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DIGITAL PEDAGOGY: INNOVATION IN TEACHING STRATEGIES

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Abstract

The entire world is moving towards digitalization in all fields and digital pedagogy is essential as well. Technology has influenced a lot on learning and resulted in the development of digital pedagogy, which has become a vital part of today's world. The paper focuses on innovation in teaching strategies as a result of digital pedagogy. The study explores the integral role of digital pedagogy in elevating teacher education, focusing on its impact on methods, instructional approaches and development of essential skills. Digital pedagogy competence measures teachers' information, communication and technology skills in teaching learning process. The paper also discusses values and methods in digital pedagogy. The paper also observes that it is significant and essential for an educator to play a vital role as a promoter, motivator and transmitter on a quest for knowledge in digital pedagogy. The paper concludes that when implementing the innovative pedagogies, it is important to consider factors such as teachers' training, availability of ICT infrastructure, digital literacy, and accessibility to ensure equitable access and effective integration of ICT in education.

Keywords: digital learning, innovative strategies, teaching methods

Introduction

Enduring transformation can be brought about through 'pedagogy' that is, improvements in theory and practice if teaching, learning and assessment and not the mere introduction of technology in classroom. In simple terms, digital pedagogy is the study of how to teach using digital technologies. Digital pedagogy may be applied to online, hybrid and face-to-face learning environments. Stephen (2014) states that, digital pedagogy is the study of and use of contemporary digital technologies in teaching and learning. When UNESCO and WHO for instance, declared the Covid-19 attack worldwide, the world of education experienced changes in both policy and implementation of which digital methods of teaching came into play. Digital pedagogy is not only about using digital technologies for teaching and learning, but rather approaching digital tools from a critical pedagogical perspective (McNeely, 2005).That is using digital tools thoughtfully and considering their impact on learning; using digital tools to supplement lessons and make them more engaging. It also demands that open and networked educational environments must be merely repositories of content. Almerich and Orellana(2016) in Akujieze (2024) states that the educational landscape has witnessed a transformation shift with the overwhelming integration of Information and Communication Technology (ICT) in teaching methodologies. They further states that the continuous support of internet and the utilization of network-linked devices have revolutionalized education, making digital pedagogy an essential aspect across various educational stages.

The transformation in education via the development of ICT is overwhelming in the continuation of revolutionary support of the internet and utilization of network-linked devices. Accordingly, unique instructional and educational modalities have emerged, raising new situations and scenarios to shape different stages of training. Contemporary modalities for virtual training include the Massive Open Online Courses (MOOCs) platform, which utilizes ICT on e-materials, e-books, videos and e-transcript facilitating learning. These methods have been advantageous in their adaptability and remote utilization at any time and to increase the prospects of ubiquitous learning without any restriction on place and time. The limitation of these methodologies lies in the lack of interactions in a course, perhaps in a learner's motivation. Further, e-learning, ICT-based modalities are mechanisms to improve access to education. Using such technological tools, the learner develops innovative solutions to the most prominent issues and problems that arise in the society (Beetham & Rhona, 2019).

Digital pedagogy is a branch of pedagogical science that reveals the essence and regularities of digital education, the role of 'digitalized' educational processes in personal growth and develops practical ways and means of improving their effectiveness. It is also a pedagogical trend related to building the digital economy and digital society. Further, digital pedagogy embeds computer-based digital technologies in the art of learning, enriching the teaching-learning processes and assessment and builds knowledge through planning the educational system based on problem-solving and higherorder thinking skills. Furthermore, it provides high-quality education using information and communication technologies as a tool for creating new learning opportunities. It organizes a purposeful and systematic activity on human formation using information technologies and the Internet (Toktarova & Semenova, 2020). Digital pedagogy uses digital elements to enhance or change the education experience. Digital pedagogy is not about technology; although digital delivery requires technology, it is about teaching and how students want to learn, facilitated by technology. Devaki (2018) underscored that the E-content package has a more significant influence on the students' achievement in learning. In the implementation of learning, teachers can make the teaching-learning process more effective and interactive by using various teaching strategies to make the students' academic performance more meaningful and intrinsically motivating. Digital pedagogy studies and uses contemporary digital technologies in teaching and learning. It is mainly a critical pedagogical approach, exploits thoughtfully digital tools in learning, and examines their impact on applied pedagogies. It allows learners to transform educational experiences using electronic tools. Meanwhile, digital pedagogy is a new paradigm that implies recognizing that access is the beginning of ICT policy and not its end because of education. Likewise,

