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## **TECHNOLOGY OF CURRICULUM AS PANACEA TO ACTIVE LEARNING AND TEACHING FOR NIGERIAN SUSTAINABLE EDUCATION FOUNDATION**

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### **ABSTRACT**

*This Paper is a critical diagnostic review of Technology Curriculum as Panacea to active pedagogical approaches to learning and teaching for sustainable education in Nigeria with clear perception to education clarifications as process and product in the overall development of human personality of "Self". The sociocultural diversities of Nigeria is crucial for considerations with knowledge distribution in a technological rapid explosion society where scientific and digitalize global village and the implementer of curriculum operates with the digital natives and digital immigrants for active pedagogy. Distinctive application considerations were given to concepts of Technology Instructional Media characteristically with statements of utility value, categorizations, relevance, optimization and entropy of instructional media in the classroom settings. Finally, conclusions and recommendations were made for the curriculum implementer for adequate consideration to learners, environment social, cultural economic and political interest in production, selection and utilization of instructional media at all levels of education for sustainable development in Nigeria school system.*

**Keywords:** Curriculum, Instructional Media, Education, Active Pedagogy, Sustainable Development.

### **INTRODUCTION**

Education has been described by varying scholars as a training process that comes about through study and instruction it is seen as series of experiences that enable a person to better understand new experiences.

Obayelu & Ajayi (2018), expressing from the view of John Dewey, explains education as the reconstruction of event that composes the lives of individuals so that new happening



and new events become more purposeful and explains education as the reconstruction of event that composes the lives of individuals so that new happening and new events become more purposeful. Therefore for sustainable development in the Nigeria education system the curriculum structure from basic education level to tertiary education level needs urgent realignment with the ever changing global circle of technology requirements, situation of needs and wants of citizens as educational foundation should be hinged on the potential of growing commitment to the full realization of humanity which places emphasis upon the ultimate development of competence, productive,, responsible, inquiring and value judging, sensitive and compassionate personality with full realization of the concept of self.

Education curriculum in its dynamic nature needs adequate research and reassessment with the political actors actively interested with willingness to substantially increase financial budget with considerations to the social and cultural diversities of the Nigerian.

### **Technology As Panacea To Active Learning and Teaching**

For sustainable development, education should be approached as backbone of any successful society hence the Mirage of problems among youth maladjustment's and adult miscarriage of value judgment has only one solution of rethinking the curriculum in schools to adequately conform with the society expectations. The ultimate of any educational institution is to teach using tools of human and non-human so that the learners can learn correctly. Hence teaching itself is a precondition for learning. For teaching to be ineffective learning will be ineffective (Adeoluwa, 2021).

The teaching task is complex which must not be taken for granted at any level, educators already realized that the teacher is not only regarded as the only source of information with the, unchallenged and reckless distribution of knowledge to learners with the technological rapid explosion of scientific and digitalize developments in the global village, hence resulted to the existence of variety in resources, materials and equipment to supplement and or complement the efforts of teachers in ensuring active pedagogy, Ojokheta (2021).

Its' hereby emphasized that when the resources, materials, equipment, human and non-human available in the environment are used by the educators to transmit educational



information to learners, they are known as instructional media or learning materials when they are used by the students. Imogie 1997, Ajayi, 2018, Yusuf, 2020, Olumorin, 2022. For purpose of clarity instructional media are resources specifically produced, selected and utilized for the purpose of teaching focusing on objective accomplishment in an instructional environment while educational media connotes all teaching and learning resources, materials, equipment, human and non-human that carries educational content in the teaching / learning environment.

**The foregoing statements are important:**

- ❖ Utility value of instructional media
- ❖ Categorization of instructional media
- ❖ Relevance of instructional media
- ❖ Optimization options of instructional media
- ❖ Entropy and Dee-Entropyof instructional media

**Utility Value of Instructional Media**

Education for sustainable development in any nation particularly in Nigerian school curriculum should be perceived as very center to the achievement of all the 17 Sustainable Development Goals (SDGs'), Which has sustainability as its core framework and network for foundational development. It is of note that the SDGs' focuses on goal item 4 of the Nigeria SDGs' is to ensure "inclusive and equitable quality education and promote lifelong learning opportunities for all, Hence, in ensuring sustainability and relevance of learning and the outcomes of learning experiences it is paramount in the focus of Nigeria vision 2030 for education to seek rethink in the foundation of education in Nigeria as related to utility value re-appraisals of instructional media in the classroom settings.

