Potentials Challenges of Twenty-First Century Pedagogies in Nigeria

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Abstract

The concept of 21st-century pedagogies is the creative use of technological-aided teaching methods for the benefit of the students based on the prevailing situation. The pedagogies include the use of technology integration, collaborative learning, student-centred learning, flipped classroom and gamification and game-based learning usually student-centred. The concept of pedagogy in Nigeria, as in many other countries, refers to the strategies, methods, and approaches employed in the teaching and learning process. The paper identified skills development, technology integration, increased student engagement, collaborative learning and teacher professional development as some potential that significantly contribute to enhancing the quality of education and equipping students with employable skills needed to succeed in the world of work. The paper identified technology barriers, teacher training and professional development, large class sizes, curricular rigidity, resistance to change and limited resources as some of the challenges confronting the use of 21st-century pedagogies in educational institutions in Nigeria. However, policy reforms, teacher training and professional development, technology integration, partnerships and research and monitoring are suggested as remedial plans to improve the use of 21st-century pedagogies in Nigerian schools.

INTRODUCTION

The 21st-century world is in a state of flux where change is not only imminent but also so fast that, there is a need for nations to be sensitive to keep pace with development in the world. These changes have brought about a shift in the mode of educational delivery due to advancements in technology, changes in societal needs, and flexibility of learning. Charalambidis (2014) informed that it has also affected the schools and the conceptualization of education in terms of teaching and learning. To however, be at par with the global change in education, new pedagogies that have the potential to influence effective teaching and learning since the 21st century has brought about significant changes in didactics and teaching methods were adopted (Bernad-Cavero&Llevot-Calvet, 2018).

According to Mandula, Meda, and Jain (2012), twenty-first-century pedagogies are the creative use of different teaching methods and learning materials for students' benefit as the situation dictates. Achieving this implies effectively combining the right contents and learning pedagogies to facilitate active teaching that helps teachers develop their students' learning abilities. These methods according to Bernad-Cavero and Llevot-Calvet, include technology integration, collaborative learning, student-centred learning, flipped classroom and gamification and game-based learning usually student-centred. The concept of pedagogy in Nigeria, as in many other countries, refers to the strategies, methods, and approaches employed in the teaching and learning process. It encompasses the

principles and practices that educators use to facilitate the acquisition of knowledge, skills, and attitudes by students.

Historically, Nigeria has a strong tradition of teacher-centred pedagogy where the teacher plays a central role in instructional delivery. This approach often involves lectures, rote memorization, and direct instruction. The approaches played down active participation and interaction among students in the class. However, in recent years, in Nigeria there has been a shift towards the use of more interactive, student-centred and technological-aided pedagogies in Nigerian schools. According to Sachou (2013), student-centred and technological-aided pedagogies aim to move away from passive and teacher-centred learning and encourage students to take more responsibility for their learning, as a result, there is an increasing emphasis on integrating technology into education. This includes the use of computers, the Internet, and educational software for teaching and learning.

Faraday, Overton and Cooper (2019), opined that 21st-century teaching methods are prescribed structured sequences designed to elicit a particular type of thinking or response to achieve specific learning outcomes. Hence, the choice and use of the appropriate teaching pedagogy can be influenced by the learning objective, the nature of the learner, the size of the class, the teacher's experience, and qualifications. Ajadi (2015) concluded that the choice of appropriate teaching pedagogy has more influence on the quality of instruction than the community instructional resources. The education system in Nigeria is gradually embracing the new and also trying to find a balance with the old to ensure that students are adequately prepared for real-world challenges and not just mastering specific skills and knowledge rather than progressing based on time spent in the classroom. However, there are potentials and challenges of the 21st-century pedagogies in Nigeria that have directly or indirectly influenced teaching and learning in schools.

