



INNOVATION AND INTEGRATION OF MODERN PEDAGOGY AND ASSESSMENT: A PANACEA FOR FUTURE EDUCATION DEVELOPMENT IN NIGERIA

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Introduction

There is no Nation can grow beyond the quality of its education. Education is a process of facilitating learning or the acquisition of knowledge, skills, values, beliefs, habits, creativity, self-efficacy and attitude of an individual aimed at assisting him to become a contributory and useful member of the society. Educational methods include teaching, training, storytelling, discussion, and directed research. Education frequently takes place under the guidance of educators, but learners can also educate themselves. The National Policy on Education (NPE, 2013) of Nigeria outlines comprehensive aims and objectives for the educational system. These aims and objectives are designed to foster the development of individuals and contribute to national growth. According to the NPE, the following are the primary aims and objectives of education in Nigeria among others are: -

- 1) Provide learners with the necessary skills, knowledge, and competencies to contribute effectively to the development of the society;
- 2) Improve the quality of life for all citizens by promoting lifelong learning and continuous self-improvement;
- 3) Promote scientific and technological advancement by fostering a culture of innovation and critical thinking;

The realization of these aims and objectives of education is inherently centered on the effectiveness and dedication of teachers. Teachers are the cornerstone of the educational system, acting as the primary agents through which educational policies and curricular goals are actualized. They play a role in shaping the intellectual, moral, and social dimensions of students, thereby contributing directly to the development of individuals and the broader society. The responsibilities of teachers encompass the delivery of curriculum content, fostering of national consciousness, development of essential skills, and the enhancement of students' quality of life.

Teacher Education is part of the education process that deals with the process of acquiring skills in teaching profession. In Nigeria, adequate preparation is made to improve teacher education through the establishment of institutes of education as well as faculties of education in various universities to cater for effective and professional teacher education programme. In such institutions, students are trained to acquire some skills and habits that will help them become capable teachers who will shoulder responsibilities, be initiative and serves as role model to their future students.

The goal of teacher education in Nigeria includes among others, the development of



spirit of enquiry and creativity in teachers, and providing them with the intellectual and professional background that will be adequate for their classroom assignments and also make them adaptable to changing situations (FME,NPOE,2013), Section 8B (item 74) of the New Policy on Education stated that, teacher education shall continue to take cognizance of changes in the methods and curriculum and that, teachers shall be regularly exposed to innovations in their profession.

Despite the above arrangements, the efficacy of the teacher training Programmes in Nigeria to prepare teachers for the 21st century has been questioned by a number of studies (Obanya 2004, Olulube 2006 & Umeora and Jacob, 2020). This is for the teachers to meet up the demand for the 21st century teaching skills and proper assessment. Teacher- training institutions have been critiqued for their inability to produce teachers who are properly grounded in pedagogy and content as well as having ability to collaborate professionally in a working environment. Educationists observed that, the transition from academic theories in Universities to classroom practice has been a subject of concerned as teachers are not properly groomed to put into practice current pedagogy and innovative skills that have been theoretically learned. The above scenario could be as a result of inadequate funding, Infrastructural Facilities, poor capacity development for the teachers, brain drain and poor knowledge of modern teaching and assessment methods (Umeora and Jacob, 2020).

In the 21st century, the effectiveness of teachers is increasingly dependent on their ability to adopt innovations and integrate modern instructional approaches and assessment practices in classroom teaching and learning. Developed countries have been at the forefront of implementing such innovations to enhance teaching and

learning using modern pedagogical approaches.

Modern Pedagogical Approaches

It has been observed by (Agarkar 2019 and Akilu, Aliu and Lukman 2024) that in the late 19th century, educators started the integration of psychology advancement like behaviorism, cognitivism and constructivism theories into learning. Constructivist learning theories emphasizes active learner engagement, enquiry-based learning and the development of conceptual understanding. The constructivist theories were rooted in the works of Piaget (1970), Vygotsky (1978), and Brunner (1960), who emphasize active engagement enquiry-based learning and the development of conceptual understanding of the learners. Piaget's focused on stages of cognitive development, Vygotsky focus on social interaction with the zone of proximal development and Brunner spiral curriculum concept have being seen to aids knowledge constructions, cognitive development and the role of social and cultural contest which are needed by the 21st century teacher. Some of the modern pedagogical approaches includes:

Blended Learning

Blended learning combines traditional face-to-face instruction with online learning. This approach allows for flexibility in teaching and learning, enabling students to access materials and completes assignments at their own pace while still benefiting from in-person interactions with teachers and peers.

Flipped Classroom

In the flipped classroom model, traditional teaching is reversed. Students first explore new content at home via videos or reading materials and then apply their knowledge in the classroom through discussions, projects, and hands-on activities. This approach promotes active learning and



deeper understanding, promote more interactive and engaging classroom time, encourages self-directed learning and allows for more individualized support from teachers

Project-Based Learning (PBL)

Project-Based Learning involves students working on a project over an extended period, which allows them to explore real-world problems and challenges. This approach encourages critical thinking, collaboration, and practical application of knowledge, help students to develop problem-solving skills, enhances collaboration and communication and connects learning to real-life contexts

Personalized Learning

Personalized learning tailors' education to meet the individual needs, skills, and interests of each student, this approach uses data and technology to customize learning paths, providing targeted support and resources, addresses individual learning needs, improves student engagement and motivation and enhances academic outcomes through tailored instruction

Gamification

Gamification incorporates game elements such as points, badges, and leaderboards into the learning process to increase motivation and engagement. It can be applied across various subjects and educational levels, increases student motivation and participation, makes learning fun and interactive and encourages perseverance and goal-setting.

