, promising to be beneficial in the post-COVID world (Johnson, Valetsianos, & Seaman, 2021). It became evident that the traditional education

system needed transformation as it proved inadequate in coping with the disruptions caused by global crises like pandemics and climate change. The pandemic underscored the importance of a flexible educational system capable of adapting to evolving societal needs. At the core of this transformation lies curriculum and instruction, forming the foundation of effective education (UNESCO, 2020; Schleicher, 2020).

Curriculum, encompassing the set of courses and materials used in educational programs, and instruction, the act of teaching and imparting knowledge, must be aligned to cater to diverse learning needs. By promoting critical thinking, problem-solving, and encouraging innovation, educators can create an inclusive learning environment that addresses the challenges of the post-COVID era (UNESCO, 2020). In the pursuit of sustainable education in the post-COVID world, educators must adopt practices that foster information retention and conceptual understanding among students. Effective curriculum and instruction pedagogy play a pivotal role in achieving this goal. By utilizing inquiry-based and project-based learning, students can explore topics, apply their knowledge to real-world scenarios, and retain information more effectively. Differentiated instruction accounts for individual learning styles and needs, ensuring that every student is supported in their educational journey (Johnson et al., 2021; Tomlinson, 2017). No matter the approach adopted, teachers must be thoughtful and intentional about their teaching practices to ensure sustainable education in the post-COVID era. Thus, this paper will explore cultivating impactful pedagogy in the post-COVID era for sustainable education.

Conceptual Groundwork

The curriculum has been variedly conceptualized. Although arriving at a universally acceptable conception of the curriculum is problematic, the literature available indicates that there abounds a consensus among most curriculum leaders on the four major conceptions of curriculum (Lunenburg, 2011) curriculum as content (subject matter taught by the teacher and learned by the students), curriculum as learning experiences (mental operations that learners employ in the learning of subject matter), curriculum as objectives (kinds of behaviour that teachers seek from students in schools) and curriculum as plan for instruction (a system of decision making involving development, implementation and evaluation, elements of curriculum plan). It is pertinent to mention that a number of conceptions of curriculum emanate from the categories identified above.

Curriculum is all the learning that is planned and guided by the school, whether it is carried out in groups or individually, inside or outside the school (Kelly, 2003). Blenkin (2012) defined curriculum as a body of knowledge contents and or subjects. That is, curriculum is the process by which knowledge and skills are transmitted or delivered to learners by the most effective methods that can be devised. This conception of curriculum aligns with the curriculum as content or subject matter. That is curriculum is conceived as skills, competencies, knowledge, generalization, etc. as embodied in academic subjects. Curriculum is a means of preparing members of society to be productive and useful to themselves and to the society they belong.

Pedagogy refers to the how of the teaching-learning process. That is the science of teaching and the teaching methods and organization of the learning environment and pupils, teacher's knowledge, beliefs, and values. According to Malik (2016), pedagogy refers to the set of instructional techniques and strategies that enable learning to take place and provide an opportunity for the acquisition of knowledge, skills, attitudes, and disposition within a particular social and material context. Impactful pedagogy refers to instructional strategies and processes that provide a promising and positive impact on students' learning. It encompasses an array of instructional and interactive approaches that lead to the attainment of learning goals. Impactful pedagogy is that which recognizes students' differentiation, allows them to take an active role in and define their learning path as well as enable them to explore solution to authentic and significant problem.

Education System during COVID-19 Era

The COVID-19 pandemic has left an indelible mark on education systems across the globe, ushering in significant changes and disruptions. The immediate and widespread impact of the pandemic was the closure of educational institutions worldwide to mitigate the virus's spread. UNESCO reported that at the height of the pandemic, over 1.6 billion students in more than 190 countries experienced school closures, leading to major challenges for students, parents, and educators alike (UNESCO, 2020). To continue education during lockdowns, schools, and universities had to swiftly turn to remote learning and online teaching methods. This sudden shift brought to light issues concerning the digital divide, accessibility, and disparities in technology and internet access (United Nations, 2020). Unfortunately, students from disadvantaged communities without access to digital devices or reliable internet connectivity faced significant learning setbacks during this period. Beyond academic challenges, the pandemic also

took a toll on the mental health and well-being of both students and teachers. The shift to remote learning, coupled with social isolation, fear of infection, and uncertainties about the future, resulted in heightened stress, anxiety, depression, and burnout. Social distancing measures and lockdowns aggravated feelings of loneliness and isolation, negatively impacting mental well-being (Loades et al., 2020).

