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INTEGRATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN NIGERIAN EDUCATIONAL SYSTEMS: CHALLENGES AND OPPORTUNITIES

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ABSTRACT: *These days, the job of Information and Communication Technology (ICT), particularly the web in the training area, assumesa significant part, particularly during the time spent engaging innovation in instructive exercises. The training area could be the best area to prepare for and wipe out the adverse consequences of ICT. Then again, innovation (theweb) can be the best method for expanding the understudy's information. Monitoring the critical job of ICT (web) in our lives, particularly in instructive exercises, training specialists should be savvy to the point of executing methodologies to enable ICT to support the educational and learning process in the homeroom. ICT isn't simply the sprout of instructive exercises, but in addition, the auxiliary choice to work on viable and significant instructive interaction. The training area is confronting many difficulties these days. We experience a daily reality in which continuous changes happen in all areas. The greatest example is the crown pandemic. Who realized that this could likewise occur? The Coronavirus has changed the entire world. Because of the lockdown, everybody is telecommutingonline. Understudies, instructors, and all are trying sincerely so that learning proceeds. Schools are currently acknowledging the advantages of ICT to convey information and data to kids. ICT has turned into a centerpiece ofthe educational learning process. It has supplanted slates with whiteboards and executed the utilization of an advanced smartboard for instructing.*

Keywords: Education, ICT, Teaching and Learning, Online, Nigeria.

1.1 INTRODUCTION

Education and training assume a superb part in the public arena's lives. One of the most encouraging ideal models for schooling is electronic learning (e- learning). E-learning can be characterized as "all typesof electronically supported learning and instructing, which are procedural and expected to influence the development of information concerning individual experience, practice, and information on the student." Information and correspondence frameworks, regardless of whether organized, fill in as explicit media (explicit in the sense explained already) to carry out the learning system. " In recent years, there has been significant interest in e-gaining from many individuals in the field of schooling, particularly thosein the advanced education area [1].

Information is the basic determinant of seriousness in the global economy given common globalization and quick mechanical change. The public authority perceives the critical job of schooling towards theachievement of practical turns of events and has madesubjective training one of its key core interests. Hence, the acknowledgement of the National Vision and the Sustainable Development Goals (SDGs) isattached to schooling abilities with specific applications; mix into existing educational plans; curriculum changes connected with its utilization (remembering changes for informative plans); changes in educator job; and support instructive hypotheses [2], [3]. Attainment of qualitative education requires improvement in teaching, learning, and educational administration. This in turn requires the integration of ICT into education education [1], [2], [4], [5], [6].

Information and communication technologies have been helpful devices in education for a long time. The utilization of technology in evaluation started during the 1920s when Sidney L. Presses structured machines for programmed testing. Also, simultaneously, the schools began to utilize standardized appraisal and programmed scoring technology, which helped to make large-scale testing advantageous and savvy [6]. A monstrous change in numerous parts, especially in training, happened whenthe World Wide Web was introduced during the 1990s. From that time onwards, numerous organizations presented their ICT-based assessmentframeworks [5], [7], [8], [9].

By and large, ICT holds the chance to change academic techniques, increase admittance to quality schooling, and work on the administration of school systems World Bank cited in [10]. Sadly, in Nigerian homerooms, conventional examples of teaching and

learning have not been moved along. The conventional techniques for showing being embraced by optional teachers in Nigeria depend on an objectivist epistemology that has been blamed. It is time to take on a cutting edge approach to educating and discovering that is embraced by all created and emerging nations on the planet. Thus, the world is quickly turning into a worldwide town [8]. This has prompted the rising change of instructing and learningassets, which currently incorporate the utilization of PCs, minimal circles, computerized video plates, (DVDs), satellite correspondence, and the web. Effective reconciliation of ICT into the educational system relies to a great extent upon the accessibility and ability of instructors toward the job of present-day advancements in educating and learning [7], [10].

