Nexus Between Drama, Music, and Artificial Intelligence in Teaching and Learning: Pros and Cons

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Abstract

Technological inventions induce dynamism in the world. These changes are trained into different phases of life, and education is not an exception. The emergence of artificial intelligence in various aspects of life creates vistas of development in the world. However, the field of education clinched these opportunities to advance development in her field. There are different aspects of education that artificial intelligence has positively affected. The aspect of teaching and learning requires concerted teaching methods to transform knowledge into learners. The teaching and learning are also enjoying the positive effects of artificial intelligence with different inventions like ChatGPT, transforming K-12, Computer-Assisted Instruction (CAI), algorithms, etc., which aid the transformation of learning through teaching methods. This paper focused on the relationships that exist between drama, music, and artificial intelligence in teaching and learning. This research examined concepts of teaching and learning within the context of the application of drama, music, and artificial intelligence devices. It also delves into the pros and cons of the application of drama, music, and artificial intelligence devices in teaching and learning. The research concluded that the application of drama, music, and artificial intelligence devices during learners' lessons will improve teaching and learning despite the challenges with artificial intelligence inventions.

Keywords: Nexus, Drama, Music, Artificial Intelligence, Teaching, Learning

INTRODUCTION

Technological inventions have brought innovations, improvements, and advancements to every sphere of life. On the contrary, its inventions also came with a negative impact on humanity. As the innovations and advancements positively or negatively affect humanity and their activities, the field of teaching and learning is not excepted as it takes precedence in the application of drama and music in tutoring and impacting knowledge on students, striving with the use of technological inventions to build scenarios. However, the emergence of artificial intelligence (AI), otherwise known as the industrial revolution (IR) helps creatively and intelligently to ease human work through human instructions. The application of drama and music with an artificial intelligence device could enhance teaching and learning. Alternatively, this idea could replace or stand in for the traditional application of drama and music in the teaching and learning process. It must also affirm that the application of drama and musical pieces in knowledge transmission through artificial intelligence could be adversarial. Therefore, tutors should be careful in the use of the application and also aware of its shortcomings.

The Concept of Artificial Intelligence

Artificial intelligence is a technological innovation that surfaced in the 1950s. (Ogoh & Okoye 2023, p. 2) but its formalization occurred in the 20th century (Michael, 2020, p.339). According to Copeland (1993) "it was British logician and computer pioneer, Turing that was responsible for the earliest substantial work in the field of artificial intelligence" (p. 1). Copeland (1993) opines that "Turing's stored – program concept is the possibility of a machines operating on a thus modifying or improving its own program. Turing notion is now known simply as the universal Turing machine" (p. 31). Copeland (1993) concludes that all modern computers are in essence universal Turing machines (p. 31).

The concept of artificial intelligence is enormous. Its applications and usefulness in various fields of life present it inevitable phenomenon. Its impact has been felt in many fields, including communication, medical and healthcare, engineering, military, language, purchasing and commerce, history and anthropology, religion, entertainment, and education, just to mention but few. For instance, Valenzuela et al (2024) affirm the use of artificial intelligence in consumers' expression and communication (p. 238). In the same vein, Michael (2020) informs that "the field of engineering focusing on the design and manufacturing of cyborgs, the so-called machine that man is used to

perform tasks for humans' convenience or something too difficult or dangerous for humans to perform and can operate without stopping" (p. 339). This innovation, according to him, also sprouted in the field of healthcare and medicine. The innovation assists doctors and surgeons to perform effectively and efficiently in diagnosing patient treating of patients, prescribing drugs, and performing surgery through an autonomous robot (Michael, 2020, p. 339). Michael (2020) further claims that "a recent study by surgeons at the Children's National Medical Center in Washington successfully demonstrated surgery with an autonomous robot" (p. 340). More inventions, as claimed by Michael, include: autonomous vehicles (like drones and self-driving cars), creating art, playing games, search engines (like Google search), online assistants (such as Siri), image recognition in photographs, predicting flight delays… etc (2020, p. 340)