Financial difficulties stemming from job losses and economic challenges during the pandemic further worsen the stress on students and educators, as financial stress can negatively impact mental health (Salari et al., 2020). The disruption also affected international student mobility and the revenue streams of universities that heavily relied on foreign students, prompting a reevaluation of the significance of international education and virtual exchange programs (Holmes, 2020). The closure of schools also hindered students' social and emotional development, as it deprived them of social interactions, emotional support from peers and teachers, and extracurricular activities (Loades et al., 2020). Additionally, teachers faced their own challenges during this time, struggling to manage technology, home environments, and personal issues, leading to increased academic pressure and burnout. The transition to online learning accelerated the need for teacher professional development in digital pedagogy, as teachers had to adapt quickly to new teaching methods and technologies (UNESCO, 2020).

Moreover, the pandemic highlighted the difficulties faced by students with special needs, who often require individualized support and accommodations that are more challenging to provide in a virtual setting, raising concerns about the inclusivity and accessibility of education during the pandemic. Traditional methods of assessment, such as examinations and standardized tests, faced limitations in the remote learning environment. Institutions had to explore alternative assessment methods, such as open-book assessments or project-based evaluations, to accurately measure student progress (Lang et al., 2020). The COVID-19 pandemic has profoundly impacted education systems worldwide. While remote learning offered some continuity in education, it also revealed and amplified existing inequalities in access and resources, underscoring the urgent need for innovative and inclusive approaches to learning during times of crisis. As the world continues to grapple with the aftermath of the pandemic, it is essential for education systems to adapt and evolve, ensuring that all students have equitable access to quality education and support.

Rethinking Pedagogy in the Post-COVID Era

In the wake of the COVID-19 pandemic, the importance of innovative and adaptable approaches in curriculum and instruction for the post-COVID era has been magnified. As education systems move away from emergency remote learning and towards more sustainable models, it becomes crucial for educators and policymakers to draw lessons from the pandemic experience to shape the future of education. Dennen and Burner (2020), Johnson et al. (2020), Means et al. (2020), McMahon (2020), Dweck (2006), Lei and Gupta (2021) and UNESCO (2020) stated the following points to underscore the significance of innovative and adaptable approaches in pedagogy in the post-COVID era:

Addressing Learning Gaps and Inequalities: The pandemic aggravated existing learning gaps and educational inequalities. To tackle this issue, innovative approaches are needed to target individual learning needs, provide personalized learning experiences, and offer additional support to students who have fallen behind. Leveraging adaptive learning technologies and data-driven methods can play a pivotal role in addressing these challenges (Dennen & Burner, 2020). Schools should implement targeted remediation programs, including one-on-one tutoring, small-group interventions, and personalized learning plans. An inclusive curriculum that incorporates diverse perspectives and experiences can make education more relevant and engaging for all students. Teachers should adopt inclusive teaching practices to cater to different learning styles and abilities. Investing in continuous professional development for teachers is essential to enhance their skills in adapting to new teaching methodologies and technologies, such as creating dynamic and engaging virtual classrooms and promoting student-centered learning.

Enhancing Engagement and Motivation: Remote learning during the pandemic highlighted the significance of keeping students engaged and motivated. To achieve this, innovative instructional methods like gamification, project-based learning, and experiential learning can be employed to make the learning process more interactive and enjoyable, fostering a deeper understanding of concepts (Johnson et al., 2020). As institutions return to in-person learning or adopt hybrid models, teachers must rethink their teaching approaches by utilizing active learning methods such as group discussions, case studies, and hands-on activities to enhance student engagement. Incorporating real-world applications and relevant examples can also increase students' motivation by demonstrating the practical value of their education. Personalized learning experiences tailored to individual preferences can

significantly improve student engagement and motivation (Means et al., 2020). Moreover, encouraging goal setting and fostering a growth mindset is essential in enhancing engagement and motivation in academic settings.

Promoting Lifelong Learning Skills: In the post-COVID era, it is essential to equip students with skills that go beyond traditional academic subjects. Innovative curriculum designs should emphasize critical thinking, problem-solving, creativity, digital literacy, and other essential skills required in the rapidly evolving job market (McMahon, 2020). Encouraging a growth mindset among students is essential for promoting lifelong learning. Emphasizing that intelligence and abilities can be developed through dedication and hard work helps students embrace challenges, learn from failures, and persist in their learning journey (Dweck, 2006). Focusing on critical thinking and problem-solving skills in the curriculum encourages students to analyze information critically, evaluate evidence, and approach challenges with creativity. Integrating digital tools and platforms in the learning process enhances engagement and collaboration while preparing students for the digital age and empowering them to access and evaluate information effectively. Project-based learning methods, where students work on real-world projects, apply knowledge to solve problems, and collaborate in teams, can foster practical skills, critical thinking, and creativity while encouraging self-directed learning (Bell, 2010). Continuous professional development opportunities for teachers can positively influence students' learning experiences by keeping teachers updated with best practices and innovative teaching methods.

