

Innovative trends in political science education: Implications for teaching government in senior secondary schools in Nigeria

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ABSTRACT

The teaching of government in Nigeria's secondary school system has been frosted with challenges resulting in poor performance of students in external examinations, and failure on their parts to imbibe the culture of social and political assets for national development. These challenges are traceable to poor motivation and a lack of innovative strategies. This paper presented analytical research on related innovative trends in the field of political science education and their implications for teaching government in senior secondary schools in Nigeria. The study adopted the qualitative research method by reviewing documents in the web of science database. It was observed that the traditional method of teaching government teachers usually adopt has been identified as one of the causes of students' poor performance in government. Conversely, the adoption of innovative strategies has been applauded as one of the ways of enhancing learners' performance in the teaching and learning experience in various subjects in developed countries. The study sought to answer the question: how could these innovative techniques be effectively implemented in government instructional delivery to enhance students' performance in senior secondary schools in Nigeria? Based on the finding that due to the differences in the ways teachers deliver their lessons in the classroom and the varying in its findings the study recommends that teachers, instructors, and intending government teachers should endeavour to incorporate the trending innovative techniques in their instructional delivery in order to boost students' performance in government and also consolidate their comprehension and knowledge retention in government.

Keywords: Government, Implication, Innovation, Nigeria, Political science education

1. INTRODUCTION

Change is the law of nature. Heraclitus the Greek seasoned philosopher (540–480), succinctly acknowledged that 'there is nothing permanent except change, culled from his perception that the order or arrangement of things in the universe is an "ever-living fire kindling in measures and being extinguished in measures" (Britannica, 2008). In other words, 'that everything is susceptible to continuous fluctuations, in spite of their appeal to sense perception' (Plato 428/427–348/347 BC). This implies that just as the tendency for changes in knowledge and technology is in constant flux, growth in education also analogously keeps up in the same direction by developing innovative techniques for improved teaching and learning. It is disheartening though that some facilitators vested with the responsibility to teach in our secondary/high school system and raise young minds are infrequently availed with innovative instructional models (Hellmann, Paus & Jucks, 2014). Consequently, teachers tend to relapse and regress to schooling their students in the manner they were schooled by adopting those instructional strategies familiar to them and deemed effective teaching methods, not minding the comprehensive abilities of the students who are actually at the receiving end (Zhu, Wang, Cai & Engels, 2013). However, the way learners acquire knowledge varies across individuals and has also changed over time, owing to a number of newer trends that have emerged and are still emerging in the field of education, which has virtually put back the facet of the predominant traditional system of education, like, the chalk and talk

method, and teacher as sage on the stage method (El-Yaqubu, 2011) of teaching among others.

UNESCO (2013) reported that ICT- information and communication technology - houses the potential to brace and sustain instructional innovations, especially with the focus on how students learn as well as the 21st- century skills it has the capacity to build. Therefore, technology in education or education technology as innovation covers various aspects of the incorporation of technology into the teaching-learning engagement with the intent to achieve distinction from usage. As such, since other nations are in a constant quest for technological tools to help their students in studying Sciences and Arts, as observed by Zhao and Frank in Serdyukov (2017), the same way it is imperative to introduce gizmos (for instance, innovation) that are capable of aiding Nigerian students who offer Government to learn the subject effectively, and also bountifully harvest the improved learning outcome from the effective implementation, hence the need to embrace the innovative trends.

As the name implies, a trend is a general tendency or direction towards change. Recent trends portray an increase in the adoption of innovations and technologies in a bid to facilitate learning. While innovativeness portrays using new methods or ideas, trend depicts a general development or change in a situation or in the way that people do things. Therefore, innovative trends in education are new methods or ideas generated by educational theorists on how to improve educational systems. This means looking beyond what is outmoded and in practice and then developing novelties to aid in the doing of teaching and learning 'job' in a novel way (Serdyukov, 2017). And the essence of innovation is to bring in something different from what used to be, either in quality or quantity or even both. For instance, the modern computer as an innovative tool is (though not a curative device) a path shaped by human agency (Lvasseur, 2012) to ease human distress. It is a kind of expansion of the frontiers of man's ingenuity (Nickols, 2011); not a surrogacy or substitution but an aid.