This work can be hinged on Constructivist Learning Theory propounded by Jean Piaget (1896 – 1980). This is because the essence of the 21st-century pedagogy is to improve learning through active participation of the learners in the class. The philosophy of this theory according to Gordon, (2009) is that knowledge is constructed rather than innate or passively absorbed.   Piaget was a Biologist whose interest was on how organism adapts to the environment and how previous mental knowledge contributes to their behaviors. The theory emphasizes the active role of learners in building their own understanding instead of receiving information in traditional ways. The learners reflect on their experiences, create mental representations and incorporate new knowledge into their own ideas. This according to Pillay, Singh, and Yunus, (2020) promotes learning and understanding. Teachers who utilize this approach believe that the end goal of learning is to cultivate students' self-esteem and to help them achieve their goals by providing them autonomy in the classroom to explore their interests. Twenty-first century pedagogies emphasize the application of learned knowledge to practical problems. Students apply the knowledge to practical problems through practical activities, project research and experiments, and improve the practical application of knowledge and problem-solving ability.

POTENTIALS OF 21ST CENTURY PEDAGOGIES IN NIGERIA

The potentials of 21st-century pedagogies in Nigeria are vast and can significantly contribute to enhancing the quality of education and equipping students with employable skills needed to succeed in the world of work. These 21st-century teaching pedagogies are characterized by innovations, creativity, independence, skill acquisition, critical thinking, collaboration, information management, and communication skills amongst others (Hallerman, Lewis & Dresbach, 2019). The potentials are as follows:

Skills Development

The essence of skill development is to be more skilful. Skills are the cornerstone for the transformation of teaching and learning from non-technological to technological pedagogies. The *development* of *skills* can contribute to the structural transformation of pedagogies. To Hedau (2022), skill development is a lifelong process of acquiring new or improving specific skills to be more efficient and effective when a task is performed. The 21st-century pedagogies are capable of developing teaching and learning skills since their emphasis is on critical thinking, creativity, collaboration, and problem-solving skills, preparing students for the demands of the modern workforce. It focuses on building students' skill needs that will guarantee a successful transition from school to work. It also cultivates in the learners an entrepreneurial mindset by encouraging creativity, risk-taking, and innovation among students, which can contribute to economic development.

Technology Integration

Technology integration is the use of technology to enhance and support the educational environment. Technology integration in the classroom according to Consoli, Desiron, and Cattaneo (2023) can also support classroom instruction by creating opportunities for students to complete assignments using technological-aided equipment rather than the traditional pencil and paper.21st-century teaching pedagogy has the potential to improve access to digital tools and online resources which can be used to enhance the learning experience, exposing students to global information to prepare students for global competencies and adaptability in an interconnected world. Amadi and Ohaka (2018), found that integrating technology in classrooms enhanced digital literacy among Nigerian students.

Increased Student Engagement

Student engagement according to Naibert and Barbera (2022) is the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education. It may refer to students' cognitive investment in their learning, including participating and committing to their studies. The teacher in the 21st century has metamorphosed from giving instructions or imparting knowledge to facilitating learning (Ikwumelu&Ogbueghu, 2021). Hence, 21st-century pedagogies are student-centred and interactive pedagogies and as such, they can enhance student engagement and motivation, making learning more enjoyable and meaningful. Furthermore, learners are well engaging as a result of the flexible learning spaces that accommodate various learning styles during the teaching and learning process. This could involve re-arranging classrooms, incorporating collaborative work areas, and utilizing outdoor spaces for more varied and engaging learning experiences.

Collaborative Learning

Collaborative learning according to Dillenbourg (2009) is a situation in which two or more people learn or attempt to learn something together. It is the attitude and engagement that relate to collaboration between two or more individuals. *Lee and Bonk (2014)* pointed out specifically that collaboration is to increase the achievement of the collaborators as they engage in collaborative problem-solving exercises. The use of 21st-century pedagogy to teach, allows teachers to engage students in collaborative activities, support child-centred and inquiry-based learning approaches, and concentrate on helping students learn ahead of time (Okediji, 2017). The pedagogy according to

Forsythe (2014) emphasizes collaborative learning which develops teamwork and communication skills, preparing students for team activities in the world of work.

