

EMERGING TRENDS AND INNOVATIONS IN THE PEDAGOGY OF TERTIARY EDUCATION: A CONCEPTUAL EXPOSITORY

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Abstract

The pedagogy of tertiary education is undergoing significant transformations in response to emerging trends and innovations. With the advent of the fourth industrial revolution, there has been a paradigm shift in the educational system, prompting the need for new approaches to teaching and learning. The conceptual expository examines the various trends and innovations in teaching and learning in higher education. The study explores various emerging trends and innovations in higher education pedagogy, such as flipped classrooms, hybrid learning, and mobile learning. It also discusses the benefits of these approaches, including personalized and collaborative learning, which focus on student-centred learning rather than relying solely on teachers as the primary sources of knowledge. Additionally, the study identifies challenges such as the digital divide between students and teachers, as well as resistance to change. The paper submits that adopting digital tools may not necessarily enhance teaching and learning outcomes. However, unlearning and relearning how to use these digital tools in education can lead to effective learning and attainment of learning objectives. The paper suggests the need for educators to adopt and evolve their pedagogical practices to meet the demands of the twenty-first century and prepare students for success in an increasingly complex and interconnected world. By exploring these emerging trends and innovations, this paper aims to contribute to the ongoing conservation of the future of tertiary education.

Keywords: innovation, emerging trends, pedagogy, tertiary education

Introduction

The increasing use of digital technology in higher education has led to changes in the behaviour of both students and teachers. It has also transformed the university community's methods, processes, and systems used to impart knowledge. It has also influenced the curriculum and the pedagogical content. The pedagogy of the traditional techniques of chalk and talk with constant interfacing with teachers and students has been interrogated and new trends evolving in every facet of education. There are new trends in the pedagogy of teaching and this is necessitated because of the influx of digital technology in every sphere of human endeavour. The upturn of technology has given rise to various blended learning, e-learning, e-education, remote learning, and all

other education-learning platforms that integrate technology with pedagogical content. It is interesting to mention that some of the emerging trends need technology while some do not. Emerging trends in pedagogy are evolving patterns of imparting knowledge to students with the view of enhancing the learning outcomes. Some of these trends have long been in existence but became preeminent during and after the COVID-19 pandemic. Some of these trends are mobile learning, e-learning, blended learning, and virtual field trips among others. It is pertinent to state that these emerging trends have prompted scholars and practitioners to think out of the box and proffer an improved way of doing things and administrative tasks. Innovation in education is alterations or holistic change in education that

is geared toward the attainment of education goals or an improvement on the status quo (Ariguo, 2015). The core of innovation lies in enhancing the learning process and methods to be more effective and efficient in achieving specific goals. It recognizes the important role that higher education plays in attaining educational objectives.

Higher education is pivotal for the development of individuals and society. It therefore makes it incumbent on management to introduce innovation in pedagogy that will not only be in tune with international best practices but also prepare students for the dynamic world of work. Innovation becomes imminent in higher education because there are changes in the student's demographics. Student's technology savvy and their change in the environment and culture have prompted the need for a change in the pattern of higher education administration. This is important to ensure graduates are inculcated with the skills and knowledge that prepare them for the world of work. For higher education to remain relevant and competitive, there is a need to ensure that the pedagogical content is aligned with global standards.

Pedagogy involves the science and art of teaching, encompassing methods, learning activities, and assessment. For higher education to stay competitive, pedagogy should align with universal best practices. The currency of today's pedagogy is the integration of technology not only in teaching but also in all facets of educational management. These advanced economies have integrated advanced educational concepts, yielding enormous benefits in teaching, assessment, evaluation, and the entire system. It appears the less developed countries, Nigeria inclusive are yet to fully integrate technology into their pedagogical content thereby divesting students on the benefits of collaboration learning, communication, problem-solving skills, and creativity among other skills. This has prompted various questions; is technology available for teaching and learning in tertiary education in Nigeria? If available, are they in use? Are there benefits and challenges in integrating technology into pedagogy? It is against this background that the paper discusses emerging trends and innovation in the pedagogy of tertiary education as a conceptual expository.