Case-based Learning

This is inquiry-based activity strategy that was observed to promote curiosity, interest, creativity and critical thinking skills of learners.

The proper use of these innovative teaching and learning approaches may

require the use of modern assessment techniques skills acquisition among the learners.

Modern Assessment Practices

Assessment is the systematic ways of making inferences about the learning and development of students/learners. Some of the modern assessment techniques a 21st century teacher can use may include: - Role Play, Group Exercise, Situated Judgment Test, Formative Assessment among others The two processes are used in the field of education very often to test the quality of teaching and learning process. This paper therefore looks at the two processes and the need to integrate them into teacher education in the face of modern method of their application in teacher education programme. Some of the modern assessment techniques includes: -

Formative Assessment

Formative assessment involves continuous feedback during the learning process to monitor students' progress and inform instructional adjustments. Examples include quizzes, polls, and peer reviews, provides real-time insights into student understanding, allows for immediate instructional adjustments, and encourages a growth mindset and continuous improvement

Competency-Based Assessment

Competency-based assessment evaluates students based on their ability to demonstrate specific skills or competencies rather than traditional grading systems. This approach ensures that students achieve mastery before progressing, focuses on mastery of skills and knowledge, allows for personalized learning paths, and ensures readiness for next steps in learning or career.

Digital Portfolios

Digital portfolios are collections of student's work that demonstrate learning



progress, achievements, and reflections over time. They provide a comprehensive view of student development and can be shared with teachers, parents, and future employers, showcase a wide range of student skills and accomplishments, encourage reflection and self-assessment, and facilitates communication between students, teachers, and parents

Adaptive Assessments

Adaptive assessments use technology to adjust the difficulty of questions based on student responses. This personalized approach provides a more accurate measure of student ability and learning needs, provides individualized assessment experiences, offers more precise insights into student performance, and adjusts to student ability levels in real-time.

Peer and Self-Assessment

Peer and self-assessment involve students evaluating their own work or the work of their peers. This practice fosters critical thinking, self-reflection, and a deeper understanding of learning objectives, encourages metacognitive skills and self-regulation, promotes deeper understanding of assessment criteria and develops collaborative and evaluative skills.

However, teachers are expected to adopt and apply the knowledge and skills acquired from their training by applying the modern instructional strategies, assessment and evaluation for the 21st century learners. Despite these there still exists some challenges with the implementation.

Challenges of Integrating Innovation in Nigerian Schools

The implementation of these teaching and assessment techniques may be affected by some of the following challenges:

Inadequate Infrastructure

Many Nigerian schools suffer from poor infrastructure, lacking essential facilities such as electricity, internet connectivity, and modern classrooms. These shortcomings hinder the implementation of innovative teaching methods and technology-based assessments.

Insufficient Training of Teachers

A significant number of teachers in Nigeria have not received adequate training in modern pedagogical methods and the use of technology in education. This lack of training results in a reluctance or inability to adopt new teaching approaches effectively.

Resistance to Change

Resistance to change is prevalent among educators, administrators, and policymakers, which can impede the adoption of innovative teaching methods and modern assessment practices.

Limited Access to Technology

Access to technology, such as computers, tablets, and smartphones, is limited for many students and teachers, which is a significant barrier to the implementation of modern instructional approaches.

Curriculum and Policy Constraints

The existing curriculum and educational policies may not support the integration of innovative teaching methods and assessments, as they tend to be rigid and outdated.

Socio-Economic Barriers

Socio-economic disparities can limit the ability of some students to benefit from innovative educational practices, particularly those from low-income families.

Conclusion

Addressing the challenges that hinder the integration of innovation and modern



pedagogical approaches in Nigerian education requires a multifaceted approach. By improving infrastructure, enhancing teacher training, promoting a culture of innovation, increasing access to technology, reforming curriculum and policies, and addressing socio-economic barriers, Nigeria can create an educational environment that fosters innovation and prepares students for the demands of the 21st century. Implementing these recommendations will lead to significant improvements in the quality and effectiveness of education in Nigeria.

Recommendations

From the foregoing discussions, the following recommendations are put forward: -

- i. Government, PTA and Alumni of every institution should improve on the provision of infrastructure that will support the adoption of innovations in schools.
- ii. Government and PTA need to invest in teacher training programmes for the acquisition of skills needed to adopt modern pedagogical approaches and technology by the 21st century teachers.
- iii. The educational policy makers should foster cultural practices, embraces change and innovation that are essential for the successful integration of new teaching methods.
- iv. Government and PTA need to provide affordable or subsidized devices to students and teachers for proper teaching and learning.
- v. Comprehensive review of the national curriculum planners to incorporate modern educational practices need to be done by curriculum planners.

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