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Creative Classroom: Harnessing Pupils' Technological Abilities for National Development

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Abstract: It has become important to foster creativity in the classroom for all learners, in this 21st century where new ideas are seen as the backbone of human innovation. This change is obvious from individualized learning to collaborative learning, content-based to outcome based, mobile devices for e sharing using social networking in place of lecture notes and computer-based assessment instead of pen-on-paper assessment. This study was guided by Pavlov's stimulus and response theory and Renzulli's general theory for the development of creative productivity by providing learners with opportunities to engage in acts of learning. Creative learning can be seen as a product of collaborative learning which allows learners to work together on meaningful tasks, such as inventing, researching and creating multimedia presentation for national development. With Information, and Communication Technology (ICT), learners benefit maximally in the use of technology when used in learning. The use of learners' technological abilities makes it easier for the learners to take ownership and control their learning time, pace and content. This enhances their ability to be active and responsible for their learning. Creative learning is important in national development hence, the way forward should be to develop the will power of the learners in becoming creative and also making available technology for the learners to explore and showcase their abilities. In order to actualize the 21st century skills that will make Nigeria become relevant in global market, the tool of creativity and technology in education must be engaged. Effective implementation requires addressing challenges such as the mindset of learners towards creativity, digital divide, and embracing ICT in education. The study recommends among others that teachers should be encouraged to embrace the 21st century pedagogy and integrate creativity and modern digital technologies into their instructional strategies.

Keywords: Creative Classroom, Technological Abilities, National Development and Students

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Introduction

Teaching can be perceived as a process wherein teachers assist individuals in the formation of their own identities. The 21st century represents an era in which novel concepts are regarded as the foundation of human advancement. Fostering creativity in the classroom is essential for the development of all learners. Pellegrino and Hilton (2012) regard creativity as an essential cognitive ability that plays a crucial role in the development of children from kindergarten through high school, contributing significantly to their preparedness for college and future success. The aspiration to cultivate creativity among

learners stands as a paramount objective in the realm of education, prompting enquiries such as: what type of classrooms must we establish to fulfil this significant endeavour? Is it still widely accepted that creativity is an innate characteristic that one possesses and brings into the educational environment? Is it genuinely believed that educators possess the ability to cultivate creativity in their students? Nonetheless, in spite of suggestions advocating for the integration of creativity within educational institutions, a significant number of educators remain sceptical regarding the importance of cultivating creativity among their students, and they often lack the knowledge of effective methods to promote it within their teaching environments (Cheung, 2012 as postulated by Lasky & Yoon, 2020). Over the past seven years, scholars have determined that educators must reassess their perceptions regarding the nature of creativity they can anticipate from their students. Certain educators contend that creativity might be irrelevant in contemporary classrooms, as they perceive themselves as overly constrained by time in their efforts to adhere to curricular standards, leaving little room for creative exploration (Elliott, 2018). The significance of learners' autonomy regarding their time is crucial for the cultivation of creativity. Lasky and Yoon (2020) assert that educators encounter difficulties in applying a creativity pedagogy, primarily due to the absence of a framework to comprehend creativity within their educational environments.

Educators who hold a conviction in the creative potential of their students tend to perceive it as an intrinsic characteristic possessed by specific individuals, rather than a skill that can be imparted through formal instruction. Lee and Kemple (2014) found that educators with greater exposure to creativity-related experiences were more inclined to cultivate creativity within their classrooms. This implies that it may be predominantly those teachers who already recognise the significance of creativity who possess the ability to create environments conducive to creative expression. Creativity may be regarded as an essential component of learning and working in the 21st century, requiring a flexibility in thought and expression. As individuals articulate their concepts through creative expression, they uncover understanding, engage in learning, and evaluate their own progress. Creativity should not be regarded as an enigmatic phenomenon reserved for a privileged few, nor as an innate characteristic found only in certain individuals. Rather, it can be understood as a developmental process that can be cultivated in all learners within educational environments. Lasky and Yoon (2020) posited that an effective classroom is characterised by a teacher who embraces students' diverse thought processes, presents various options for assignments, fosters collaboration in small groups, allows for student autonomy, and enhances learning while cultivating self-confidence. This may also foster creativity in learners, which is a defining characteristic of technology in the 21st century.