However, the validity of a novel technological advancement in education is dependent on empirical inquiry and pedagogic management. Innovation, therefore, must be properly made most of, to achieve a considerable transformative effect. Innovation thus requires three steps to accomplish its purpose: first is the coming up of/with a novel idea, second is the implementation of that new idea and third is the outcome resulting from the successful execution of the novel idea (Serdyukov, 2017; Brewer & Tierney, 2012). In education, innovation can assume the following trends; novel instructional theory, method of implementation, and instructional structure, such that when strictly applied, will yield the desired results in instructional delivery and improve performance. It suffices to say, therefore, that the quintessence for the introduction of innovation in education is to bring about all-round development, quality teaching, and learning, and improved academic performance (Serdyukov, 2017).

Nevertheless, the question to ask is: how could these innovative drifts be effectively implemented in government instructional delivery to enhance students' performance in senior secondary schools in Nigeria? Zhu et al. (2013) pointed out that innovative instructional delivery covers at least four sequences and capacities, namely; learning, social, educational, and technological. This implies the keenness and eagerness to impart knowledge, communicate effectively with the learners who of course have different learning abilities, the zeal and rich knowledge of the content, and the effective use of the innovation to drive knowledge to the learners. The following propositions as put forward by Sternberg and Luard (1999) would lend a hand in answering the above question:

- i. Students are their own experts in terms of learning, thus information as to how they learn best should be obtained from the students.
- ii. Listening to the students through a feedback mechanism engages them in an innovative track.
- iii. Working in teams through brainstorming about new ideas to access the knowledge on innovative practices workable among peers.
- iv. Creativity and constant upgrading through learning from one's teaching and then taking new risks (ideas) to improve.

From the foregoing, therefore, it suffices to say that giving a listening ear to students, creating the enabling environment for interactions, enhancing creativity and craftsmanship among the students, and enthusiastically presenting these instructional innovations would all conduce to foster the effective realization of the set goals. This is substantially going by the highlights of the tenets of innovation diffusion theory (IDT) by Rogers (2003) and the technology acceptance model by Davis (Davis, 1989). The innovation diffusion theory states that technological innovation embodies information and its adoption acts to reduce uncertainty. The theory defines

innovation as an idea, practice, or object that is new. It provides four main components whereby novelties can spread: **i.** the innovation itself. **ii.** The communication channels for the diffusion of information about the innovation. **iii.** The social system around the adopters/non-adopters of the innovation. **iv.** And the time it takes for people to move through the adoption process. Thus, the interactions of these components precipitate complete adoption or rejection of innovation.

Rogers (2003) argued that the interaction moves through five stages: (a) seeking knowledge about the innovation and its function. (b) Persuasion and formulation of opinion about the innovation. (c) Decision to adopt or reject the innovation. (d) Innovation implementation. (e) Finally, the confirmation stage. At this stage, reinforcement of the decision to adopt the innovation, the experience and, or benefit of usage informs the decision to continue or reject the innovation. Rogers (2003) further pointed out five attributes that qualify the above sequence: **i.** the relative advantage. **ii.** Compatibility. **iii.** Complexity. **iv.** Triability and **v.** Observability. Relative advantage refers to how much greater or less the benefits of the innovation are, compared with the alternative and how well the innovation blends with the prospective adopter(s) existing process informs its compatibility. The more difficult learn and implement an innovation (for instance, the perceived complexity), the less likely it is to be adopted.