The emergent of artificial intelligence in education can be traced to 1960s. According to Andrej and Andrija (2024), "this innovation in technology paved the way for artificial intelligent tools in education. The very first is the computer-assisted instruction (CAI) which began in the 1960s, presenting instructional material with expensive mainframe computers. As computer technology became smaller and more affordable, more schools were able to adopt CAI (p. 4). Andrej and Andrija (2024) further inform that intelligent tutoring systems emerged with the advent of desktop computers, offering tutorial programs that provided immediate feedback and tailored learning paths based on student responses (p. 3). These systems demonstrated the potential benefits of personalized learning, making technology adoption in education increasingly attractive" (Andrej & Audrina, 2024 p. 5-6). Andrej & Andrija (2024) further submit that today, there is current applications of AI in education which allows AI to transform … education by offering innovative solutions in personalized learning, adaptive learning platforms, intelligent tutoring systems, automated grading and feedback, and administrative tasks (p. 5-6). This day, many countries, including Canada, the United States, India, South Korea, China, Singapore, Finland and the United Kingdom, have embraced artificial intelligence in education to enhance personalized learning, administrative efficiency, and educational research. These countries leverage AI technologies to innovate teaching methods and improve student outcomes across various educational levels (Brendan, 2024 p. 12).

The role of artificial intelligence (AI) in the transmission of knowledge through different concerted pedagogies in the teaching and learning cannot be over emphasised. Although, traditional means of teaching has been around and also impacted on the learners but the activeness and limited time consumes with little effort to teaching and learning activities when adopt artificial intelligence

seem as inevitable and blessing to the teaching field. At this juncture, it is pertinent to understand the concept of teaching and learning.

Overview of Teaching and Learning

Teaching is the process of transmitting functional education, which involves skills, knowledge, and behavior that create permanent change in the learners. The functional education is one that allows the learners to apply the skills and the knowledge acquired over a period of training for the betterment of the individual and the learners' society. James (1994, p.23), at the Annual Conference of the British Educational Research Association in Oxford, outlines five conceptions of teaching:

1. Teaching as supporting student learning.

2. Teaching as an activity aimed at changing students' conceptions or understanding of the world.

3. Teaching as facilitating understanding.

4. Teaching as transmission of knowledge and attitudes to knowledge within the framework of an academic discipline.

5. Teaching as imparting information.

The submission of James is corroborated by Sandra & Māris who opine that "in the contemporary education both actors, i.e. teachers and students in the teaching/learning process are active but each in a different direction – the teacher is active in thinking and projecting activities for the students' active learning and students become agents of their own learning activities and processes" (2013, p. 137). In view of the above, teaching and learning is a process that involves the teacher, the students and the activities involve in the line of delivery the teaching responsibilities. Therefore, teaching and learning are integrated and cannot be separated because one flows into another in an organogram paradigm. In the same premise, Afzal & Munna define teaching and learning process as a transformation process of knowledge from teachers to students (2021, p.1). They add that teaching and learning process combines various elements within the process where an educator identifies and establishes the learning objectives and develop teaching resources and implement the teaching and learning strategy (2021, p. 1). It is therefore, underscored the point that the proactiveness of educators to priorities teaching resources with pedagogies that are students center enhances teaching and learning goals.

Learning in the other hand is the outcome of the learning objectives that the learners receive from the tutors or educators which result to permanent changes in the learner's behavior, attitudes and experiences. In tandem with the above, Sequeira opines that "Learning can be considered as change that is permanent in nature because change is brought into students by a teacher through techniques like developing specific skills, changing some attitudes, or understanding specific scientific law operating behind a learning environment (2012, p. 1). In the opinion of Skinner (1974, p. 133), "learning is the production of desired behaviors. He denied any influence of mental processes. Sandra & Māris (2013, p. 133) quickly add that the pedagogical focus of behaviorism is on control and adaptive response and they completely ignore issues of meaning. This attests that learning originates from learners' interest. Wilson & Peterson (2006) insinuate that behavioral theorists made the way for the 'cognitive revolution' which involved putting the mind back into the learning equation. Learners make sense of the world, actively creating meaning, for example, while reading texts, interacting with environment or communicating with other people (p. 26). As Branford & Cocking (2000) posit that "It is now known that very young children are competent, active agents of their own conceptual development." (p. 79). Sandra and Māris underpin the position of Branford & Cocking that "its pedagogical focus is on the processing and transmission of information through communication, explanation, recombination, contrast, inference, and problem solving" (p.134). From the foregoing, learning takes place within the experiences of learners. These experiences must occur to the learners repeatedly and it could achieve with the tutors' planned methodologies through communication, explanation, recombination, contrast, inference, and problem solving as affirmed by Sandra and Māris.