The purpose of the study is to explore emerging trends and innovations in the pedagogical content in higher education namely in teaching and learning. To achieve this, the researcher adopted conceptual expository methods of inquiry. A conceptual review provides a comprehensive review of the concepts under study (Munaquzi et al, 2023). Conceptual expository is understanding a given phenomenon through thorough analysis on both sides of issues and developing unbiased perspectives. The expository method is a way of seeking truth, information, and knowledge of a given phenomenon (Ebenezer, n .d) Conceptual expository is research that involves reading widely contrasting, analyzing, and synthesizing the phenomena under study based on existing knowledge.

The sources of data are based on existing knowledge collected from secondary sources namely journals, newspapers, periodic magazines, and other scholarly journals. The study focuses on tertiary education, specifically higher education where individuals obtain higher certificates after completing post-basic education and passing the prescribed examination. It includes universities and inter-universities, colleges of education, health, science and technology. Online and offline higher education including public and private universities. The study will not only provide a reservoir of knowledge but will also help to understand the trends of innovation for awareness, comparison, and their implication to teaching and learning. It is on this basis that the study discusses the conceptual clarifications, emerging trends and innovations in tertiary education and the benefits and challenges inhibiting optimal utilization of innovation, conclusion and suggestion.

Concept of Emerging Trends

Emerging trends are behaviours, patterns, or preferences that are getting social attention or being discussed. Simply put, things that are in vogue. In society, it may be in the areas of dressing, and patterns of behaviour but in tertiary education the emerging trend is in the areas of how digital technology has changed the educational landscape. There is no gainsaying that the upturn of digital technology has affected the educational system positively in the act of teaching and learning, research and

development. The diffusion of technology is of immense benefit to tertiary education; improving learning outcomes, enhancing cost-effectiveness and efficiency, improving teaching and learning, and work satisfaction.

It is enlightening to state that the emerging trend in university education is the integration of digital tools in the pedagogical content. Some of these emerging trends are technology powered by the internet while others are not. Examples of technological-induced teaching and learning are blended learning, collaboration, inquiry-based learning, online learning, hybrid learning, flipped classroom, and personalized learning among others. The list is inexhaustible because technology keeps evolving. It is pertinent to state that the essence of adopting innovation and integrating emerging trends in the pedagogical content is not only on the improvement in teaching and learning outcomes but also on ensuring a flexible, accessible, and affordable education. Learner-centred education is crucial as it caters to the underserved in society and promotes creativity and problem-solving skills.

Innovation

Innovation means new ways of doing things and by implication adding value to the existing phenomena. In the educational system, innovation implies creating new things in methods, processes, policies, and practices with the view of enhancing productivity or the attainment of educational goals. Innovation in education could be tangible or non-tangible but the essence of innovation is to change the status quo which is presumed to be ineffective in the attainment of the predetermined objectives. Educational innovation is defined as a planned change in educational policies, objectives, methods, programmes and practices aimed at enhancing educational goals achievement (Asodike, 2015). So, educational innovation is a deliberate effort to develop and implement new methods, ideas and integrate new technology to improve learning outcomes. It is important to note that innovation in education can encompass changes to the curriculum and instructional materials. However, the focus here is on the innovations that are currently prevalent in the knowledge economy. Current advances in educational content encompass personalized learning, hybrid learning, online

learning, collaborative learning, blended learning, and mobile learning, among others. It is important to note that this list is not exhaustive due to ongoing technological developments. These innovations are fueled by technology, which is a growing trend that enables learners to acquire the necessary skills and knowledge not only in their personal lives but also in the professional world.

Pedagogy

Pedagogy is generally defined as the approach to teaching and learning and how knowledge and skills are impacted in an educational environment (Wikipedia). It is the act of teaching and learning. It is the method of teaching both in theory and practice and involves the understanding of culture and different learning styles (Shirke, 2021). Pedagogy becomes the cornerstone for developing an enriched learning experience, skills, attitudes, and understanding of the subject and the ability to apply it in the world of work. It becomes an influencer of the academic community. Pedagogy in tertiary education is the method adopted to achieve the tasks of teaching, learning, and research. It is about the process used in imparting knowledge and skills to learners to ensure that they understand and contribute to the development of society. The trending pedagogy is the diffusion of digital tools into the tertiary educational system for greater access to an educational system.