2.1 THE CONCEPT OF ICT

ICT alludes to the craftsmanship and applied sciences that arrangement with information and data. It incorporates all gear, including computational apparatus (PCs, equipment, programming, firmware, and so on, devices, strategies, rehearses, processes, systems, ideas, standards, and technical studies) that become possibly the most important factor in the lead of data exercises: obtaining, portrayal, handling, show, security, trade, move, the executives, association, stockpiling, and recovery of information and data [5], [7], [8], [9], [11].

ICT is a truncation that signifies "Data and Communication Technologies." ICTs are an umbrella term that fuses all developments for the control and correspondence of all advanced data. ICT thinks aboutevery one of the jobs of automated advancement that exist at this point to help individuals, organizations, and establishments. It is challenging to depict ICTbecause it is hard to stay aware of the developments that happen so quickly [8], [11]. ICT is a concern concerning, as far as possible, the recuperation, control, and transmission of automated data. it can be depicted as the handling and correspondence organizations and features that contrastingly support training, learning, and the extent of schooling [1], [2], [4], [12], [5], [7].

2.2 ICT IN EDUCATION IN NIGERIA

Information and Communications Technology (ICT)has quickly turned into an omnipresent piece ofindividuals' regular routines, whether through directconnections like perusing the news, making buys,trading messages, covering bills, taking courses, orbecause, even without being immediate clients ofthese advances, their lives are impacted by theirpresence, for instance, in regions like innovativeagribusiness, hereditary qualities, monetaryadministrations, or transportation [5], [7], [11], [13]. Propels in Information and Communication Technology (ICT) have transformed the world into a worldwide town and are changing the world economy, introducing difficulties that were until recently unthought-of. Nigeria tries to accomplish a supportable turn of events and improve worldwide intensity, a status that requires advancements, particularly in theimprovement of human resources [13].

There is no repudiating the way that ICT has turned into the sine qua non of achieving these. Teachers and strategycreators alike concur that ICT is foremost to the fateof schooling and that effective commitments to meeting the Sustainable Development Goals (SDGs) are probably going to be made by ICT in education. That attention on [2], [8]:

- Preparing instructors and mentors since enormous quantities of educators/coaches will be expected to meet the public vision and SDGs for schooling as well as give valuable chances to supplement hands-on preparing and proceeding with training forinstructors/coaches;
- Expanding access through distance advancing as ICT can give new and imaginative means to carry instructive open doors to more noteworthy quantities of individuals, everything being equal, particularly the individuals who over the years have been avoided, for example, populaces in provincial regions, ladies confronting social hindrances and individuals with inabilities;
- Upgrading the proficiency and viability of instructive organization and strategy as new advancements can assist with working on the nature of the organization including human assets the executives, understudy enlistment and observing of enrolment and accomplishment.
- Making an information network for studentsgiven the way that data has a critical contribution to the useful cycles inside the present economy. The proficiency by which data is obtained and applied decides monetary achievement, and the compelling utilization of ICT can add to the ideal transmission of data, subsequently helping schooling systems toaddress this difficulty [13], [14], [15].

2.3 EFFECTS OF SCHOOL CULTURE ON ICTADOPTION

To investigate educator impression of school culture connected with the degree of ICT utilization, Tezci cited in [13] inspected Turkish instructor discernments from both specialized and persuasive viewpoints. The outcomes showed that their discernments according to the two points of view were not positive, because the greater part didn't accept that they would get satisfactory specialized andpersuasive help from their school. Nonetheless, as the school culture turned out to be more certain, the instructors' ICT use level expanded.

Ward and Parr cited in [5], [7], [8] expressed that educators need to feel sure about their capacity to work with understudy learning with innovation to coordinate innovation in their study halls. To accomplish this objective, more expert advancement is expected, with an emphasis on expanding educators' abilities so they can defeat fears related to utilizing innovation. Further, new showing approaches and specialized help ought to be presentedby schools to permit them to hold control while working with learning with PCs. Generally speaking, carrying out successful instruction with innovation coordination requires changes in instructors'information, convictions, and school culture Rumer et. al cited in [5], [7], [13].