The Connections between Drama/Music and Artificial Intelligence in Teaching and Learning Canons

The application of drama and music methodology in teaching is not novel. This methodology is traditional one. It has been around even before the introduction of formal education. During the African moonlight age where the old ones told the younger ones stories of legend and allegorical, stories were told not only to entertain but to teach moral, culture, tradition, value and civilization. Although, this teaching was not formalised like what we are having now in our schools where we have those aspects named as subjects with content to be taught within the stipulated periods of time. The stories mostly accompanied with music which made them interesting. In addition to this, the elderly ones that told the stories could also encourage some of the participants to act out the story.

This is related to the play - away method adopt in teaching students in the formal educational setting. Hence, drama and music are useful methods in teaching and learning process. The two goes with each other to create interesting and fascinating learning experiences especially in the classroom. At the juncture, it becomes imperative to examine drama and music concept.

Drama is a play acted on stage. Drama within this context of teaching and learning could be a story presented on stage or classroom within a limited period from the lesson period which could serve as a methodology to practically communicate to the learners to gain a topic experience. According to Merriam Webster dictionary, drama is a state, situation or series of events involving or intense conflict of forces. Baldwin & Fleming (2003) posit that "drama performs as a medium for developing personal, development; social communication and emotional and language development" (p.10). The contributions of Baldwin & Fleming are in consonance with the fact that drama is an imitation of actions that is meant to teach, educate and entertain. Drama for teaching and learning does not in anywhere as the same in theatre performances. This is because the theatre performance accommodates some professional inputs with an ample time of rehearsals to bring the dramatic production on stage. Though, the drama performs for the purpose of teaching students also accommodates some dramatic elements that make it interesting to the students. These elements could include: music, diction, costumes, props and stories.

Music is an element of drama that creates mood and tone of the play. Music allows expression of idea through melody and rhythms. Its expression enhances listeners understanding and arrests their attention at the time of listening. In the word of Ogunrinde (2013, p. 266), "music integrates mind, body, and spirit as well as provides opportunities for self- expression, bringing opportunities for self-expression, bringing the inner world into the outer world of concrete reality, which in turn offer the avenue to "flow state" and peak" In the same vein, Suru quoted in Ikibe (2017, p. 337) asserts that "music is regarded as the art of making pleasing sounds". Ikibe quickly adds that "music is the combination of various sounds made pleasant either melodically or harmonically to the ears which come from the human voice or musical instrument (2017, p. 337). The pleasant sounds experience by the learners in the course of teaching with music engages learners to be part of the class activities and also makes them active learners.

Music is a significant part of drama. It enhances the mood of drama and helps to explain further some scenarios, lines and action to the audiences in the drama presentations. Therefore, drama and

music are integrated. Brocket asserts that in the beginning, the musical accompaniment was probably subordinated to ensure that the words would be understood (1995: 27). This connection between drama and music is an antecedent with emergent of drama during the Greek era. Brocket informs that "music was an integral part of Greek drama. It accompanied the passages of recitative and was an inseparable part of the choral and odes (1995, p. 26). In view of the above, Music does the work of tutors by simplifying lesson through an excitement situation which makes the learners develop interest in learning because every lesson goes with an exited mood.

Drama makes learning concrete and explores the cognitive aspect of learning domains. Teaching the learners through drama methodology bring the pictures of the topic or topics teaching by the teacher to be visualised by the learners. It also allows better understanding of the topic teaches by the teacher. Robbins (1988) states that "dramatic activities help students investigate a subject while finding its relationship to themselves and society; moreover, they make students counter with performance of social roles they had never experienced before, with the corresponding language and communicative styles" (p. 1-2). The use of dramatic performance in the teaching of the students makes learners' speech visible, and not merely audible, and this enhances the chances of learners' noticing, remembering, and producing the content of the lesson any time they need it. Through dramatization, the learners' interest on learning will be heightened and the broader part of the learner's brain will be opened and learning will be effective. The use of drama method in teaching the learners is traditional and conservative. Therefore, the activities involve teacher and learners which requires teacher's and learners' efforts. The method is also a time consuming. In view of the stress the teachers and learners may experience in the course of implementing the drama method, the application of a drama build with technological device may be preferable. Therefore, the application of artificial intelligence in the drama and music for teaching and learning is inevitable.