As education moves towards digitalization, technology has influenced much learning and resulted in the development of digital pedagogy, which has become a vital part of the learning process. Collaborative learning, blended learning, flipped learning, open conversation, creativity, and innovation are at the heart of education and need pedagogical assumptions based on technological inclination (Biju, 2023). The modern assumption of education requires an integral aspect of technologically bound and digitally mastered pedagogy. Coll(2016) states that digital media and learning tools keep pace with innovations in learning technologies and enable learning according to own pace, understanding, and instantaneous feedback and evaluation. Innovation is significantly changing the manners of learning experiences. The emerging philosophy of technology in education prevails cultural milieu and draws a conception of technological change in education. Thus, transforming education and revolutionizing teaching and learning using

various digital learning resources and radically restructured learning experiences in virtual spaces.

Innovative pedagogy refers to the application of new and creative approaches to teaching and learning. It involves designing and implementing instructional strategies that go beyond traditional methods, aiming to enhance student engagement, critical thinking, problem-solving skills, and overall learning outcomes. Transforming traditional teaching and learning methods.

Importance and Benefits of Digital Pedagogy

Digital pedagogy values open education renovated from a space where users passively retrieve data and information, conveyed by specialists to a participatory, verbal, or non-verbal platform's extended communication ability. At present, technology 'web 2.0' includes 'Social Networking Applications,' 'Blogs,' 'Wikis,' 'Web-based Presentation Tools,' and 'Online Mind Mapping Tools. In particular to higher education, the institutions promoting unique and innovative approaches, methodology, tools, and techniques to integrate ICT and pedagogy at various educational levels. The use of technology is an inseparable part of digital pedagogy, and it is advantageous only within the framework of fitting pedagogy. However, any "Technology cannot serve as a substitute for the Teacher."

In the 21st Century, the new culture of Teaching and Learning has evolved with the emergence of Information and Communication Technologies. ICT has led to sweeping changes in Teaching & Learning process and offers ample opportunities for the learning community. At present, digital pedagogy has been increasingly augmenting the teacher-student relationship. It is found to be teacher-friendly and student-centric to reap many benefits from the participation of the learner community. Firstly, Learning Culture has prominently increased with the usage of Web platforms and tools of ICT. ICT tools are more convenient and affordable and generic. 'New ICT skills' with 'New Literacy' are not limited to reading paper, books, and texts.

Proficiency in Word Processing skills creates a close link between literacy and Language development. Database and spreadsheets, Blogs, Wikis ("What I Know Is"), emails, web design and creation, skills on web search, programs on drawing and graphs, digital videos, even other gadgets like webcams, walkie-talkies, software on audio and video recordings encourage development on Teaching & Learning for speaking and listening skills by building autonomy, self-sufficiency, enthusiasm and become trendsetters in particular to higher education. Secondly, innovation and creativity grew to concentrate and imbibe among students' community to instill creativity and build their interest in exploring new ideas, knowledge, and skills. Mobile learning can be made possible through creative teaching-learning strategies and academic support strategies to develop support and enhance learner-driven innovation. Personalized learning experiences spread benefits to distinct learners, thus increasing the chances of the aspirant learner to have good skills and knowledge. Thirdly, student engagement, empowering students with accessible resources with the support of digital platforms could be beneficial to interact, contribute, reconfigure, share, and redeploy information and resources. Fourthly, with Open Educational Resources (OER) collaborated, Teaching & Learning collectively share information, resources and knowledge. Digital pedagogy ensures access to geographically dispersed experts, involves a multidisciplinary approach and exchange of knowledge. Importantly, Teaching & Learning has more flexible at any time and from any place without limiting the educators' creativity. However, digital pedagogy contributes to high-quality educational process, reaching

and connecting remote students for any data, information, or resources and transformed capabilities of both teacher and learner without harming the educational system (Stephen, 2016).