2.4 TEACHER PERCEPTIONS, ATTITUDES, ANDCONFIDENCE IN ICT UTILIZATION

As stated in the article, internal factors have a significant impact on how teachers coordinate creativity in the classroom [14]. However, whatever elements have a strong impact on ICT usage and how ICT arrangement strategies affect internal factors are examined [5], [13]. Palak and Walls undertook a mixed-methods study to see if instructors who occasionally coordinate innovation and work in innovative schools move their beliefs and actions toward a student-centred perspective. The findings revealed that their procedures remained unchanged; neither understudy nor educator convictions were strong markers of practices. Educators' attitudes toward innovation, on the other hand, predict the use of technology by both teachers and students, as well as the use of a variety ofinstructional techniques (p 0.05). Sang et al. cited in [5]. The impact of Chinese understudy educators' orientation,

constructivist exhibiting convictions, showing self-viability, PC self-adequacy, and PC mentalities on their impending ICT use was investigated. The findings backed by Palak and Walls'claims about the concentrate's effects cited in [5] revealed educators' attitudes toward ICT were the most reliable predictor of future ICT use [14], [15].

3.1 CURRENT STATE OF ICT IN EDUCATION

The Federal Ministry of Education is accused of strategy detailing, checking of execution, and setting and keeping up with principles in the Nigerian training area. Nonetheless, the Constitution putsinstruction on the Concurrent Legislative List, making training a common obligation of the bureaucratic, state, and local legislatures. In this manner, while the approach and guidelines as to ICT in instruction are the obligations of the Federal Government, theexecution of ICT in schooling lies intensely with the state and nearby legislatures [2], [14], [13]. ICT involves an exceptionally essential spot ininstruction in the country. This is typified in the Ministerial Strategy Plan: Education for Change and in a progression of drives and techniques designatedat incorporating ICT into schooling [2].

3.2 ICT-ENHANCED EDUCATION

A) **Enriching**:

- ✓ The person's cooperative scholarly cycles, individual encounters of investigation and revelation, as a component of the quest for the fact of the matter, are advanced;
- ✓ Expanded openness to data is incited. For instance, the Internet gives admittance to a lot of data, media, and correspondence, and if the understudies/students have PC and web access, tasks, exercises, evaluations, sight and sound, etc. can be given over the web and finished anyplace, accommodating a more extensive scope of informative open doors for any time, any place, anyway, and any speed of learning.

B) **Universally Accessible**:

- ✓ Considers an assortment of understudyqualities, including nationality, race, capacities, incapacities, age, orientation, language capacities, and favoured learningstyle.
- ✓ Utilizes proactive and comprehensiveapproaches to educating and planningcourses and educational programs.
- ✓ Boundaries to learning are eliminated before they can influence anybody.
- ✓ Distinguishes and communicates the fundamental course happiness, while perceiving that understudies can communicate comprehension of thefundamental course satisfied in more than one way.
- ✓ Scholastic meticulousness isn'tcompromised.
- ✓ Is steady with generally perceived standards of a good education.

C) **Inclusive**:

- ✓ All understudies, including those with special needs, are invited to age-appropriate, traditional classes and encouraged to learn, contribute, and participate in all aspects ofthe school's existence.
- ✓ Schools, study halls, projects, and exercises are designed and planned so that all understudies, including those with special needs, learn and participate together.

D) **Empowering**:

- ✓ Educators and mentors use innovation to help all learners across the educational plan, working as mentors, tutors, supporters, and supervisors of data;
- ✓ The instructors and coaches are changed, through innovation, from power specialists tofacilitators, directing the understudies/students to utilize innovation to find answers on the web.
- ✓ The understudies/students are enabled to observe their responses, making the learning system substantially more intriguing.
- ✓ The informative collection is extended, permitting open doors for sight, sound, and intuitiveness that is inconceivable with more customary educational strategies.