Teacher Professional Development

The 21st-century pedagogy can give birth to teachers' professional development According to Guskey,(2000) are processes and activities designed to improve the professional knowledge, skills, competence and attitudes of educators so that they might, in turn, improve the teaching and learning activities. It has to do with gaining new teaching pedagogy through workshops, seminars, continuing education and teacher's training after being appointed as a teacher to expand the frontier of teaching in the chosen field. Charalambidis (2014) while explaining the 21st-century teaching demands pointed out that teachers have to understand the creative use of ICT tools, utilize up-to-date teaching pedagogies, and intuitive assessment methods and lead and teach by example to assist 21st-century learners to develop proficiency in critical thinking, communication, problem-solving, collaboration and creativity skills. For meaningful transformation to 21st-century pedagogies, teachers must be provided with strong support systems and opportunities for professional development (Hinton2022). According to Bicaj and Treska (2014), the professional development of teachers in modern pedagogies focuses on how to use technology to improve student's achievements and how to instruct using standard-based lessons infused with technology to reshape their classroom practices.

Cultural Relevance

Culturally, 21st-century pedagogy is a pedagogy that is culturally responsive and thereby openly contributes to students' learning and experiences in class.   Ayaz (2022) posited that 21st-century pedagogy can lead to an inclusive learning environment to promote student engagement and improve their academic performance.   Students feel safer using a pedagogy that is culturally responsive and thereby openly contributes to their learning and experiences in class. It assists students in upholding their cultural identities as well as developing fluency in at least one other culture. Adaptation of 21st-century pedagogies in Nigeria with many ethnic groups with diverse cultures makes it easier to align and incorporate the rich cultural diversity of Nigeria, in engaging students meaningfully. By integrating local examples, stories, and languages into lessons, education becomes more relatable and meaningful for students, fostering a sense of pride in their cultural heritage. Stowe (2017) in Hinton (2021), state that teachers who employ 21st-century pedagogies help students to substantiate and legitimize their cultural backgrounds, including their histories, contributions, experiences, and perspectives about the curriculum.

Diverse Teaching Methods

This has to do with the use of varieties of pedagogy by the teacher to ensure learning takes place. There are students with different learning abilities in the class. Freeman, and Freeman (2013) informed that a good teacher must consider varying teaching pedagogy since the class comprises fast, moderate and slow learners. If not, some learners will be at a disadvantage while some will be at an advantage. Twenty-first-century pedagogies will assist teachers to attend to individual student differences in a way that treats them not as a problem, but recognizes them as each student's contribute to the loaded diversity of the society. Agyekum (2020) informs that this pedagogy encourages inquiry, experimentation, and innovation while Babatola (2018) posits that, in Nigeria, the pedagogies improve science and technology students' academic performance. The use of these pedagogies according toAdeolu (2017), enabled students to apply theoretical knowledge to real-life situations which fosters critical thinking, teamwork and problem-solving skills. The 21st-century pedagogies are particularly important in Nigeria with diverse religious, cultural and geographical

issues, to allow students to have access to educational resources beyond traditional classroom settings.

Economic Growth

The 21st-century pedagogies can be used to improve students' contributions to the country's economic growth. To Adebakin, Ajadi, and Subair (2015), the pedagogies can be used to develop students' employability skills and society's development. In the present day, employability skills are essential for economic transformation in a rapidly changing global landscape and crucial for the employability of Nigerian graduates. A quality workforce trained with 21st-century pedagogy can be an asset to the world in general and a nation specifically.

CHALLENGES OF 21ST CENTURY PEDAGOGIES IN NIGERIA

Education is sometimes perceived as one of the most conservative social systems and public policy fields. In some countries, innovative change has been implemented without the care and diligence needed or the appropriate prior testing, experimentation and evaluation (Badri 2013). While 21st-century pedagogies offer numerous benefits, their implementation in Nigeria faces several challenges. These challenges can have negative implications on the potential of 21st-century pedagogy in Nigeria. Some key challenges include:

Technological Barrier

This is one of the challenges preventing Nigeria from the use of 21st-century pedagogy in educational institutions. In Nigeria, there is limited access to useful, relevant and appropriate computer hardware and software, especially in located in remote areas where the use of technology is not well pronounced as an instructional medium. Many schools in that location have internet and bandwidth issues as well as old and obsolete computers. This will slow down internet speed and make it difficult to integrate technology into teaching and learning.