Influences of Digital Pedagogy

Digital pedagogy has become a study to employ up-to-date digital technologies in teaching and learning, perhaps applied to the learning environment either online or face-to-face. It allows reading, accessing, retrieving, and reacting to course materials on digital platforms and devices such as mobile phones, tablets, PCs and laptops. In India, statutory bodies like AICTE, UGC promote digital Pedagogy by making it obligatory in the curriculum. It is not only using digital technologies in teaching rather, using ICT platforms from a critical pedagogical perspective and utilize electronic devices to augment the experience of education. Digital technology is influenced through the following concepts like MOOCs (Massive Open Online Courses), online discussion forums, LMSs (Learning Management Systems), Game based learning and its environments, Computer programming, Coding, and Virtual and Augmented realities, "BYOD" (Bring Your Device), "BYOT" (Bring Your Technology), "BYOC" (Bring Your Connectivity), "Maker Spaces," "Blogging," "Micro Blogging," "Wikis," "Backchannels," "Audio Recording and Music Making," "Image and Video Editing," "Creation of Info Graphics," "Slideshows and Presentations," "Digital Storytelling," "Social Media," "Collaboration Tools and Mobile Apps". Further, Sustainable Learning is an innovative idea to create and increase sustainable courses and methodology of learning and teaching that infuse in the learner the skills and outlook to prosper in the complex and challenging state of affairs and positively contribute to make the world a better place. Creating virtual or physical 3D models, Software for Statistical analysis, Analytics, Gesture based interfaces and Rubric generators are the important learners' access technologies. An online response system includes survey and voting polls, video conferencing, cloud computing (Willimson, 2020).

The Essence of Digital Innovative Pedagogies

Mamur (2023) proposed the following as the reasons why digital pedagogy should be encouraged –

- **To Enhance Digital Literacy**: incorporate technology and digital tools into the learning process, enabling students to become proficient in using digital resources, collaborating online, and divagating the vast amount of information available.
- **To Promote Lifelong Learning**: innovative pedagogies emphasize the development of essential skills, such as communication, critical thinking and adaptability.
- **Fostering Creativity and Innovation**: traditional teaching methods often focused on rote memorization of information. Innovative pedagogies promote creativity innovation by encouraging students to think critically, explore new ideas and solve real-world problems.
- **Addressing Diverse Learning Needs:** innovative pedagogies offer a range of approaches, such as project-based learning, flipped classroom, or collaborative learning to accommodate divers learness.
- **Encourage Active Learning:** innovative pedagogies shift the focus from passive learning to active learning.

Innovative Teaching Strategies for Better Student Engagement

The drive to innovate in the classroom should always consider how such innovations can improve student outcomes. The goal of teaching is to promote learning. The strategies we deploy are to promote learning. Trying out different strategies in the classroom is an iterative process to help us promote learning more effectively and successfully. Thompson (2023) proposed the following innovative teaching strategies for better student engagement-

Flipped classroom

In a flipped classroom students review lecture material at home and work on projects and assignments in the classroom. Students in the flipped classroom complete coursework typically sent home as homework in class. The flipped classroom provides a great space for peer-to-peer collaboration. Students can engage one another to complete group projects, debates, and practice. Teachers are not the center of the flipped classroom. Instead, teachers are more flexible, addressing personalized help and direction for students and student groups as they complete their work.

Project-based learning (PBL)

Project-based learning is an effective method that helps students drive their own learning journey. In a PBL exercise, students identify a real-world problem then develop a solution. Project-based learning relies on developing key skill sets such as research, critical thinking, problem-solving, and collaboration. Project-based learning is an active method of learning where students gain mastery through the application of their knowledge rather than rote memorization. Like the flipped classroom, the teacher's role becomes that of a guide and the students take ownership of their learning.

Inquiry-based learning

Inquiry-based learning develops thinking and problem-solving skills. Instead of driving the class through a lecture-style format, the teacher poses questions, scenarios, and problems. Students then research these topics individually or in groups to formulate their answers. They can then present their findings and supporting evidence to the class along with the other students. Students are then able to further develop their answers by listening to what other students have found as well as identifying areas that require more attention and detail.

Blended learning

Blended learning combines physical and online learning experiences that give students more control over the time, place, path, and pace of instruction. Check out our previous post on blended learning to learn all you need to know. What's exciting about blended learning is that it provides traditional classroom experiences as well as online tools and learning opportunities. It's not an all-or-nothing method. Still, technology is a key component of blended learning as it is for students in the real world. The flexibility of blended learning enables students to have more control over their learning methods – perhaps they'll watch online lectures at home and engage

in peer groups for collaborative activities or maybe they'll prefer to join lecture-based virtual classes and do their homework independently.