Preparing for Future Disruptions: The pandemic demonstrated the need to be prepared for unexpected disruptions to education. Innovative approaches should include robust online learning platforms and contingency plans to ensure continuity of education during crises (Lei & Gupta, 2021). Investing in robust online learning platforms, training teachers in effective online teaching techniques, and ensuring equitable access to technology and internet connectivity for all students is essential. Empowering learners through personalized and student-centered learning approaches can help them stay engaged and motivated during times of disruption. Comprehensive continuity plans, including guidelines for transitioning to remote learning and support mechanisms for students and educators, should be in place to address future disruptions. Mental health support for students and teachers is crucial during disruptions, and collaboration with community organizations, government agencies, and private enterprises can provide additional resources and support. Inclusive education practices that accommodate diverse needs and learning styles can ensure that no student is left behind during disruptions (UNESCO, 2020). By implementing these strategies and drawing on the lessons learned during the pandemic, educational institutions can create resilient and adaptable learning environments for all learners, ensuring continuity during crises while enhancing the overall quality and effectiveness of education in the post-COVID era.

Impactful Pedagogy for Sustainable Education

The COVID-19 pandemic has underscored the urgent need for a paradigm shift in education. The conventional model of classroom-based instruction has been rapidly replaced by remote learning, hybrid approaches, and online platforms. This transformation has brought to the forefront the utmost importance of curriculum design and instructional pedagogy that can effectively engage students and foster meaningful learning experiences. As we navigate the post-COVID era, it becomes imperative to reevaluate and overhaul curriculum frameworks to ensure their alignment with the evolving needs of learners and society.

Sustainable education is the process of equipping learners with the knowledge, skills, and values to address current and future environmental, social, and economic challenges (UNESCO, 2014). It is essential for creating a more sustainable future for all (Tilbury & Stevenson, 2004). Sustainable education goes beyond the traditional model of knowledge transfer; it seeks to prepare individuals to understand, appreciate, and contribute to a more sustainable world. It is a learning process that transforms education to address the global challenges we face today. Impactful pedagogy is teaching and learning that is effective, engaging, and relevant to students' lives. It is also a pedagogy that promotes sustainable development (Wals, 2009). Impactful pedagogy plays a pivotal role in achieving the objectives of sustainable education by fostering the knowledge, skills, and values necessary for individuals to become active agents of positive change. This session emphasizes the strategies for creating impactful pedagogy in the post-COVID era for sustainable education:

Interdisciplinary learning: One essential strategy for the post-COVID era is interdisciplinary learning, which calls for curriculum and instruction designed to foster critical thinking, problem-solving skills, and adaptability. An integral aspect of impactful pedagogy involves seamlessly integrating interdisciplinary elements and real-world applications into the learning experience. The conventional practice of teaching subjects in isolation constrains

students' comprehension of the interconnectedness among various disciplines and their practical utility (Swarts, 2019). By infusing interdisciplinary projects and activities, students gain a comprehensive grasp of concepts and their multifaceted relevance across diverse contexts. For example, augmenting a science lesson on climate change with insights from social studies, economics, and ethics enriches the exploration of its ramifications on different regions, economic dimensions, and ethical considerations, thereby preparing students to confront intricate real-world challenges more effectively (National Research Council, 2012). Sustainable education encourages an interdisciplinary approach to understanding complex global issues. This approach is crucial for students to appreciate the interconnectedness of environmental, social, and economic systems (Wals & Jickling, 2002).

Integration of Technology: The swift proliferation of digital tools and platforms in the education sector, catalyzed by the pandemic, highlights the potential for technology to significantly enhance curriculum and instruction (UNESCO, 2020). To ensure a dynamic learning environment, the fusion of technology with curriculum design becomes imperative. Virtual simulations, collaborative online tools, and interactive multimedia resources represent integral components of this transformative approach. The incorporation of virtual simulations empowers students to conduct experiments and delve into intricate scientific concepts within a safe and cost-efficient digital environment. Studies illustrate that virtual simulations effectively heighten understanding of intricate scientific principles and encourage practical application of acquired knowledge (Johnson et al., 2020). Furthermore, online collaboration tools, such as discussion forums and interactive platforms, facilitate peer-to-peer learning and engender a sense of friendship among students, even in virtual spaces. Interactive multimedia resources, ranging from videos to simulations, cater to diverse learning styles, engendering heightened comprehension and retention. Personalized learning, facilitated by these resources, has been evidenced to kindle enhanced motivation and academic accomplishments among students, underscoring the transformational potential of technology integration (Deng et al., 2018).