Whereas innovations are more likely to be accepted when experimented, hence the triability, observability occurs once an innovation has been adopted and diffused across systems, such that those who previously had not thought about adopting it, change their minds or at least begin considering adopting the innovation. Hence, the advocacy for the innovative trends towards improving students' performance in government and their general learning experience in the subject is made in this study. The developed and advanced countries of America, Europe and Asia opted for innovations and have so attended their various heights in education and learning across disciplines. The adoption of innovation in the Nigerian educational system will not only shore up students' academic performance in government but will boost their general learning experience and educational achievements.

In the same vein, Davis' (1989) technology acceptance model states that it is the potential adopter's attitude and expectations of the innovation that affect the probability of its adoption. The theory has two main tenets; **i.** How easy the innovation will be when implemented (for instance, the perceptive difficulty index) and, **ii.** The degree to which the innovation will improve performance, (for instance, its potential usefulness), the theory's model-schema is represented thus:

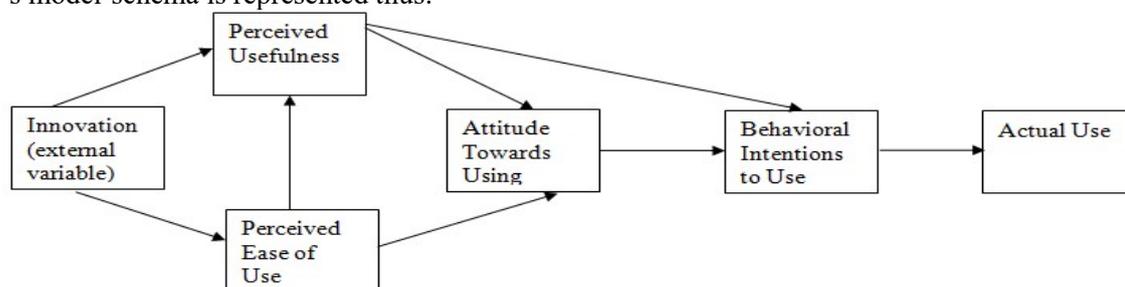


Figure 1: Technology Acceptance Model (TAM)

Source: Olushola and Abiola (2017)

In the words of Correia (2021), the perceived ease of use has a direct impact on the perceived usefulness; the easier a potential adopter perceives innovation as feasible, the greater its prospect of implementation and experience of higher performance, as there is a higher correlation between perceived usefulness and technology adoption. That is, irrespective of how seemingly easy a technology is to learn, the probability of adoption would still be low if the utility is not intrinsically convincing towards increasing productivity. Thus, the advocacy campaigns of this discourse on the innovative trends towards erasing poor performance of students in government is pertinent and paramount, as such, adherence is a sine qua none for improved academic performance and students' learning experience in government in Nigerian secondary schools.

2. RELATED INNOVATIVE TRENDS FOR THE TEACHING OF GOVERNMENT

2.1. Programmed instruction

Programmed instruction (also referred to as programmed learning) is a visual resource self-instructional technique in which the learning tasks are carefully structured according to varying difficulty levels, ranging from simple to complex, and presented to the learners sequentially, and in bits, for effective learning. Programmed instruction is categorized into the linear/straight line programming initiated by Skinner (Skinner, 1954) and branching/intrinsic programming by Crowder (Crowder, 1960). The former moves serially, according to the order of arrangement, while the latter has provision for skipping gradients. Programmed instruction takes the form of a teaching machine and programmed textbook. The former presents the learning material to a learner in a systematic order in bits, provides immediate correction to the learner's wrong responses (feedback mechanism), and then tests the learner's mastery of the content through different exercises (i.e. assessment of performance) before finally directing them on what to do next. The modern computer also serves as a teaching machine in computer-assisted instruction (CAI). The latter is a type of textbook that presents the topic to be covered sequentially from simple to complex in bit-by-bit forms called frames (pages). The presentation format of the textbook is such that it does not encourage skipping of pages (for example, linear). Programmed instruction, according to UNESCO (1972), is founded on six pedagogical principles namely:

- i. **Active participation of the students:** Programmed instruction requires the active participation of the learner in the learning process. Only when a learner has responded appropriately to a particular frame can they proceed to the next. This is converse to the traditional teaching method where the teacher is the intermediary between the students and the lesson; the students remain passive recipients of the information or ideas the teacher presents from the subject content.
- ii. **Exact responses:** Programmed instruction requires the correct response before proceeding to the next level. This engages the students to keep diligent striving to get the correct answers so as to move to the next level, thereby providing no room for discouragement.
- iii. **Immediate verification of the correctness of the response:** Learners receive immediate feedback about their responses as their right or wrong responses are immediately verified in the programmed instruction. If the learners got the answer correct, they receive immediate commendation and the courage to move on. Else, there is a provision to correct the error while the information is still fresh.
- iv. **Small steps:** The learning material is presented to the learners in smaller units that are carefully and systematically arranged, quickly and easily assimilated.
- v. **Gradual progression:** meaning that the learner begins with the simple and gradually progresses to the more complex material.
- vi. **Individual rhythm:** Learners are allowed to work at their own pace and thus, the instruction is modified to suit individual learning pace.

2.2. Computer-Assisted (or Aided) Instruction (CAI)

Computer-Assisted Instruction (CAI) is preset or automatic teaching equipment that uses the computer to deliver instruction or lessons to the learners in a way that they interact with the subject matter directly without the mediation of a human teacher. It is aimed at providing individualized instruction that will meet the special needs of individual learners. (Onyejekwe, 2009). In a CAI, every learner starts interacting with the device at a different point; taking different routes, and finishing at different times. The computer is programmed to keep records about the learners, analyses the performance of all the learners, and provides them with immediate knowledge of their results. Each learner's achievement is assessed against a given performance standard rather than against the performance of other learners (Muraina, Adeleke & Rahman, 2011; Eze & Obeta, 2006). CAI is characterized by; **i.** A learner-controlled instruction. **ii.** Learners progress at their own pace even when working individually or in a group. **iii.** It provides immediate feedback to the learners about their progress and performance. **iv.** It captures the students' attention and arouses their interest in learning by presenting information in the form of text and multimedia formats, like pictures, videos, animated creatures, speeches, and some pieces of music. **v.** It provides a multi-purpose lesson. **vi.** It has multiple users approach. **vii.** It has facilities for revisions and updating (Igweh, 2012).

2.3. Gamification

Gamification is an innovation (Pelling, 2002) that presents instruction to learners using video game design and game elements, principles, and theories that drive gameplay and apply them in learning environments to solve educational problems. It aims at making instructional delivery pleasurable, interesting and inspirational to the learners. Gamification instructional strategy uses thinking approaches, game symbols, game components and ideas in a dissimilar perspective other than the usual games to enliven, motivate and engage learners, and through that achieve a positive influence on their behaviour (Marczewski, 2013). Using the words of Kapp (2012) gamification involves using game-based mechanisms, aesthetics, and game mind tactics or approaches to keep people engaged and motivated and encourage participation in teaching and learning, both in formal and informal settings to solve educational problems.

2.4. Mind map

Mind mapping is a diagrammatic radial representation of a concept and its connective ideas from a shared centre. It presents an outline or general idea of the subject matter and avails the students the enabling environment to have a grasp of the intricacies of the lesson's topic and help them create new ideas in connection to the lesson. The mind map revolves around one main focus: the central topic, with tentacles spread out from the centre. Like nodules, each protuberance represents a subtopic with a descriptive symbol or image that is still subject to further elaborations. Unlike the concept map, the mind map has a radial structure with a central focus on one concept; the other has a tree-like structure with diverse branches and clusters connecting multiple concepts and, or ideas. A map mind is also seen as a visual graphic organizer with the main point radiating from the centre and the subtopics taking the subsidiaries. Tony Buzan, a British psychologist, propounded the map mind theory in 1974. Buzan came up with that innovation as a model for learning and memory training (Dushkova & Tsankov, 2015). Mind maps assist learners to make notes based on keywords and images, it also assists teachers to explain concepts innovatively (Piri & Lashkarian, 2015).