Numerous transformations have already occurred in developed nations, which are now being progressively implemented in developing countries such as Nigeria. Gambari (2021) asserted that in the educational landscape of the 21st century, there has been a significant transformation from traditional structures to digital environments, shifting from physical classrooms to online or virtual classes, and moving from a teacher-centered to a learner-centred approach. This shift is also evident in the transition from individualised learning to collaborative learning, as well as from content-based approaches to outcome-based methodologies. Moreover, lecture notes are transitioning to mobile devices for electronic sharing through social networking, while traditional pen-and-paper assessments are yielding to computer-based evaluations, shifting the focus from product to process. Eya and Eya (2022) suggested that, in addition to digital education, certain educational systems fall short, particularly those that fail to promote an education focused on character, values, skills, and creativity. Education ought to transcend mere acquisition of facts; it should focus on cultivating the mind's capacity for critical thought. It is essential to recognise that

education serves not as a final destination, but rather as a means to facilitate personal, organisational, community, or national development and transformation.

The foundation of national development rests upon the educational frameworks, encompassing traditional, conventional, and digital modalities, as well as the technological competencies of its populace. The endeavours and pursuits of humanity are directed towards the construction and advancement of the nation. A significant number of conferences and workshops, conducted at local, national, and international levels, are focused on the theme of National Development. The concept of National Development is pivotal across various sectors, encompassing Agriculture, Science and Technology, politics, commerce and industry, as well as maritime and aviation, among others (Eya & Eya, 2022). According to the findings of Odoh and Eme (2014), national development encompasses the sustainable growth and advancement of a nation towards a more favourable state, characterised by robust economic structures, comprehensive infrastructure, accessible social amenities, and effective policy frameworks. The essence of national development lies in its focus on the populace, with success measured by the extent to which it enhances the well-being of the general public. In the realm of national development, the evolution of humanity, alongside the exploration and actualisation of individual creative potentials, empowers individuals to enhance their material circumstances by effectively utilising the resources at their disposal, which stands as the ultimate pursuit. The process enhances an individual's personality, and it is this refined personal creativity, structured and disciplined, that serves as the driving force behind the socioeconomic transformation of any society.

Theoretical Review

This research was informed by the principles of behaviourist theory. This theory posits that reinforcement enhances the behaviour that emerges from the relationship between stimulus and response. Pavlov's renowned experiment demonstrated that the dog exhibited salivation (Response-R) when presented with food (unconditioned stimulus - UCS) concurrently with the ringing of a bell (conditioned stimulus - CS). Subsequently, even in the absence of sustenance, the mere sound of the bell elicited a salivary response from the dog. This occurred due to the response being elicited from the conditioned stimulus following multiple pairings with the unconditioned stimulus. For example, we halt at a red traffic signal even when there is no explicit directive to do so, as the red light (CS) inherently elicits the response, thereby facilitating the process of learning. Behaviourists view learning as a systematic process involving the association of responses with stimuli, ultimately resulting in the emergence of new behaviours, such as the act of learning itself. The focus here is on the necessity of 'practice' to reinforce the connection, enabling the newly acquired behaviours (learning skills/abilities) to be executed with both speed and efficiency, ultimately solidifying them into habitual actions. For example, as one engages in the process of mastering a computer keyboard, one inevitably acquires both speed and efficiency through diligent practice. Pavlov emphasised the importance of conditioning the response (R) via appropriate reinforcements, allowing the learner to react to a neutral stimulus (S) that takes on the potency of a natural stimulus (Chris, 2016). The process of acquiring knowledge should be engaging and fulfilling. In the realm of utilising ICT for educational purposes, it is imperative to recognise that once the initial allure of the technology diminishes, students may become disengaged unless the material presented captivates their intellectual curiosity. Students may find themselves invigorated in a technologically advanced classroom, utilising computers; however, to maintain their engagement, it is essential to employ teaching methods that foster enjoyment in learning and encourage critical thinking, ultimately leading to the creation of knowledge.