Artificial intelligence is becoming a trending device in the field of education because it has contributed in no measure to knowledge discovery and research. Artificial intelligence has significantly enhanced education and research in the past years and makes knowledge accessible for learners. Because of positive impact of artificial intelligence around the world, the government, medical personnels researchers, educationists and scholars just to mention few are working to make it useful for them in their domain. The educationists have used artificial intelligence devices in promoting and enhancing learning. Ogoh and Okoye highlight the areas covered by artificial intelligence in education. The areas include: expert system, natural language processing, speech

understanding, robotics and sensory systems, computer vision and scene recognition, intelligent computer aided instruction and neural computing (2023:34). Additionally, there are other models of artificial intelligent created to perform numerous tasks. Ogoh and Okoye quote Shubham inform that artificial intelligence models like artificial visual perception and natural language generation and speech recognition are made to take up some human responsibilities (2023, p. 7). For instance: Ogoh and Okoye insinuate that artificial visual perception generates devices that enable car like device to drive at moderate speeds on the open road and also builds a mobile robot to roam through a suite of busy offices searching for and clearing away empty soda can, serve food in restaurant, sort inventories in warehouse e.t.c . (2023, p. 7). They further add that natural language generation produces text from a computer data and speech recognition speech transcribes and transforms human speech into a format useful for computer application (2023, p. 7). Artificial intelligence no doubt has taken over some human activities as informed above.

In tandem with the forgoing discussion on artificial intelligence, technological innovation in the area of education came with the SDG millennium goal policy, SDG 4 which accelerate progress towards innovation in teaching and learning practices. According to eduction.uiowa.edu (2022, p. 1), The public release of ChatGPT in 2022 marked significant milestone in education. The ChatGPT showcasing unprecedented capabilities in natural language. This development came after the development of computer technology in 1990 with advances machine learning and neural networks. This mile stone development in education continued with the emergent of the Computer Assisted Instruction (CAI) in 1960s presenting instructional computers. This was followed with Intelligent Tutoring System with the advent of desktop computers, offering tutorial feedback and tailored learning paths based on student responses. These systems encourage personalized learning. eduction.uiowa.edu quickly adds that the current application in artificial intelligent (AI) in education is transforming K-12 education which offers innovative solutions in personalized learning, adaptive learning platforms, intelligent tutoring systems, automated grading and feedback and administrative tasks (2022, p. 2). All the above technological innovations with the gamified learning tools like Zearn, Amira and Duolinge mentioned by eduction.uiowa.edu enhance teaching and learning performances and provide easy educational administrative policy.

Application of Drama, Music and Artificial Intelligence Device for Teaching

Drama, music and artificial intelligence device encourages effective learning and opens up cognitive goal of learning through edutainment. Scientists have designed drama/musical game devices to enhance effective learning through visual participation of dramatic characters with dramatic story contents that suite the topic/topics the tutors wish to teach the students. For instance; Mateas designed an interactive drama called Façade in 2002. According to Mateas (2002, p. ii) "An interactive drama is a dramatically interesting virtual world inhabited by computer-controlled characters, within which the player experiences a story from a first-person perspective". Mateas further insinuates interactive drama concerns itself with building dramatically interesting virtual worlds inhabited by computer-controlled characters, within which the user (hereafter referred to as the player) experiences a story from a first-person perspective (2002, p. 3). This device according to Mateas represent the living, human world engaging human participants in intellectually and aesthetically satisfying interactions, which, hopefully, teach us something about ourselves (2002, p. 2). Therefore, the introduction of these games will definitely assist in giving practical and visual experiences to the leaners and make them participatory learners in the topic/topics taught with the use of games. There are other games activities that are perfect for teaching suggested by the Member of National After School Association (2025) These include:

Zip Zap Zop: This is energetic drama video game for boosting focus, reaction time, and coordination. It is excellent for teaching learners' active participation and quick thinking.

