



TWENTY-FIRST CENTURY PEDAGOGICAL APPROACHES FOR TEACHER PREPAREDNESS - A REVIEW PAPER

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Abstract:

Quality education equips a child with the needed knowledge, skills, attitudes, and values for the betterment of self and other members of society. This paper sought to explore, review, and make recommendations for using innovative 21st-century pedagogical approaches to curriculum teaching and training. Quality teaching and human resource training require the adequate provision of resources through a steady supply of finances. This survey review aims to improve the lecturers' pedagogical curriculum skills to uncover some of the underlying challenges facing university teaching staff and propose the way forward. Further suggestions and recommendations include help in resource provision which will facilitate lecturers in their pedagogical undertaking in preparing learners to implement the Competency Based Curriculum (CBC), which emphasizes digital literacy in Kenya. The outcome may provide some pedagogical insights into the dynamic curriculum. Suggestions should be adopted to address the prevailing challenges and ensure the provision of quality higher education in teaching, training, and preparing human resources.

Keywords: twenty-first century, pedagogical approaches and teacher preparedness

1. Introduction

Quality education is key to the development of any nation because human capital investment and resource development are legitimate options for economic and social policy. Innovative and digital literacy has extended the boundaries of the 21st-century paradigm shift in learning in physical classrooms and virtual schools globally. UNESCO (2010) recommended the following leading strategies for the 21st century. These included experimental learning, inquiry learning, problem-solving, values education, and appropriate assessment, to mention but a few.

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The 21st century is the age of technology use and knowledge with new scientific discoveries, information, globalization, astronautics, robotics, and artificial intelligence requiring well-prepared teachers to handle the 21st-century learner (Myamesheval, 2015). These innovations have expanded the instructional space beyond four-walled classrooms (Soldatova, *et al.*, 2015). This calls for the teaching methodologies to integrate social and digital technologies for online active interactions with the learners. Haggis (2006) asserts that with increased enrolment and the high cost of education, stakeholders in education have been raising concerns about the quality of education offered in most universities. Innovations entail methods, techniques, technologies, and new curriculum content for the new ways of instructional intersections to master educational material.

It goes along with the current ongoing implementation of the CBC curriculum, which replaced the 8-4-4 curriculum in Kenya in 2017. The curriculum emphasizes the significance of developing skills and knowledge plus the application of what the learners learn in life situations. Here, the learners' excellence is to be assessed by all-round potential but not the ability to remember or memorize what was taught in class. The learner is to be rated depending on the assessment outcome. Further technology should be embraced in learning delivery in our institutions from the Basic Education level to university. CBC has significant attributes that focus on the achievement of the learning outcomes in terms of desired behavioural change in the learner. This would enhance the utilization of institutional capacity for optimal performance and sustainability.

Education that integrates ICT tools and uses innovative delivery methods requires highly and adequately prepared human resources. Out of this background, this review paper examines the 21st-century pedagogical instructional approaches and how well the BUC and other university lecturers are preparing teachers specifically to handle 21st-century CBC learners.

Indeed, achieving the EFA targets and MDGs depends on the availability of adequately trained and qualified curriculum implementers. The reviewer concurs with Oliver (2000) that teacher training requires much room as media laboratories, especially for smaller micro-teaching groups and practicals in digital literacy. This challenge is openly displayed in most universities in Kenya. Lecturers wishing to adapt to the 21st-century innovative curricula have been limited by the appropriate resources and tools.

2. The Rationale of the 21st Century Pedagogical Approaches

Qualitative university education is perceived as being an important driving force in this century. This is the main concern of this review paper because the search for quality education has necessitated reforms in education (UNESCO, 2006). This goes with Vision 2030, which emphasizes high-quality standards and education content relevant to social needs and economic development. Therefore, the paper will review quality education and teaching as involving not only the possession of knowledge, skills, attitudes, and values in real-life situations by the learner.

This paper highlights a few of the 21st-century pedagogical approaches. The reviewer concurs with Zineb (2018) that the essential learning approaches entail Deep Learning (DL). This requires higher-order skills to deliver rich core content to the learner. It requires critical thinking, collaboration, and other 21st-century skills. Learners will get to solve the challenging societal challenges through knowledge and skill transfer. This calls for deeper learning outcomes for the learner to discover and construct knowledge.