2.5. Flipped classroom approach

A flipped classroom is an active, student-centered innovative approach that was formed to increase the quality of period of instruction in the classroom. It provides increased interaction time between the teacher and the students, by presenting a condition in which students take their own learning responsibilities, and the teacher retains the guidance role. Flipped classroom approach is not synonymous with online videos, rather it is an interactive activity done face to face between the teacher and students (Ozdamli & Asiksoy, 2016). The approach first attracted the attention of educators in 2007 with chemistry teachers, Jonathan Bergmann and Aaron Sams from Woodland Park High School, where lessons were recorded (*LIVE*) and broadcasted online for the students that missed those lessons (Bergmann & Sams, 2014). The innovation aims to provide a sort of preparation to students for the subject before the course (Bristol, 2014). Invariably, it is meant to reverse the traditional order of instruction where lectures preceded students' activities. Thus, students are instead given homework as preparation for class, and classroom time is then spent on active learning under the teacher's guidance (Karlsson & Janson, 2016). The students prepare by self-study for the meetings in class. The preparations may consist of video presentations, reading assignments and quizzes for assessment of the independent learning. Following the students' preparation, time in class may be used to verify and reflect on the preparatory learning and clarify difficulties and misconceptions.

3. APPLICABILITY OF THE INNOVATIONS TO GOVERNMENT TEACHERS IN CLASSROOMS

The innovations as identified - programmed instruction, computer-aided instruction, gamification, mind map, and flipped classroom - will not only improve the academic performance of students in government but will also improve the teaching of government. This is of course dependent on government teachers specifically and strictly adopting these rungs of implementation peculiar to the trends:

3.1. Programmed instruction

- i. select the lesson topic(s) for instruction; this should cover all materials to be taught or the content outline as well as the task description (for example, the terminal behaviour the learner is expected to achieve)

and task analysis (the series of component behaviours the learner is required to acquire in the process of achieving terminal behaviour (i.e. instructional objectives).

- ii. ensure learners display requisite ability to understand the new programme.
- iii. the programmed material should be presented in a sequence of frames arranged in steps toward terminal behaviour.
- iv. students are to respond to programmed instruction.
- v. conduct a terminal behavioural test or performance assessment or feedback to elicit the effectiveness of instructional material.
- vi. Lastly, the programme may be revised on the basis of feedback - edited and, or modified where necessary. With the above steps, government students can teach themselves at any place and pace according to their convenience, thereby promoting the analytical thinking and self-direction needed for improved academic achievement.

3.2. Computer-aided instruction

- i. use audio-visual material to display lesson topics to enable students to have a better grasp of the lesson; this is a collaborative activity for both the teacher and students (Teng & Cai, 2021).
- ii. use a computer to display lesson(s), this will help students to transfer and share various contents (lessons).
- iii. seemingly difficult topics should be expressed clearly through sound, light, colour, and shapes on the computer such as to bring about experimental demonstration and situation creation (Teng & Cai, 2021).

3.3. Gamification

- i. assign/award points for meeting academic objectives, procedural or non-academic objectives.
- ii. have students earn points by behaving and doing their assignments.
- iii. assign students questions to learn a topic(s).
- iv. create playful barriers.
- v. create competition within the classroom.
- vi. compare and reflect on personalized performance.
- vii. use team-building games like jeopardy to study as a class before a test.
- viii. give learning and help students assume a specific perspective in learning.
- ix. pair topics that students struggle with or have difficulty grasping to encourage motivation.
- x. talk with students about what motivates them and incorporate it into the students' engagement strategies.