Tertiary Education

Tertiary education, also known as higher education, refers to the acquisition of higher-level certificates after completing post-basic education. National Policy on Education (2014), describes tertiary education as consisting of colleges of education, health, science and technology, universities, and inter-universities centers, such as the Nigeria French Language, National Institutions of Nigeria Language, etc. Higher education plays a vital role in nurturing individuals' potential and meeting the manpower needs of society. It is responsible for ensuring that the state has an adequate workforce. Tertiary education not only serves as a platform for national unity but also promotes national and international understanding and interaction.

Pedagogy in higher education is an act of teaching primarily concerned with learners and ensuring that learners not only learn something but master the subjects. Gudaji (2019), avers that pedagogy is the process of interaction between the teacher, students, and the mastery of the environment and tasks. Pedagogy in higher education depicts the interaction between the lecture and students and the ability to use educational resources in the attainment of educational goals. To achieve the educational goals, the lecturer should adopt certain innovations that are trending especially the use of digital tools in teaching and learning. This brings to the fore certain innovations that are trending in a knowledge-driven world.

Emerging Trends and Innovations in Tertiary Education

Some trending innovations in education include blended learning, gamification, constructivism, collaboration, inquiry-based learning, online learning, hybrid learning, flipped classrooms, personalized learning, and jigsaws.

E-learning

E-learning, short for electronic learning, represents a new paradigm in education and serves as a central hub for delivering curriculum content effectively. (Musa, et al, 2021; Wordu, 2022). E-learning encompasses all learning processes that use digital technology in the process of imparting skills and knowledge to learners. It involves the use of digital resources to impact, enable, or deliver instructional materials, for improving access to training, communication, and interaction among teachers and students (Musa et al, 2021). E-learning can be categorized into two groups: synchronous and asynchronous. Synchronous learning involves real-time virtual meetings between learners and the instructor. A common example of this mode of teaching is Zoom, where all participants can interact and ask questions. It is teleconferenced and can be further divided into the following audio conferencing, audio-graphic conference, video-conferencing, and web-based conferencing. The adoption and usage of these platforms depend on the availability and the knowledge of the instructor. During the COVID-19 pandemic, this virtual mode of learning was used in teaching and learning. Asynchronous means

not at the same time, it is a self-directed mode of learning where the learner accesses the learning materials at their own pace and time. Examples are podcasting or netcasting, ebooks, DVDs, and videos. A learner can use Android phones to download educational materials and listen at their convenience.

Mobile Learning

Mobile learning often called m-learning is holding sway in most Open Distance Learning (ODL), and is integrated into tertiary education. Its acceptance in educational institutions is a result of the ubiquity of smart and android phones. M-learning is the use of mobile phones to access educational content. Park (2011), viewed mobile learning as the use of mobile phones to learn while on the move. The hallmark of m-learning is the use of smartphones and other computer-related accessories to receive educational content. The benefit of this is the ability to access instructional material anywhere and anytime, providing instructors and students with a flexible opportunity and multiple media interactions. Also, m-learning can use video and audio streaming to deliver educational content and this not only enhances easy accessibility irrespective of location but also enriches the learning outcomes. The learner has the opportunity to repeat the lecture material as often as interested.

Blended Learning

Blended learning is a learning approach that combines the traditional face-to-face with the online streaming. It is the combination of traditional in-person instruction with online learning that offers a flexible learning approach centered on the student. This not only enhances the learning process but also improves learning outcomes (Bupo and Akpomi, 2023). It is the delivery of educational content with the features of the classroom with computer-facilitated instruction. This mode mitigates the deficiency of the traditional approach by providing flexibility and accessibility of education while at the same time enhancing learning outcomes. Another distinguished benefit of blended learning is the integration of personalized learning and the improvement of communication skills.