The innovative teaching - learning system in the digital education model is characterized by a mirage of debacle in the per-day occurrences in the classroom, as their innovative teaching-learning system combines and utilizes available human and non-human materials, facilities, equipment and procedures Which interacts to achieve the expected instructional objectives for active pedagogy. Hence, there is need for a rethink in finding meaningful financial allocations and investment in the production, selection and utilization



of education for that innovative and creative learning system for sustainability rather than the piece meal allocation and use of traditional teachers to directly transmit information to learner.

It's of note that the digital learning system involves creative innovation and content / materials and methodology especially through the instructional sense organs for practical accomplishments of objectives relating to audio, visual, audio-visual and multi-media applications (Obayelu & Ajayi, 2018).

The relevance of what is taught must be established by using real - life contemporary and local examples relating them directly to theory of practice in the curriculum design to ensure that aims, concepts, learning activities and assessment parameters are consistent with goal achieving learners, learning outcomes in tandem with students future hopes and needs, hence lessons must be thoroughly flexible in planning for relevant change adaptations that may occur based on feedback loops clearly noticeable during class interactions.

### **Categorization of Instructional Media**

Characteristically, instructional media content qualify classification with relevant curricula determine the sustainability. For educational purposes in the classroom settings, hence a quality curriculum is a response to learner's learning capacities. The selection of what the teacher teaches and how teaching process is carried out help the learners make value judgment of ideas (Adeoluwa, 2021).

Clearly for sustainability the curriculum should provide the following descriptors according to Ojokheta (2021): It should focus squarely on essential facts, concepts principles, skills and attitudes that professionals and experts in the discipline value most. It direct students attention to reach a profound ideas and ensures grounding in what matters in each topic.

Curriculum should provide opportunity for students to understand clearly and deeply how essential information, concept, principles and skills work to make meaning and be useful. it guides students in understanding why, where and how to use what they learn. Curriculum engages the students effectively and cognitively, students find pleasure or at least satisfaction in what and how they learn. It places the student at the center of learning



and addresses the reality that different students will learn in different ways, at different paces and manifest different interests.

Curriculum should provide products focus: That it calls on student to transfer, apply and extends what they have learned to solve problems, address issues, create products that are meaningful and purposeful to the students. Curriculum guides students in developing their capacities as thinkers and their awareness of their capabilities as thinkers. Curriculum should place relevance to students varied experiences and lives, including gender-parity, culture, social-economic status and exceptionalism.

The technological innovations from the classifications of instructional media engender a multi-faceted approach to it, hence the focus on the curriculum relevance of categorizations to include but not limited to: Hardware, software, equipment, materials, consumables, audio, visual, audiovisual, printed, projected, non-projected, commercially produced, teacher produced, improvised, low cost, realia, display materials, graphic materials, electronic, non-electronic e.t.c.

#### **Relevance of Instructional Media:**

The inherent usefulness of instructional media in Pre-primary, secondary and tertiary educational institutions has continued to propel curriculum Planners, Implementers, Adopters and even the Diffuser to indicate interests and its' utilization process to improve effective teaching and learning. Instructional media stimulates the learners through the auditory and visual application controls and other sense organs for learning. Akinoso, (2023).

In the digital globalization age, Nigeria cannot afford to lag behind in using instructional media potentialities to raise the intellectual and creative recycling of resources of citizens to minimize wastage, this is particularly important for learners whose adulthood will blossom in a cyber-environment entirely different from what exists presently. This sustainability of curriculum in world digital technology based learning is therefore more effective when it occurs in an interactive setting that is mostly promoted through its use. By actively involving the instructional media teachers who can control the size of visual image and the amplitude of sound, motion rates or even show remote inaccessible facilities in space and time. Ajayi (2017) corroborates Onasanya, (2012). The basic assumptions on the



potential contributions of media to general principles of learning and psychology as its ability to: Provide increased interest in learning, Uphold learner's attention, Reinforce verbalization techniques, Provide increased direct interaction of learners with realities of their social and physical environments, engender acquisition, retention of factual knowledge and promote independent and individualized learning.

Instructional media relevance to teacher provides means for extending students creative horizons of experience, source of information availability, assist teachers to overcome physical differences of presenting subject matter contents, Multiplicity of teachers efficiency by providing tutorial stimuli and guidance responsiveness for individual needs and also provide opportunities for objectivity and on a controversial subject matter contents.

Furthermore, instructional media in a learning and teaching system can be used to relieve monotony, provide continuity, foster divergent thinking, invite, tease and show interrelationships to summarize and evaluates learning and teaching pedagogues (Ajayi, 2023).