3.4. Mind map

- i. strictly make use of a mind mapping software tool which can access all notes, files, and education website links from within one mind map. This will help to organize, plan and teach "Government" lessons easier (Arulsevi, 2017).
- ii. build a mind map of the lesson topic.
- iii. make all dreaded assignments easier with a mind map.
- iv. have students create a mind map for homework.
- v. create discussion templates and foster critical thinking.

3.5. Flipped classroom approach

This approach is meant to replace lectures with instructional material (often a video) that students watch and interact with at home. They apply what they learn in class the next day through a variety of activities or assignments that could once have been homework, with the teacher working as a coach or guide. However, the teacher can adopt these steps to achieve this:

- i. decide how the time will be used and design the activities.
- ii. find or create resources for students to use at home e.g., readings, audio files, videos, websites, padlets among others. Make sure all students have a way to access these materials and use feedback to revise it.
- iii. teach the students how to use the materials at home. This will give the students directions as they interact with the study materials. The teacher should ensure that students are awarded some incentives for doing

the work on their own.

4. EDUCATIONAL IMPLICATIONS IN TEACHING GOVERNMENT

In the teaching-learning of government, educators are not only presupposed but also predisposed to create a conducive classroom setting for the inculcation of national values, social ethics, political orientation, and citizenship political participation in the framing of a stable political process that lend some ease to the business of leadership/governance in Society. This entails teachers and educators employing catalogued persuasive pedagogical approaches capable of impacting transformation on the cognitive, affective and psychomotor domains of the students especially in their exercise of franchise, expression of rights, voluntary services for national development and other obligatory responsibilities based on the frontiers and parameters of the curriculum. Bringing this positive behavioural change to bear in the lives of the learners implies reorienting the traditional (existing) milieu in teaching and learning, and embracing the implementation of the innovative instructional techniques under projection. Thus, to key into the innovation, the need presents it obligatory and moral for government teachers and educators to abide strictly by the tenets of the innovative trends to achieve the set goals. Some of the credible implications of the innovative trends in teaching government in secondary school include the following;

- 1. Reflectiveness:** Innovative instructional delivery keeps students minds in constant reflective imagery and inquisitiveness. It enhances students' capacity to think through issues, both as individuals or as a group, on the learning experience in the classroom, the feasibilities and otherwise. For instance, it ushers students into asking "what if?", leaving students insatiable with the status quo and prompting them to learn by discovery
- 2. Constant learning:** An innovative classroom climate never losses its attraction. Every section of the teaching-learning experience is attractive, learners are enthusiastic, creating teachable moments, packed full to the benefit of the students.
- 3. Ingenuity:** A creative classroom brings about unique solutions to daily life challenges and develops the probable explanation to tackle possible future contingencies. A creative classroom fosters innovation by encouraging students to think extensively.
- 4. Connective links:** A teacher should have good knowledge of his or her students and be prone to open-mindedness so as to be updated with the emerging innovative trends in the profession. Thus, teachers are to seek out novel techniques and technologies, implement them and encourage students to do the same.
- 5. Principles and blueprint:** Teachers endeavour to live and function on strong principles and routines, incorporating strong values to guide the classroom during instruction is vital. Teachers in an innovative classroom pass the message of encouragement, consistency, and diligence to students by establishing a lasting modus operandi for class activities.
- 6. Task seeking oriented:** Innovative classrooms actively seek out problems to solve other than anticipating one in the classroom, learning environment, and world. This is because innovation starts with .a question(s), and not with an answer. Creativity and ingenuity emerge from curiosity and inquisitive ventures about "whys" or "hows" or "wherefores?".
- 7. Collaboration and teamwork:** A collaborative classroom encourages innovation and encourages students to work in a team or in partnerships with their colleagues who might hold different beliefs, behaviour, and orientations. Collaboration and teamwork between and among students in the classroom encourage discussion and innovation.
- 8. Variability:** Innovation calls for variabilities in strategies and techniques rather than relying solely on one instructional technique to communicate a lesson.
- 9. Goal setting:** Innovation encourages learners to set tenable goals for themselves, and diligently pursue it promptly, irrespective of the volume of the goal;- large, small, or ideally moderate.
- 10. Provisions for revision:** Innovative minds take risks in recognition that, everything is subject to improvement till perfection is attained. Therefore, an innovative classroom is resilient and drives students and teachers into adaptation and improvement. Innovative learners always aspire to improve their performance.