Personalized Learning (PL) is also a new paradigm shift to tailor teaching to the needs and preferences of the child. This paper highly recommends this approach for teaching and training.

Self-Directed Learning (SDL) is an approach that requires the learner to decide to identify his/her needs, set goals, and select and embark on learning activities. The learner strategizes and monitors his/her learning progress. Such learners are highly motivated, confident, and engaging in an instructional environment. They control their knowledge-construction processes, solve their challenges, and react to a variety of circumstances.

Further, there is Social and Emotional Learning (SEL), where learning is linked to the character of the learner's attitudes and emotions. This enhances the learner's social and emotional development to grow up as a sound, moral, all-round societal productive member.

From this review paper, acquiring education is not only content understanding and getting skills for use but also wholesome preparation of the learner for future life.

The reviewer proposes other innovative pedagogical methods, as Sigala (2007) observed. Sigala emphasizes the use of social software like web applications, including blogs. According to this review paper, other methods may include Flipped Classrooms, Tactile Learning, VAK Learning, Inquiry-Based Learning, Wikis, and Competent-Based Learning.

Gamification in teaching involves using game design elements in instruction in the classroom. It makes learning fun and enjoyable so long as the teacher uses the right software tools. It allows for higher learning engagement that is learner-led, improves retention and creativity, and connects learning to the real world. Such interactive, learner-centred, flexible learning environments are usually enjoyable (Alavi,1994 & Sigala,2007). Therefore, gamification allows instant feedback and reinforcement, and learners are hooked on learning.

There is a critical need to ensure that innovative instructional methods are effectively utilized to enhance knowledge retention and massive learning experiences (Andreniki, 2022). This goes along with the CBC curriculum, which seeks to nurture every learner's potential to emphasize practical learner-centred planning as opposed to theoretical learning, which is more of a rote (Daily Nation 21st April 2022).

These review findings are congruent with those of Hietajarva and his friends (2015), who put emphasis on internet searches, group walking, and collaboration.

This is a complete reverse of traditional practices, which are characterized by the following:

- Traditional media and e-mail,

- Sequence and learnability,
- Limited textbook contents,
- Teacher's source of knowledge,
- Offline working,
- Memory memorization of what is learned.

Innovative pedagogies allow learners to actively participate in the learning process and provide them with competencies necessary for a quality life. Good quality education is an asset to society. The reviewer shares the same sentiments with Urah (2005) concerning modern learning approaches being very vital in the 21st century. These innovative instructional strategies would share the principles of connectionism and constructionism, 21st-century pedagogical approaches. In fact, change has to take effect in the CBC model that introduces inquiry-based learning in this century and beyond.

3. Significance of Innovative Pedagogical Teaching Methods

According to this review paper, these digital pedagogical approaches are majorly interactive, rich, and substantial, with the learner acquiring permanent valuable life skills to use.

- They further enhance hands-on learning activities.
- They allow learners to actively participate and explore the topic on their own while they acquire important life skills.
- They are more engaging and child-centred.
- They enable the learner to explore new topics based on their interests
- They allow for creativity and self-discovery as the learner meets challenging situations to construct knowledge and skills.

It will, therefore, enable tutors to assess learning and confirm it based on actual results. Out of this review, there is a need for new ways of teacher preparedness and training. Some programs should be reviewed to meet the 21st-century teacher professional requirements to adapt and use innovative pedagogical approaches.

3.1 Challenges Faced in the Application of Innovative Pedagogical Approaches in Teaching and Training

Several factors have impeded the uptake of the effective use of innovative teaching methods and use of ICT tools not only at Bomet University College (BUC) but in other institutions of learning in Kenya like Maseno, Kibabii, and Masinde Muliro University of Science and Technology. These entail:

- Lack of understanding and development in terms of physical facilities. This has led to the overstretching of the available facilities due to meagre and unknown governmental capitation, which is always never enough. This situation is stressful for the college management. There is a poor physical infrastructure, such as lecture halls and abolition facilities for my kitchen facilities, offices, and library room. The

government's role is to produce quality education as the best right for the child, apart from training human resources (Kenyan Constitution, 2010).