Active Learning

Many of the innovative learning strategies we discussed are active learning strategies. Active learning methods encourage students to discuss, contribute, participate, investigate, and create. Active learning challenges students by questioning them, requiring problem-solving and critical thinking. Most importantly, active learning engages students and requires them to be active in the classroom. Students that participate in their learning are more likely to succeed in your class.

Roles of the Teacher in Digital Pedagogies

Biju (2023) identified the following roles of a teacher in digital pedagogies. There are as follows

- **Collaborators and Co-learners**: teachers collaborate with colleagues and educators worldwide through digital platforms to share ideas, resources, and best practices. They also engage in continuous professional development to keep up with evolving technologies and teaching strategies.
- **Personalized Learning Advocates**: technology allows teachers to personalize instruction to meet individual student needs. They can use adaptive learning platform, data analytics, and online assessment to tailor learning experiences and provide targeted feedback.
- **Facilitator of Learning**: teachers now act as facilitators of learning rather than just information providers. They guide students in navigating digital resources, developing critical thinking skills and applying knowledge to real-world scenarios
- **Curators of Content**: with the vast amount of information available online teachers curate and select relevant and reliable digital content to support the curriculum. They help students evaluate the credibility of online sources and foster digital literacy.
- **Technological Integrators**: teachers are responsible for integrating technology effectively into their teaching practices. They explore digital tools, learning management systems, and educational apps to enhance instruction and create engaging learning experiences.

Challenges of Digital Pedagogy

The Digital era at present in Nigeria has brought widespread challenges to the educational sector. Digital technologies bring in new opportunities and challenges for teachers. Incorporating identified new opportunities in academia into the curriculum and instructional strategies and practices poses a significant challenge for teachers and policymakers. Firstly, the barriers are integrating ICT in teaching & learning with limited time, resources, and technical support. Secondly, the barriers are teachers' beliefs in ICT and their utilities, skill enhancement and practices in the classroom. While the traditional teaching approach has been gradually losing and decreasing its lure, the learners in the current era need different skills like effective communication skills, critical thinking and innovative skills, thinking creatively, problem solving ability, negotiation and collaboration skills to accomplish expected results. The most common challenges for the teaching fraternity are updating and developing skills systematically to suit the radical change in digital pedagogy. The ICT usage has been tremendously increasing and becoming the need of an hour. Integration of ICT in T & L is viewed as a revolutionary

educational change in terms of high-tech education, in particular to higher education. Through the application of electronic bases such as multimedia, productivity software, and cloud computing, digital pedagogy focuses on ICT technologies, tools and skills, modes of operation in the digital world. Digital pedagogy in T & L is found to be difficult. However, it is significant and essential for an educator to play a vital role as a promoter, motivator, and transmitter on a quest for knowledge. There are several difficulties that teachers face in incorporating ICT into the T & L process. Constantly, the teaching fraternity must develop and maintain their pedagogy to keep abreast with the latest technologies. It is important to track the productivity of teacher-student interaction and ensure the sense of autonomy among the learners. In this line, the efficiency and effectiveness of learners increase to handle real-life challenges on their own. Consequently, it is crucial for every teacher to recognize the learner's strengths, wants and needs to make interactions meaningful and teachers have to create the appropriate teaching ambiance, style. Nowadays, the current generation of students is active learners', appetite for technology and enthusiastic. It is a big challenge for the entire teaching fraternity to create a sustainable future. Therefore, teachers are required to be more innovative and creative in designing their instructional strategies. Creating awareness, learning engagement & active participation must be well addressed by the teachers in the usage of Digital Pedagogy.

Conclusion

Digital pedagogy is more innovative and it makes learners acquire skills from all directions beyond the course content. Learners can focus more and continuously learn from digital pedagogy, which has no time and physical frame. It inspires pupils to learn more effectively, which results in sustainable learning. In the 21st Century, the culture of teaching and learning is mandated to grow in education. The current era is expected to develop educators, learners, infrastructure and a supportive environment. There are several incidents that have reduced student interest and morale due to lack of technological advancement at classrooms and laboratories. When implementing these innovative pedagogies, it is important to consider factors such as teachers training, availability of ICT infrastructure, digital literacy, and accessibility to ensure equitable access and effective integration of ICTN education.

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