Kitty Wants a Corner: This is a drama video game to promote teamwork and non-verbal communication.

Mine Field: This video game builds trust and communication as blindfolded players navigate a minefield of random objects, following their peers' directions carefully.

Wink Murder: This game teaches learner the habits of enhance improvisation skills and encourages social interaction

Machines: In this classic drama video game, participants build an imaginary machine, which players connect to one at a time adding another sound and movement to the machine. It teaches learners creativity and awareness.

Mirror: This partner drama game player builds awareness and teamwork. They mirror each other´s actions. This game is a fun way to enhance focus, teamwork and body awareness.

Gibberish: Gibberish is the art of using sounds and utterances in place of normal speech. Participants will practice conversations with each other in an unknown language.

Hot Spot: This classic drama game teaches quick thinking. Participants make a circle and one person enters the center and begins to tell a story or sing a song, others may step in and take over if inspired.

The above games could be used in the learners' class to teach some concepts apart from the application of ChatGPT, transforming K-12, Computer Assisted Instruction (CAI), algorithms etc. Music sound verse and algorithms and AI generator such as suno, udio, Beatovon, ai soundful, AIVT and mubert (www.soundverse inc. com, 2025) could also be used to generate track that match specific topic content.

Pros and Cons in the Application of Drama, Music and Artificial Intelligence Devices in Teaching and Learning

Artificial intelligence has tremendously enhanced teaching and learning through the use of invented technological devices to aid learning. These innovations are gradually transient methods of impacting knowledge from traditional and conservative methods to modern methods. The application of drama and music games in teaching and learning does not revolves without benefits and hazards. These benefits and hazards will be discussed in this part of this study.

The application of the drama, music and artificial intelligence games makes learning interesting and free of boredom. Drama and music is center of interest to learners. They prefer knowledge that comes with creative performances because they prefer learning with pleasure. The application of this technological device allows the students participation as they will comment and response to the drama game watching with the tutor guide on the learned topics. If they were to be musical device that is used, the learners may even sing along with the video and with this, learning continues with ease.   Most learners find class activities bore sometimes and this could affect learning. With the drama/music artificial intelligence games teaching become effective and learning becomes interesting without boredom.

The use of the drama and music artificial intelligence games in teaching and learning helps in lesson's time management. If teachers were to use traditional drama method in impacting knowledge,

he will need to rehearse the drama and the music to be included in the drama with the students. This may take a week or more than to prepare the students to master their roles. But, with the drama/ music artificial intelligence games, the tutor will only set the devices to be played in the class and with such ease, the learning is taking place. Therefore, the application of these technological devices is less time consuming.

These devices will also develop the learner's communication skills. Artificial intelligence innovation has helped in providing machine-readable streams of data to convert spoken human language to a readable one. The implication of this machine is that even if drama/ musical games are not in the learners' language. The machine will convert it to learners' choice of language for better understanding of the concept to be taught.

Artificial intelligence music tools like sound verse provide faster, more adaptable work/flows in the classroom. The application of the music and drama artificial intelligence devices create a conducive environment for teaching and learning as the teachers and learners relax and watch the drama/ music games for gripping the topics subject maters.

It is paramount to quickly add that the application of artificial intelligence drama/music devices in teaching and learning has its shortcomings. The learners' closeness with each other will be gradually diminishing. The artificial intelligence will replace the needs for learners to meet face to face to rehearse the drama and music to be adopted for teaching pedagogy. It will stand in between the learners as the physical gathering will no longer be needed for rehearsals.

It may create unemployment. Sometimes, the drama and music to be presented to the learners could even be put up by professionals who earning through the performance. With the advent of the artificial intelligence drama and music, these professionals' services may no longer need.

It also reduces learners' creativity. Through the use of man-made physical drama and music presentations, some learners may discover their strength in acting, singing and the use of musical instruments. But, the advent and application of artificial intelligence drama and music devices make learners not recognising their potentials.