Hybrid Learning

The emergence of the internet and digital technology has prompted the use of various platforms to enhance teaching and learning. Notable among them is hybrid learning, according to the Oxford Advanced Learner's Dictionary hybrid is the mixture of two or more things. Hybrid learning is the combination of conventional face-to-face teaching with online resources for better attainment of educational outcomes. (Louder, 2023; Rae, 2021). In the same vein, Okon (2023), avers that hybrid learning combines online coursework and traditional coursework. It suggests that hybrid learning in-person learning and virtual learning using hybrid classroom tools such as learning management systems and video conferences among others (Owllabs, 2021). Hybrid learning offers learners the benefits of traditional settings and virtual learning. The advantages of hybrid learning are premised on the flexibility, accessibility, and cost-effectiveness of the programme it offers learners.

Some of the tools used in hybrid learning to achieve better learning outcomes are video conferences, and the use of social media in the dissemination of information, examples are electronic mail, WhatsApp, and the use of Zoom for lectures and conferences. Others are Learning Management Systems LMS, whereby teachers create educational content and allow students to access it online. The Student Information System SIS, whereby students' information is streamlined and stored on the web. Others are the digital whiteboard and flipped classroom among others.

Flipped Classroom

The flipped classroom is a pedagogical model that is becoming a highly significant and most cherished topical trend in education used for the effectiveness of modern teaching (Sani et al, 2023; Patif et al, 2020). It is the reverse or the reordering of the conventional methods of teaching and learning. Olatunbosun and Ogunyebi (2019), argue that flipped classrooms can be supported by technology where the teacher exposes new materials to the students outside the classroom through reading or lecture videos. In a flipped classroom the educational content is delivered outside the

classroom through online, reading assignments, or other instruction delivery. While class time is used to deepen the understanding and discussion of the instructional content.

The benefits of flipped learning are that students are prepared and practicing the educational content, create their content, and sharing among peers before the face-to-face class interaction. This approach deepens the knowledge of the students on the content and gives a better understanding, improving the quality and effectiveness of learning. Also, flipped learning encourages collaborative learning through the sharing of educational content among peers and in the process encourages team learning, problem-solving, communication skills, and thinking skills among others. It is enlightening to note that digital technology is evolving and the list is not exhaustive. Suffice it to mention other emerging trends and innovations that are holding sway in higher education teaching and learning. They are artificial intelligence, smart machines, gamification, and social media platforms.

Benefits of Emerging Trends and Innovations in Higher Education

The groundswell of digital technology and integration into higher education has changed the landscape of education with numerous benefits. Before the upsurge of digital technology teaching in educational institutions was teacher-driven while the students or the learners were very passive. The adoption of technology has created a more engaging learning environment where the learners are very active in the learning process while the teacher acts as a facilitator. Haleen et al, (2022), opine that the use of digital tools to learn not only makes students learning dynamic, classroom facilitating, and entertaining but also allows students to play and also help in a more proactive role at the center of the process. For instance, the process of transforming the classroom learning environment by using a gaming theme will not only make learning expediting, motivating, and pleasurable but also drive academic success.

Another distinctive benefit of the use of digital technology is easier access to information and the ability of students to learn at their own pace,

level, and time. It encourages personalized and independent learning where learners move at their own speed while considering the learner's individual educational needs. Almufarreh and Arshad (2023), opined that emerging technology allows for a personalized, adaptive, and differentiated focus on learning needs and pedagogy. Personalized learning is the ability to create a learning plan based on learners' strengths, needs, skills, and interests. Independent learning is when the learner takes ownership of their learning and is in control of their academic management and performance. In all these, the learners are advantageous, it increases motivation and confidence, academic performance, and enhances communication skills, creativity, and problem-solving skills that prepare the learners for world work.

Collaborative learning is another dimension of learning as a result of the diffusion of digital tools in pedagogy. The use of technology creates a learning environment where people from different cultures seamlessly interact with people of different backgrounds and cultures and work together in a harmonious learning environment. With the use of digital tools distance is not a barrier, and students and lecturers across educational institutions can collaborate in creating knowledge through research and disseminating existing knowledge through teaching.