5. RECOMMENDATIONS

It is recommended that:

1. The need for the intensification and integration of these productive international innovative learning models is highlighted. Towards eradicating students' poor performance in government, the expositions of this paper need to be treated as a matter of desideratum.
2. These transformative measures as enumerated should be diversified systematically to generate tangible effects.
3. The roles of educational stakeholders, as well as the definite intent to improve students' performance, learning skills, and attitudes, need to be considered holistically, and teaching and learning experience should be considered in these innovations.
4. Moreover, in promoting effectiveness and excellence in government instructional delivery using the trends, it is pertinent to place the modern tools within the ambit that education has to accommodate human initiative and ingenuity.

6. CONCLUSION

Necessity has birthed the call for innovation and inventiveness in education. This presupposes the introduction of novelty into existence with the aim of solving a particular problem. It is therefore of paramount importance that Nigerian secondary schools benefit from these instructional innovations so as to ensure the attainment of that desired qualitative teaching and learning experience across the curricular. To achieve remarkable transformation in the teaching and learning of government, these innovative desires demand diffusionism and copious implementation, adhering meticulously to the tenets and rungs of the projected trends without swithering and inclining towards dilly-dallying. Moreover, innovation should be construed as bits and pieces of growth and development of the teaching subject under discussion and the secondary schools in the country and even through to the society at large.

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REFERENCES

1. Arulsevi, E. (2017). Mind Map in Classroom Teaching and Learning. *The Excellence in Education Journal*, 6(2), 50–65.
2. Bergmann, J., & Sams, A. (2014). Flipping for mastery. *Educational Leadership*, 71(4), 24-29.
3. Brewer, D., & Tierney, W. (2012). Barriers to innovation in the US education, in Wildavsky, B., Kelly, A. and Carey, K. (Eds.), *Reinventing higher education: The promise of innovation*. Harvard Education Press, Cambridge, MA, pp. 11-40.
4. Bristol, T. J. (2014). Educate, excite, engage. *Teaching & Learning in Nursing*, 9(1), 43-46.
5. Correia, A.-P. (2021). Theories of innovation adoption and real-world case analyses. In *driving educational change: Innovations in action*. Retrieved from: <https://ohiostate.pressbooks.pub/drivechange/chapter/chapter-1/>
6. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 3(13), 319–342.
7. Dushkova, M., & Tsankov, S. (2015). The use of mind maps in teaching literature with the aid of information technologies. *Proceedings of Edu-learn15 Conference 6th–8th July 2015, Barcelona, Spain*.
8. El-Yaqub, I. L. (2011). The meaning and scope of social science teaching. An unpublished lecture note delivered on subject method (Edu 124) on 18th July, Department of Arts and Social Science Education, Taraba State University, Jalingo.
9. Eze, A. E., & Obeta, A. N. (2006). *Educational technology: Theory and practice*. Nsukka: Chuka Educational Publishers.
10. Hellmann, J., Paus, E., & Jucks, R. (2014). How can innovative teaching be taught? Insights from higher education. *Psychology of Learning & Teaching*, 13(1), 43-51. doi: <http://dx.doi.org/10.2304/plat.2014.13.1.43>
11. Igweh, A. U. (2012). Combined effect of computer tutorial and drill on senior secondary school students' achievement, interest, and retention in Basic Electronics in Lagos State (Ph.D Thesis, University of Nigeria, Nsukka).
12. Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. John Wiley & Sons.