Conclusion

The advent of artificial intelligence in education came with numerous benefits particularly in teaching and learning. Through the application of numerous drama and music artificial intelligence

devices and games, learners' experiences become fit into the teaching purposes and concepts. They have become beneficiaries through the intertwined of AI and education as the technology advances. Therefore, by consolidating the significant of AI and apply its potential, we unlock new possibilities and improve teaching and learning through the application of artificial intelligence drama and music devices for teaching methods.

References

Andrej, C. & Andrija, B (2024). The role of AI in Modern Education. *Research Gate GMBH*. The University of Lowa. www.uiowa.edu.>blog> ro…

Afzal, S & Munna, M (2021). Teaching and learning process to enhance teaching effectiveness: a literature review. *International Journal of Humanities and Innovation* (*IJHI*). School of Business, University of Wales Trinity. London. a.munna@uwtsd.ac.uk 1. (4) 1, 1-4.

Baldwin, P & Fleming, K (2003). Teaching Literacy through drama - creative approaches. London: Routledge Falmer.

Brandford, J.D, Brown A.L, & Cooking, R.R (2000). *How People Learn: Brain, Mind, Experimence and School* (Expanded Edition). Washington, D.C. National Academy Publication.

Brendan, B. (2024). Advantages and Disadvantages of AI in Education. https://www.ucan west.ca>blog>education-carreers-tips. 7-15

Brockett, O G. *History of The Theatre* Allyn Bacon , boston London, A Simon and Schuster, USA.

Copeland, B. J. (2025). Artificial Intelligence also Known as AI. Encyclopedia Britannica. https://www.britannical.com. 1-31

Ikibe, S.O. (2017). Music as a Vital Theory in the Dramaturgy of a Play Production. *African Theatre: Studies in Theory and Criticism.* 337-345. The Department of Theatre Studies, Methodist University College Ghana & The Department of Performing Arts, University of Ilorin, Nigeria Publication.

James, D (1994). What is Good Teaching? Interpreting Students and Tutor Account of Formal Undergraduate Learning Experiences. BERA.University of Oxford.18-26.

Mateas , M, J, (2002). *Interactive Drama, Art and Artificial Intelligence.* Thesis Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy. CMU-CS-02-206. School of Computer Science Computer Science Department Carnegie Mellon University, Pittsburgh, PA 15213.

Members of the National After School Association (2005). https://naaweb.org, page>naaconvention

MerriamWebster Dictionary (2005). Meaning of Performance. https://wwwmerriam-webster.com>dictionary>performance.

Michael, C. T. (2020). The Impact of Artificial Intelligence on Human Society and Bioethics. *Izu Cha Medical Journal.* https://pmc.ncbi.nlm.gov. National Institute of Health (NIH). 339-343.

Ogoh, B.C. & Okoye, S.O (2023). Development and Trends, and Application of Artificial Intelligence to the Human Society. *Global Journal of Artificial Intelligence to the Human Society. Global Journal of Artificial Intelligence and Technology Development.* www.ijaar.org.1(1). 1-8.

Ogunrinde, D.O.A (2013). Music Education as a Panacea for National Development. *Contemporary Issues in Socio-economic and Political Development in Nigeria.* 265-267. John Archer's Publication.

Robbins, B. (1988). Creative Dramatics in the Language Arts Classroom. http://www.ed.gov/data n bases/ ERIC_Digests/ed297402.htm

Sandra, O. & Maris, P (2013). Teaching/Learning Theories-How They Are Perceived in Contemporary Education Landscape. Pre-Service and In-service Teacher Training & Learning and Teaching Style. (2) 133-138.

Sequeira, A. (2012). Introduction to Concepts of Teaching and Learning. National Institute of Technology Karnataka, Surathkal, India.

Skinner, B.F. (1974). About Behaviorism. New York. Knopf.

Wilson, S.M & Peterson, P.L. (2006). Theories of Learning and Teaching. What Do They Mean for Educators? Washington. NEA.

www.soundverse.inc.com (2025). The Roles of AI in Music and Performing Arts Education. http://www.soundverse.inc.com

Valezuela, A et al (2024). How Artificial Intelligence Constrains the Human Experience in Automation in Marketing and Consumption. Journal of the Association for Consumer Research 9 (3). https//doi.org/10:1086/730709. 235-243.