Incorporating Socio-Emotional Learning (SEL) and well-being into the curriculum: This has emerged as a critical priority in the post-COVID era, given the significant toll the pandemic has taken on the mental health and well-being of both students and teachers. In light of these challenges, it becomes imperative to place equal emphasis on students' emotional and social development alongside academic learning. Socio-emotional learning, a multifaceted approach encompassing self-awareness, self-management, social awareness, relationship-building, and responsible decision-making, equips students with essential skills to effectively navigate the complexities of the post-COVID world, fostering resilience and overall thriving (Schonert-Reichl, 2017). Numerous studies emphasize the positive impact of Socio-Emotional Learning on academic achievement, student engagement, and positive adjustment in school children (Denham & Brown, 2010). By infusing Socio-Emotional Learning principles into classroom discourse and reflective exercises, teachers can foster emotional intelligence and empathy among students. For instance, during a literature lesson, engaging students in discussions about characters' emotions, perspectives, and ethical dilemmas not only enhances their comprehension of the literary text but also encourages introspection regarding their own emotions and relationships (Brackett et al., 2012). As educational institutions continue to adapt to the challenges of the post-COVID era, the integration of Socio-Emotional Learning into curricula becomes a powerful means to support students' well-being and academic success.

Blended learning: The outbreak of the COVID-19 pandemic caused disruption in global education, prompting widespread school closures and a seismic shift toward remote learning. Amidst these changes, the glaring digital divide underscored the urgent necessity of addressing disparities in educational access. Blended learning emerged as an equitable solution, joining conventional in-person instruction with online components (UNESCO, 2020). This pedagogical approach extends a lifeline to bridge the digital divide by seamlessly fusing online and offline learning modalities. Blended learning seeks to democratize educational access, ensuring that students from diverse socio-economic backgrounds and geographical locations can partake in a holistic educational journey. With the integration of online resources, students gain the liberty to engage with learning materials at their individual pace, revisiting concepts as required. Furthermore, teachers harness digital tools to monitor individual progress, enabling targeted interventions and personalized feedback (Hwang et al, 2021). The inherent flexibility of blended learning safeguards against future disruptions, offering a seamless transition between in-person and online instructional modes.

Emphasis on 21st-century skills: In a rapidly evolving global landscape, the acquisition of skills such as critical thinking, creativity, collaboration, and digital literacy has become non-negotiable. Educational curricula and instructional strategies should reflect this need, emphasizing project-based learning, problem-solving activities, and platforms for nurturing creativity (Edutopia, 2022). This approach empowers students to apply knowledge and skills to authentic real-world scenarios, thereby fostering innovation and critical thinking. For instance, the shift from rote

memorization to inquiry-based projects empowers students to dissect and resolve intricate problems, honing their ability to analyze, communicate, and collaborate effectively. Moreover, digital literacy emerges as a cornerstone skill, underscoring the necessity of integrating digital literacy modules within curricula (ISTE, 2016). These modules empower students to discern credible sources, fact-check information, and engage responsibly within digital systems. By arming students with these competencies, educators nurture discerning digital citizens adept at navigating the complexities of the digital age (Kist, 2014).

Collectively, these strategies herald a new dawn in education, one that fosters resilience, adaptability, and holistic growth among students. By embracing these strategies, educators wield the power to shape a future generation poised to thrive amidst uncertainty and contribute meaningfully to an evolving global society. The post-covid era provides a unique opportunity to reimagine education and create a more inclusive, flexible, and dynamic learning system.

Conclusion

The pandemic brought about challenges, leading to a rapid shift to remote learning and exposing existing disparities in access and inclusivity. Educators had to adapt to virtual settings while supporting diverse student learning needs and well-being. Despite the challenges, the pandemic also offered opportunities for positive change, encouraging pedagogical transformation and curriculum innovation. Impactful pedagogy serves as a catalyst for sustainable education to achieve the goal of education, prepare learners for global challenges, and contribute to a sustainable future. Integrating technology-enabled learning and addressing the digital divide as well as providing mental health support to both teachers and learners can be of great help.

Suggestions

1. There should be integration of digital technology into the school curriculum in order to promote effective teaching and learning in the post-COVID era.
2. Teachers and students should be empowered with the relevant skills needed to achieve a smooth transition to an online mode of instruction pertinent to post COVID era.
3. There should be a public-private partnership to provide technological infrastructures and tools to bridge the digital divide among school personnel.
4. Teachers should transform instructional practices to enable learners to play active roles in their learning.

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