### **Optimization Options of Instructional Media**

The utility value ascribed to the categories and relevance in application of instructional media benefits in their learning and teaching environment for effective service delivery have been succinctly enumerated in that, which includes the processes of **design**, **selection** and **utilization** focusing on **objective** accomplishments. hence for adequate optimization of instructional media the following criteria should be considered to determine the quality and quantity of any categories of instructional media to be produced, selected and used in teaching -learning settings. The characteristics of appropriateness as related to curriculum/ syllabus, unit of instructional plan, daily lessons preparations suitable for a particular age grades, the freedom from bias, prejudice and truthful distractions with current innovation reflections of thoughts are elements of good instructional media.

The system approach to instructional strategies in selection of media for the purpose of teaching and learning should be guided by the following: The task which indicates a strategic instructional objectives and activity based learning. the learners age, gender,



socioeconomic status, intelligence quotient with physical abilities/ disabilities. The quality and quantity of selection and utilization of instructional media in the teaching process.

The cost effectiveness and cost benefit of production, selection and utilization of instructional media. The instructional mode to be used should influence choice of production, selection and use of resources available focusing on the objectives as regards size of learner group, interaction stimuli required, drill-practice and self-study considerations are to be given to availability of personnel with relevant skills and equipment appropriateness.

For adequate optimization of instructional media there must be a corresponding utilization actions to support the desired instructional efforts with focus on:

- Pre-planning and self-preparation to obtain, select and preview instructional media with reference to lesson content and objectives.
- Prepare the site with material and equipment setting.
- Learners readiness to follow sequence of the instructional process.
- Utilization of media to teach with commentaries.
- Effective evaluation for follow up activities on objective pre-stated.

#### **Entropy and Dee-Entropy of Instructional Media for Sustainable Development:**

In considerations to the numerous potential benefits that stands out instructional media in the teaching-learning process. The inherent innovations appear not to have been effectively integrated into the curriculum implementations in Nigeria school system. The debacle may not be unconnected to what to use, where to get what to use and how what is even available can be used actively in the classroom settings. Focusing essentially on the class objectives, therefore for sustainability of education foundation in Nigeria it is paramount to develop a curriculum for social, economic, cultural, political and technological development crucial in shaping individual and collective knowledge, skills, values, re-orientation and pragmatic attitude change to move along pathways towards sustainable development as a major catalyst for all round education development which should not be limited to the following:



-sustainable education foundation curriculum as key determinant for social and economic rejuvenation to provide an equal opportunity and playground for all at all levels.

-sustainable educational curriculum that would increase economic growth and allow to 'eradicate poverty'.

-curriculum reformation that would equip receivers of all ages with the relevant knowledge, skills, values and attitudes needed to be a responsible digitized global citizens in all spheres of human endeavour of rights, gender parity and environmental friendliness sustainability.

-a curriculum to serve as a pre-cursor to global peace, tolerance in conflict resolution to improve the socio-economic prospects of the Nation (Elfert, 2015).

Hence, the merits in concluding part of the reports on the importance of quality and sustainable education to national development, Elfert (2015) in education 2030 made the following declarations and framework for actions: 'Towards Inclusive and Equitable Quality Education and Lifelong Learning' i.e Quality and sustainable education should foster creativity and knowledge that would ensure the acquisition of the foundational skills of literacy and numeracy as well as analytical, problem solving and other high level cognitive, interpersonal and social skills. It should also develop the skills values and attitudes that enable citizens to live healthy and fulfilled lives, make informed decisions and respond to local and global challenges through sustainable education curriculum development and global relevance of citizenship education to achieve the pre- and post sustainable education development agenda.

Furthermore, the debacle of misconception on the utilization of instructional media in the school setting include:

-teachers monopoly of knowledge and its transmission that the media are meant for entertainment and social interactivity as erroneously corroborated by uniformed school administrators.

-misplaced and misappropriation of meagre financial allocations to procure equipment and resources occasioned by poor and irregular funding. Though, the TETFund is standing-in for the missing gap paradoxically in geometric but bureaucratically.





-the inability to consult and use local resources with consideration to socio-cultural, economic and political relevance of the immediate community philanthropies and organization.

-implementers workload and the influence of the tradition mode of the instructional system.

-the evaluation options continue to rely on paper and pencil oriented approach in the teaching/learning process of various levels.

-the human capital development for professional and technical staff to maintain, manage and utilize the equipment and facilities available creatively.

### **Conclusion and Recommendations:**

This paper have critically examined technology as panacea to curriculum rejuvenation to consider the immediate needs of the learners, community, social, cultural, economic and political benefits of instructional media for effective service delivery in Nigeria.

The curriculum implementer s and social reward system and probity support technical and administrative staff needs considerations for progression and activity, ensured safe environment as key factors for creative productivity, in the production, selection and use of instructional media with respect to the curriculum innovations, for sustainable education development in Nigeria.

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