3.3 OBJECTIVES OF ICT IN EDUCATION INNIGERIA

The targets of ICT in training are [16], [2]:

- ✓ To advance the commercialization of ICT in training,
- ✓ To create and uphold a specialized foundation that amplifies computerizedimagination, sharing, and development.
- ✓ To work with the education and learning processes.
- ✓ To advance critical thinking, decisivereasoning, and inventive abilities.
- ✓ To advance deep-rooted learning and advance information.
- ✓ To upgrade the different instructing and learning methodologies expected to address the issues of the populace.
- ✓ To encourage innovative work.
- ✓ To help create a successful and effective schooling organization.

3.4 CHALLENGES OF ICT INEDUCATION IN NIGERIA

Despite the benefits of using ICT in the homeroom having been demonstrated in previous research, there are obstacles or problems associated with its implementation [5], [16]. The execution of ICT ininstruction is tormented by many challenges [2], [15]. These incorporate the accompanying:

1) Institutional and Administrative Capacity: Although the limited work of educators in ICT is being done, a decent number of instructors are as yet not capable of ICT. There is, additionally, a deficient pool of ICT experts in the area. These shortcomings are compounded by the lack of an ICT foundation for instructing, learning, research, and instructive organization in certain establishments challenges [15].
2) Content Creators: Content creation is a crucial area that is frequently overlooked. The heft of existing ICT-based instructive material is probably going to be in English or of little significance to training in non-industrial nations

(particularly at the essential and optional levels) [16].

3) Efficiency and Viability in its Utilization:Instructors, teachers, and educators are more concerned with productivity than adequacy when they take on ICT in schooling. Subsequently, ICTis utilized to make their positions simpler as opposed to making learning more successful. Subsequently, the instructing/learning process hasnot embraced the current instructive worldview, which stresses understudy focused guidance with the instructor as the facilitator rather than the educator as the wellspring of information [17].
4) Technical help trained professionals: Specialized help experts, whether provided by in-school personnel or outside specialist co-ops, or both, are critical for the sustained success andrationality of ICT use in a given school. While a foundation's specific help needs vary depending on what and how innovation is delivered and used, broad talents in the setup, operation, and maintenance of specialist equipment (including programming), network organisation, and organisation security are all necessary. Without on-site specialist assistance, specialised breakdowns could cost you a lot of time and money [16].
5) Equity issues: There is an incredible polarity among metropolitan and country schools as well as between public and non-public schools concerning the accessibility of their ICTworkforce and assets. Metropolitan schools and tuition-based schools will generally have moreICT workforce and assets as well as power supply [16], [17].
6) Regulation: IT Schooling, particularly in the non-formal instruction sub-area, is still, to a great extent, non-normalized, ungraceful, and unaided. This has brought about the expansion of PC preparing outfits that offer a wide range of testaments and projects given educational plans that are vague [16], [17].
7) Policy: Deficient arrangement execution [17].
8) Research: There is a low examination of ICT in training. Consequently, strategy creators can't survey the effect of ICT on the schooling system.
9) Funding: Schooling is rarely free. It is regularly paid for either directly by the people or by the public authorities and different bodies Ezeocha cited in [17]. Even though assets are being given to ICT in training, they are generally deficient in giving the drive important to situating the area forthe achievement of public objectives [17].

The preceding reveals that the province of ICT intraining in Nigeria falls beneath worldwide norms. This builds up the requirement for canteredintercession in ICT in training [2], [16]. Political sustainability: It alludes to issues of strategy and administration. Probably the greatest danger to ICT-empowered projects is protection from change. If, for example, instructors will not involve ICTs in their homerooms, the utilization of ICTs can scarcely take off, much less be supported over the long haul. As a result of the inventive idea of ICT- empowered projects, pioneers should have a sharpunderstanding of the advancement interaction, distinguish the relating necessities for fruitful reception, and fitness plans and activities in like manner [2], [16]. Capacity Building Challenges: MacDougall and Assistants (1997) noticed that different abilities should be created all throughout the schooling system for ICT incorporation to be fruitful [16].