Teacher Training and Professional Development

The curriculum in Nigerian teacher's training institutions consists more of theoretical knowledge of the subjects that the teacher is going to teach when fully employed. The acquisition of skills to manage 21st-century pedagogy is not well emphasized. This might be because of the trainers' level of exposure to this pedagogy. It may also be a result of the level of availability of the facilities to teach the practical knowledge needed to manage 21st-century pedagogy This constitutes an issue for successful integration of 21st-century pedagogies in educational institutions. The European Agency for the Development of Education for Pupils with Special Educational Needs (2012) and Forlin (2018) concluded that teacher-training institutions must possess facilities for theoretical, and practical knowledge for teacher's-in-training to function in an all-inclusive teaching institution. The teachers on the job, in addition, have no access to professional development where they will be exposed to emerging trends in teaching.

Large Class Size

Large classes constitute a real issue in 21st-century pedagogy in Nigeria.   The class comprised students with various socio-economic and educational backgrounds. In such an environment, there will also be issues of class climate management and difficulty in maintaining and sustaining discipline. It will be difficult for instructors in many Nigerian schools to apply student-centred and participatory pedagogies because of overcrowded classrooms. It becomes more challenging to provide each student with individualized attention and to facilitate group activities in large class environments. It is challenging for teachers to use individualized and interactive teaching strategies in packed classrooms.

In addition, the facilities, needed for 21st-century pedagogy, are inadequate in many Nigerian schools such that they cannot averagely cater for the class size. Hence, it becomes difficult for teachers to design interactive and interesting learning experiences for students without these resources.

Curricular Rigidity

This is a situation where all students in the class are expected to learn at the same pace, irrespective of students' area of interest, learning styles and or abilities. The issue of the one-size-fits-all situation as applicable in Nigerian educational institutions may not be applicable where 21st-century pedagogy is to be deployed. The existing curriculum in Nigeria looks too rigid and heavily focused on examination-based assessments. This can limit the flexibility required for implementing 21st-century pedagogies that emphasize skills development, critical thinking, and project-based learning.

Resistance to Change

The changes in the educational system may encounter opposition from educators, parents, and even legislators, because of a lack of knowledge or a fear of the new. The traditional teaching methods have a strong hold on society in Nigeria, making the transition to more progressive pedagogies unlikely. So also, alternative evaluation strategies linked to 21st-century pedagogies may have encountered resistance because of the traditional emphasis on high-stakes examinations.

Limited Resources

Insufficient resources have a significant impact on the deployment of the latest teaching technology. It has to do with having to teach without the use of computers, multimedia, applications, software, platforms, games, overhead projectors, instructional materials, textbooks and even print-outs, which limits what you can do with the students in the class. This situation makes it difficult to use innovative pedagogies that enhance learning. It can also lead to poor performance in subjects like design and technology. The efficient use of pedagogies that rely on a variety of up-to-date learning resources is hampered by this shortage. One consequence of inadequate funding for education is a shortage of resources, such as modern technology, instructional materials, and textbooks which have implications for the potentials of 21st-century pedagogies.

Inadequate Monitoring and Evaluation:

Assessing the impact of 21st-century pedagogies may be hampered by improper and inefficient monitoring and evaluation systems. This may be due to a lack of necessary information to efficiently assess the performance and progress of the 21st-century pedagogy. It becomes difficult to recognize effective techniques and deal with areas that need development without adequate evaluation. There are issues with education laws that support 21st-century pedagogies, this generated issues with use. For effective implementation, policies must be converted into doable actions at the school level.

REMEDIAL PLANS TO IMPROVE 21ST CENTURY PEDAGOGIES IN NIGERIA

Several corrective strategies, including those about policy, infrastructure, teacher preparation, and community involvement, can be put into place at different levels in Nigeria to enhance 21st-century pedagogies.