Another benefit of emerging trends and innovations in pedagogy in tertiary education is integrative learning. Asodike (2015), defines integrative learning as an approach to learning that reduces the stigma that is associated with the traditional mode of teaching namely remote learning with a theoretical rather than practical base. In the same vein, Moursound (2005) posited that the integration of technology in educational institutions empowers the translation of theory into practice. Interactive learning is rooted in inquiry-based learning, which enables learners to cultivate creativity and intuition. The adoption of technology in education has democratized education and equipped learners to learn at their own pace and time (Nwachukwu and Enah, 2019). The benefits of the introduction of technology in education are enormous time and space are merely hindrances. The emergence of artificial intelligence and smart machines represents a groundbreaking revolution in the field of

education. These technologies have elevated teaching to an unprecedented level by enabling machines to execute tasks previously exclusive to human capabilities.

Inhibitors

The integration of technology in pedagogy has prompted various vistas of opportunities and benefits but not without challenges. There is no gainsaying that educational institutions are making inroads in the use of digital tools with different learning platforms gaining traction and offering flexibility and accessibility. It is pertinent to mention that these breakthroughs are hampered by the following challenges, especially in the less developing countries infrastructural deficiency, funding constraints, and policy framework.

Various studies conducted showed that there is limited internet access and it poses a significant challenge to pedagogy in higher education. The inadequate infrastructure leads to limited bandwidth and flaunting networks, hindering constant access to online resources (Eze et al, 2018). The authors further assert that the unavailability of essential digital tools is also a contributing factor impeding the effective use of technology in the process of teaching and learning. The poor infrastructure in schools and colleges results in the unavailability of educational resources that will enhance service delivery (Adelabu et al, 214).

A Study carried out by Olutola and Olatoye (2015), opines that the challenge hampering e-learning in higher education is the lack of pedagogy content and framework that will aid the effective implementation of e-learning. The authors further state that the lecturers lack the social skills required for the implementation of e-learning and therefore unable to assist students in developing the necessary skills and knowledge that assist them make use of e-learning resources.

Another constraint is the digital divide between digital teachers and digital immigrants. Digital immigrants have built a negative perception of the use of digital technology that they prefer the old order (Nwachukwu & Enah, 2019). Some teachers have a strong negative attitude towards technology and they resist change and become a cog in the adoption of technology in education.

Conclusion

The tertiary educational sector is experiencing a positive change in every facet of educational management as a result of the upturn of Industrial Revolution 4.0. The change has prompted emerging trends and innovation in the pedagogy of higher education. Some of the emerging trends and innovations are technology-driven while others are not. It is interesting to observe that some of the emerging trends of pedagogy are hybrid learning, mobile learning, and flipped classroom e-learning among others. It is pertinent to state that technology keeps evolving therefore the list is not exhaustive as many other platforms that aid teaching and learning keep sprouting too. The interesting thing about emerging trends and innovations is their ability to make education accessible, and avoidable and the ability of the learner to learn at their pace and convenience. The emergence of digital technology has made learning flexible and helped to serve the vulnerable and the underserved in society. The hallmark of digital teaching is that learning is now student-centered, creating a learning environment through technology, making learning an active engagement of students while the teacher is no longer the custodian of knowledge, dispenser of knowledge but a facilitator of knowledge. The integration of technology has created a hub for developing students' skills, creativity, communicative skills, and problem-solving skills and in the process prepares students for the trajectory of the world of work. Despite the enormous benefits of digital integration on pedagogy, there are also plenty of obstacles to effective integration. Some of the inhibitors are the digital divide between students and teachers, inadequate digital facilities and the resistant attitude of teachers to adopt new technology for teaching and learning. There is no denying the fact that higher education administrators are adopting digital technology in pedagogy but the acquisition of digital tools may not be the silver bullet that will enhance teaching and learning but the ability to harness the potential of technology in every facet of education.

Suggestions

In consideration of the challenges of teaching and learning in higher education and the

integration of digital technology, the following suggestions are proffered

1. The manager of tertiary education should establish a research and innovation hub to foster collaboration among stakeholders and collaborate with international institutions to leverage on best practices and expertise.
2. The managers of higher educational institutions should prioritize research and development on effective technology integration and policy framework that encourage technology adoption and innovation.
3. Higher educational administrators should invest in ICT infrastructures, ensure internet connectivity and provide reliable power supply.
4. There is a need for review of the curriculum to incorporate trends and emerging technology and provide training and capacity building programs for students and educators.

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