- The declining government subsidy has forced most Kenyan Universities not to meet their budgetary needs.
- A looming infrastructural setback ahead of the rapid rise in student enrollment in most higher-learning institutions.
- Overcrowded lecture theatres are witnessed in most universities.
- The stalled structures that were under construction have worsened the situation. Indeed, a lack of resources hinders the facilitation of any-place-anytime-learning (Wayala *et al.*, 2010).
- Shortage of instructional resources.
- Limited access and availability of technology. Given that most universities run their programs through a blended learning system. This paper calls for the need for adequate ICT tools, widespread internet connectivity, and appropriate learner-centred media laboratories for program implementation.
- Some lecturers lack the latest digital skills and knowledge to use modern ICT tools adequately. The 21st-century professional teacher needs these resources and services to acquire the skills of adaptability, understanding, modifying, and formulating the needed information. Therefore, capacity building is needed in the application of modern digital learning and teaching resources. This review study was set up to establish the current status of resources at higher institutions of learning and how they are impacting program implementation.
- The nature of the existing facilities and their relevance to learning and training was cross-examined. It emerged that there were overloaded curricula and programs that required decentralization with adequate human resources.
- Some lecturers may not be well versed in action research to generate data for policy to transform and improve the institution. Some trainers and lecturers may lack adequate exposure to ongoing professional development and research to be more adaptable, participatory, cooperative, and flexible in preparing learners in the 21st-century innovative pedagogies and CBC curriculum.
- Some guidelines and academic programs in some universities may be outdated, lacking emphasis on the use of 21st-century pedagogical approaches and the development of modern skills that are career-oriented currently.
- Grey hairs in the CBC evaluation policy to ascertain the strengths and weaknesses of trainees.
- Adequate, well-trained CBC staff, especially in Junior Classes in Kenya

4. Way Forward

- Lecturers should adopt and use the 21st debate pedagogical approaches in teaching and training because diverse methods satisfy and stimulate learners in many ways.

- Government capitation should be increased for universities, and funds should be dispersed promptly and reliably to enable the management to meet their budgets.
- The university management should heavily invest in resources and services that enhance digital literacy and the application of 21st-century pedagogical approaches through lectures. This should entail constructing appropriate, well-equipped ICT media laboratories, scientific laboratories, internet connectivity, library resources, office space, and lecture halls.
- Other funding sources are to be outsourced to meet the university budgets. This may include research funds donations from well-wishers and other prospects that earn thanks to the alumni association to be formed under come to assist universities such as BUC whose enrolment has escalated.
- The university councils should enhance lecturer motivation and efficacy to make them work for more hours to generate research data for solutions to society's many challenges in the 21st century.
- Lecturers should be encouraged to be emotionally mature and connect with the students and trainees as good mentors, guides, trainers, and supervisors.
- Franklin D. Roosevelt, the US President in the 1930s, had observed that *"we cannot build the future for the youth, but we can build the youth for the future"*. Therefore, it behoves us as teacher trainers to:
 - Engage in continuous professional training,
 - Embrace technology in our pedagogical processes,
 - Become effective researchers,
 - Create and embrace opportunities related to CBC,
 - Learn to understand the characteristics of the 21st-century learner,
 - Always be ready to integrate CBC into teaching and classroom instruction,
 - Enhance the application of formative assessment to evaluate learners in specific competencies.

Conflict of Interest Statement

The author declares no conflicts of interest.

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Dr. Simiyu Chililia Pius holds a Doctor of Philosophy Degree in Curriculum and Instruction, with 10 years of experience in university teaching and is currently a full-time lecturer at the Department of Curriculum, Instruction and Management, Bomet University College, Kenya. He teaches Curriculum Studies, specifically pedagogy, both at the undergraduate and postgraduate levels. He has published and authored several books and research papers on Education and Social issues linked to academic education. His research interest has been centred on education-related issues, majorly on the application of ICTs and the use of technology in enhancing instruction in the classroom. He has presented several papers at international conferences.

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