This research is fundamentally grounded in a comprehensive theory regarding the advancement of creative productivity as proposed by Renzulli, J. S. (1992). This theory affords learners the chance to participate in the processes of acquiring knowledge. The theory comprises three fundamental components: the learner, the educator, and the curriculum. The interplay among these components and their associated subcomponents highlights dynamic interactions as opposed to straightforward linear relationships. The theory posits that all components must be present to a certain extent for optimal learning experiences to manifest, a claim that, akin to any theoretical assertion, necessitates empirical validation through research. The predominant body of theory and research concerning human potential has concentrated on the cognitive and personality characteristics of the learner. One need only examine the extensive array of assessments designed to evaluate intelligence, achievement, aptitude, and personality traits to appreciate the significant research and development dedicated to this facet of the learner. Certain individuals possessing the requisite elements for creative output do not inherently exhibit their capabilities in demanding contexts of identifying and resolving issues. The curriculum significantly influences the learners' capacity for creative productivity in their educational journey. In order to cultivate an effective creative classroom, it is essential to engage with lists of curricular principles that emphasise the development of thinking skills, the exploration of abstract concepts, the incorporation of advanced level content, interdisciplinary studies, thematic approaches, and a harmonious integration of content, process, and product. A number of distinguished organisations and scholars have examined the most effective methods for fostering creativity as an essential skill in the 21st century. Certain perspectives regard creativity as a teachable skill rather than an inherent quality found in specific individuals, which can be cultivated for societal advancement (Kaufman & Sternberg, 2006).

This development can be observed through the lenses of cohesion, enlightenment, financial prosperity, and widespread engagement in governance. From the preceding discussion, development signifies an improvement in the quality of life, fairness, and justice, as it encompasses the welfare, growth, and progress of individuals within the community. The younger generation plays a pivotal role in fostering peace within the economic development of nations, promoting a stable political environment, engaging in productive self-help initiatives particularly in rural areas, and facilitating connections of understanding among diverse ethnicities, political beliefs, and religious backgrounds. Their contribution is crucial to the national development agenda of any society.

In addition to the significant contributions of young individuals to national development, they encounter various challenges, including unemployment and underemployment, health issues, school dropouts, insufficient sports and recreational facilities, instances of abuse and exploitation, restricted participation, and limited opportunities for engagement in decision-making and political processes (Eya & Eya, 2022). It is regrettable that they encounter these obstacles, as they possess the capacity to assimilate new technologies and concepts and to adapt accordingly. Young individuals are often more inclined to embrace risks and are more prone to question specific norms and sociopolitical mechanisms that could be obstructing economic advancement compared to their older peers. Should the youth be sufficiently empowered and supported, the attainment of National Development will undoubtedly be expedited. Thus, leveraging students' technological competencies for national advancement significantly contributes to the establishment of an innovative and technology-driven educational environment in the 21st century.

Effect of Creative Learning on Learners Learning and National Development

Creative learning emerges from collaborative endeavours that enable learners to engage collectively in significant tasks, including invention, research, and the development

of multimedia presentations aimed at national advancement. Beghetto (2017) posited that it is crucial to concurrently evaluate the interplay among educators, students, and contextual elements in the enhancement of domain-specific creativity. This represents a significant and necessary avenue for future research for those seeking to comprehend how educators can facilitate the creative thinking and actions of their students. An innovative educational environment that fosters interaction and knowledge exchange among learners cultivates critical thinking and encourages active engagement in classroom activities. The integration of technology fosters an engaging atmosphere conducive to the pursuit of information and the acquisition of knowledge. The impact of creativity on the learning process can be significantly improved if educators receive training to incorporate creative methods into their instructional practices when facilitating student learning. This arises from the unfortunate realisation that certain educators lack the requisite knowledge and exhibit no motivation to acquire it. Szmidt and Owczarek (2020) asserted that educators have not acquired the necessary skills to foster creativity during their training. Furthermore, the standardised assessments administered to students, which also serve as a basis for evaluating teachers, fail to prioritise creativity or promote an interactive classroom environment that incorporates technology.