Policy Reforms

The national curriculum should be reviewed and updated to reflect 21st-century skills and competencies. Employable skills such as digital literacy, problem-solving techniques, and critical thinking should be part of the curriculum. To support this, Branch, (2018) posited that hybrid and 21st-century pedagogies results will not be achieved by following the traditional curriculum. Hence,

education policy should be reformed there to allow structure that will encourage the use of modern techniques in schools.

Teacher Training and Professional Development

Employers of teachers and ministries of education at various governmental levels should organize specialized on-the-job training for newly employed teachers. There should also be arrangements to organize continuous professional development training to provide teachers with the skills needed to use various pedagogical approaches, educational technologies and subject-specific innovations. The training must cover instruction in student-centred learning, project-based learning, and technology integration.

Technology Integration

The government and private individuals providing education irrespective of location should invest more in essential technology infrastructure, computers, audio-visual equipment, and dependable internet access to allow the use of 21st-century pedagogy. This will close the digital gap between school locations. Government and non-governmental organisations should provide digital literacy training programmes on the use of modern teaching technology. This is buttressed by Wosowei (2014) who posited that utilizing modern technology and equipment will enhance the educational process and boost output. The government in collaboration with internet service providers should work on increasing the bandwidth for the country and most especially for educational institutions.

Partnerships

There should be a collaboration between the government, educational institutions, and business sectors to fund education and create harmonious town-and-gown relationships. To buttress this Ajadi and Yusuf (2021) concluded that the government alone can no longer fund education solely hence the need to encourage public-private partnerships to assist in making education accessible. The collaboration should also work on ways of using 21st-century pedagogy to produce the manpower that will be absorbed by the labour market. Professionals from the industries can assist in the areas of practical aspects of the curricula, guaranteeing that students learn skills that apply to the workplace.

Research and Monitoring

Government and supervisory ministries should promote market and institutional driving studies on 21st-century teaching methods in Nigeria. Policies and practices on research should also be refined. There should be collaborations with worldwide educational institutions and organizations to share best practices, exchange expertise, and gain insights into successful implementations of 21st-century pedagogies. To track the advancement of educational reforms, the government need to put in place reliable monitoring and assessment systems. Evaluate 21st-century pedagogy implementation regularly to assess the areas of strengths and weaknesses.

Public Awareness Campaigns

The government should launch public awareness campaigns to sensitize the general public, including parents, about the importance of 21st-century skills and modern teaching methods, highlighting the connection between quality education, the global market skill demand and the nation's development.

Teacher Collaboration Platforms

Educational institutions should develop online platforms or networks where teachers can collaborate, share resources, and discuss successful strategies for implementing 21st-century

pedagogies. Institutions should also facilitate a community of practice to foster continuous learning among educators.

Student Involvement and Feedback

School administration needs to involve students' feedback in the evaluation of teaching methods. The school as a matter of necessity create avenues for students to express their preferences, suggest improvements, and actively participate in the learning process.

Policy Incentives for Innovation

Government and international donors should introduce policy incentives for schools and educators that successfully implement innovative pedagogies. Recognition, awards, and financial incentives should be provided for teachers and institutions to encourage them to adopt and excel in 21st-century teaching pedagogies.

Community Resource Centers

The community should set up community resource centres equipped with educational materials, internet access, and technology tools for students within the community. These centres can serve as hubs for students and teachers to access resources that support 21st-century learning.

CONCLUSION

The use of 21st-century pedagogies aims to move away from the traditional teaching styles that are mostly used in Nigerian schools. The pedagogies are more student-centered and technologically supported. For schools in Nigeria to move with time and develop students' skills, increase student engagement in the class, encourage collaborative learning, and encourage teachers' professional development, there is a need for the government, and educational administrators at all levels to reform our education policies, organize specialized on-the-job training for newly employed teachers, invest more in essential technology infrastructure, computers, audio-visual equipment, and dependable internet access to allow the use of 21st-century pedagogy as well as promote market and institutional driving studies on 21st-century teaching methods in Nigeria.

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