a) **Education administrators**: Authority assumesa vital part in ICT joining in instruction.Numerous educators or understudies started ICTprojects that have been subverted by an absence of help from school overseers. For ICT coordination projects to be compelling and supportable, overseers themselves should be adept at the utilization of innovation, and they should have a broad understanding of thespecialized, curricular, managerial, monetary, and social elements of ICT use in instruction [16].
b) **Technical support subject matter experts**: Whether given by in-school staff or by outside specialist organizations, or both, specialized help experts are crucial for the success and reasonability of ICT use in a given school. While the specialized help needs of an establishment rely upon what and how innovation is conveyed and utilized, general abilities that are required would be in the establishment, activity, and support of specialized gear (including programming), network organization, and organization security.Without on location specialized help, much time and cash might be lost because of specialized breakdowns [16].

3.5 ICT'S ADVANTAGES

The following are some of the claimed benefits of ICT in education [16]:

- ✓ Easy-to-access Course Material: Sight and sound/simple course material can be placed on the web for students to access in whatever context they like [15].
- ✓ Insight: PC-based advice can provide on-the- spot feedback to understudies and clarify appropriate responses. A PC is also patient and non-judgmental, which can inspire the understudy to keep learning [15].
- ✓ Broad Collaboration: Learning resources can be used for large distance learning and are more commonly accessible [15].
- ✓ Improved understudy composting: It is advantageous for understudies to change their composing work, allowing them to improve thequality of their writing [15].
- ✓ Easier-to-learn subjects: A wide range of instructional programmes is designed and prepared to aid clients in effectively learning specific subjects or themes [15].

3.6 BENEFITS OF USING ICT INEDUCATION

The benefits of ICT in schooling have been lauded in the following [16], [5]. The utilization of ICT hasbeen found to: Further Developing Instructional and Learning Quality: As Lowther cited in [5] has stated, three key characteristics are expected to support high-qualityICT-based teaching and learning: independence, capacity, and innovation. Independence implies that understudies take responsibility for their learning through the use of ICT. As a result, people become abler to work alone and with others. Instructors can also permit students to complete specific tasks with their classmates or in groups. Understudies have moreopportunities to gather new information from theirexperiences through cooperative learning using ICT, and they are more confident in addressing problems and learning from their mistakes [5], [16], [14].

Support Education by Working with Admittance to a Course. Watts-Taffe et al. cited in [5] Instructors,it was discovered, may act as catalysts for creativity through the use of ICT. Educators will find it easier todevelop an ICT class if they have access to comfort, hardware, and basic specialist assistance from institutions. These instructors' main responsibilities will be to alter their direction designs, create and explain new duties, and set up the PC lab with the help of their innovation-trained experts or partners

[5].

Advanced Cooperative Learning in a Distance- Learning Climate: Koc cited in [5] refers to how using ICT allows students to share, offer, andcollaborate anywhere, at any time. A remotely coordinated homeroom, for example, could invite understudies from all over the world to gather at the same time for a theme discussion. They may have a fantastic opportunity to research concerns, investigate thinking, and foster ideas. They may also evaluate ICT learning settings. Understudies gather information and provide various growth possibilities for them to put themselves out there and considertheir learning [5].

Help Understudies Get Access to Computerized Data Productively and Actually: As Brush,Glazewski, and Slash cited in [5] As previously said, ICT is used as a tool for students to locate learning themes, address challenges, and provide answers to questions in the learning system. ICT facilitates the acquisition of information and the perception of concepts in learning areas, while also attracting understudies to the use of ICT [5].

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CONCLUSION

The utilization of ICT in training is presently seen worldwide as both a need and an open door. Issues and difficulties connecting with ICT in training manage the utilization of ICTs inside instructive innovation. The primary issues and difficulties of ICT in schooling are the execution of ICT gear and devices in the education learning process as a mediumand technique. The issues and difficulties of ICT in instruction are by and large to acquaint understudies and educators with the utilization and activities of PCsand related advances as well as the social, moral, mechanical, and monetary difficulties (to specify yet acouple), of the utilization of ICT in training.

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