Effect of Technology on Learners Learning Ability and National Development

A multitude of nations worldwide have come to acknowledge the imperative of educating their citizens, particularly the youth, to ensure the sustainability and advancement of their societies. This necessitates the dissemination of essential skills and knowledge that will shape, nurture, and instill values capable of advancing national agendas for development. Consequently, leveraging Information Communication Technology (ICT) in education offers a transformative opportunity to revolutionise the educational landscape. (Chanda, 2023). The integration of ICTs in educational settings fosters a constructivist and innovative learning environment, promoting heightened engagement and enhanced accountability among learners (Chanda & Sain, 2024). Online debates serve as a structured platform for learners to examine a variety of viewpoints, express their thoughts, and participate in respectful discussions with their peers. Peter (2016) elucidates that through these interactive activities, learners not only cultivate a profound understanding of learning concepts but also refine their communication skills and technological competencies in the context of national development.

From the very beginning of Information and Communication Technology (ICT), it is evident that learners derive significant advantages from the integration of technology into the educational process. The utilisation of learners' technological competencies facilitates their ability to assume responsibility and regulate their learning duration, speed, and subject matter. It is equally intriguing, prompting learners to engage actively and take responsibility for their own education. It additionally guarantees the availability and accessibility of high-quality resources and facilitates effective collaboration; it also allows for the more efficient utilisation of dynamic media (Ogbonnaya & Ofonbulic, 2015). While the technological capabilities of learners in Nigeria face several obstacles, including inadequate internet services, unreliable electricity supply, the high expense of ICT resources, a scarcity of ICT professionals, a hesitance among educators—particularly those of older generations—to adapt, a deficiency in maintenance practices, insufficient locally developed software, and, fundamentally, poor governance.

Way Forward

The repositioning of education for National Development could be done by harnessing learners' technological abilities in the classroom thereby also creating a classroom where creativity is enhanced. Where there is will there will always be a way; hence, the way forward should be to develop the will power of the learners in becoming

creative and also making available technology for the learners to explore and showcase their abilities. In establishing an innovative classroom that effectively utilises learners' technological skills for the advancement of the nation, a solid and appropriate educational foundation is essential for achieving success. The absence of technology in education significantly limits the potential to address various challenges, particularly when the tools designed to enhance innovative teaching and learning are inaccessible across all educational tiers. According to Gambari (2021), technology impacts learners in six significant domains: performance, knowledge retention, ability levels, gender equality, learner attitude, and motivation.

Conclusion

Using technology in education helps bring to life the essential 21st-century skills that can position Nigeria as a key player in the global market, fuelled by creativity. The COVID-19 pandemic highlighted the importance of embracing digital technology in our schools. The environment within schools plays a significant role in how teachers engage in activities that foster creative classrooms. This insight could have implications for pre-service education and professional development programs for teachers, along with future research endeavours. Additionally, the study framework can serve as a valuable resource for grasping how and why it's important for teachers to nurture creativity in their classrooms and to integrate technology into the learning experience for students. To implement effectively, we need to tackle challenges like how learners view creativity, the digital divide, making sure everyone has fair access to explore their creative potential and technology, and offering sufficient training for educators to use ICT in a meaningful way. By embracing ICT in education, institutions like Early Childhood Centres, Secondary Schools, Colleges of Education, and Universities can help learners become active and informed citizens, ready to navigate and contribute to the complexities of modern society.

Suggestions

The following recommendations have been proposed in light of the aforementioned discussions and conclusions:

1. The Federal Government of Nigeria needs to improve the public power supply and ensure that all schools have access to free internet services, making it easier to integrate technology into education.
2. The government ought to provide subsidies for technologies like cell phones and computers, making them more affordable for individual learners.
3. Education ministries and boards should focus on providing opportunities for teachers to enhance their skills through sponsored study leaves, workshops, conferences, and seminars that explore new technologies for teaching and learning.
4. Teachers are encouraged to embrace 21st-century teaching methods and weave creativity and modern digital tools into their instructional approaches.
5. It's important to support learners in harnessing their creativity and in using mobile technology devices in a positive way to enhance their learning experience.

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