13. Karlsson, G., & Janson, S. (2016). The flipped classroom: A model for active student learning. Retrieved from: http://www.portlandpresspublishing.com/sites/default/files/Editorial/Wenner/PPL_Wenner_Ch11.pdf
14. Levasseur, A. (2012). *Does our current education system support innovation?* Retrieved from: ww2.kqed.org/mindshift/2012/07/17/does-our-current-education-system-support-innovation/
15. Marczewski, A. (2013). What's the difference between Gamification and Serious Games? Retrieved from: Gamasutra: http://www.gamasutra.com/blogs/AndrzejMarczewski/20130311/188218/Whats_the_difference_between_Gamification_and_Serious_Games.php
16. Muraina, I. O., Adeleke, I. A., & Rahman, M. A. (2011). Computer assisted instruction for teaching/learning process and its effects on students' performance in tertiary institutions. *International Journal of Computer Trends and Technology*, 2(1), 15-19
17. Nickols, M. (2011). Articulating e-pedagogy for education. Open learning for an open world. In Barrett, J. (Ed.), *Reflections on open and distance learning and teaching at the Open Polytechnic of New Zealand*, Lower Hutt, pp. 321-336.
18. Olushola, T., & Abiola, O. J. (2017). The Efficacy of Technology Acceptance model: A Review of Applicable Theoretical Models in Information Technology Researches. *Journal of Research in Business and Management*, 4(11), 70-83.
19. Onyejekwe, A. (2009). Computer in education. In M. O. Ofoefuna, N. O. Nwamkpa, & A. Onyejekwe (Eds.), *Curriculum innovation and evaluation* (151-168). Enugu: Frefabag.
20. Ozdamli, F., & Asiksoy, G. (2016). Flipped classroom approach. *World Journal on Educational Technology: Current Issues*. 8(2), 98-105.
21. Piri, A. M., & Lashkarian, A. (2015). Using Mind Mapping Strategy to Improve Reading Comprehension Ability to Intermediate Iranian Student. Retrieved from: <https://dergipark.org.tr/download/article-file/713827>.
22. Plato. (2008). *Britannica Concise Encyclopedia*. Chicago: Encyclopedia Britannica.
23. Rogers, E. M. (2003). *Diffusion of Innovation* (5th Ed.). New York: Free Press
24. Serdyukov, P. (2017). Innovation in education: what works, what doesn't, and what to do about it?, *Journal of Research in Innovative Teaching & Learning*, 10(1), 4-33. <https://doi.org/10.1108/JRIT-10-2016-0007>
25. Sternberg, R. J., & Lubart, T. I. (1999). The concept of creativity: Prospect and paradigm. *Handbook of creativity*. (pp 3-5), Cambridge University Press, New York, NY. Retrieved from: <http://search.proquest.com/docview/619353383?accountid=9894>
26. Teng, Z., & Cai, S. (2021). Application of Computer Aided Innovation (CAI) in the Physical Education. Survey Analysis of Chinese Universities. *Journal of Health Care Engineering*. <https://doi.org/10.1155/2021/1328982>
27. UNESCO (1972). *Programmed instruction for technical and vocational education: A guide*.
28. UNESCO (2013), *ITL – Innovative teaching and learning research: a global look at pedagogies for 21st century skills, ICT in Education*, UNESCO, Bangkok, retrieved from: www.unescobkk.org/education/ict/online-resources/databases/ict-in-education-database/item/article/innovative-teaching-and-learning-itl-research-a-global-look-at-pedagogies-for-21st-century-skills/
29. Zhao, Y. (2017), *World Class Learners: Educating Creative and Entrepreneurial Students*, Corwin, Thousand Oaks, CA.
30. Zhu, C., Wang, D., Cai, Y. & Engels, N. (2013). What core competencies are related to teachers' innovative teaching? *Asia-Pacific Journal of Teacher Education*, 41(1), 9-27. Doi: <http://dx.doi.org/10.1080/1359866X.2012.753984>.

