# Investigative Study of E-learning Application in Post- Basic Public Schools in imo state.

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***Abstract***

*The paper investigated e-learning application in post-basic public schools in Imo State using Owerri Education Zone 1 as a case study. It expresses the need to migrate into the child-friendly, child-centered, digitized, constructivistic and technology driven e-learning pedagogy which is the prevailing global heartbeat as against the conventional pedagogical practice. The target population was 792 teachers. The sample size was 266 respondents sampled through proportionate, stratified, simple random sampling techniques. The researchers designed a structured research instrument (Questionnaire on e-learning Application for Post-basic Education - QEAPE) validated by two experts in measurement and evaluation, and Curriculum/Instruction. A reliability index of r= 0.82 was obtained using Pearson's Product Moment correlations statistics and data analysis was done using mean (x) and standard deviation (SD). Findings from the study revealed that teachers of public schools deliver their lessons through conventional strategies and there is poor funding, lack of ICT resources and professionals in schools. Recommendations were offered among which are: that government should fund education, install e-learning facilities in schools, provide computers, e-libraries and enforce their utilization.*

***Keywords:*** *Constructivism, e-learning, e-resources, information communication technology, traditional teaching and learning activities.*

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**Introduction**

Education is one dynamic activity that transforms man and the society. The desire of any state is to sufficiently dispense what can be described as utilitarian education and education for self-development. The one relates to practicaleducation that inculcates skills and entrepreneurial industry while the other relates to self-orientation and the organization of an individual's life inter-alia. The utilitarian value of education is such that even the means and tools to it are painstakingly considered.

Each human epoch has appropriated to itself a way of educating its youths. Before the 21st century, learners have been taught using the traditional teaching-learning activities which are teacher- Centred (Obilo, 2017; Udechukwu 2025). Traditional ways of teaching allowed the learner to depend wholly on what the teacher knew, could reveal and present. The teacher was a reservoir and intellectual tank. Learners were dependent, passive and tied to the capacity, interest and needs of the teacher. There were no many ways of obtaining information or getting educated than by the teacher. Although there were other communication media and prevailing technologies, they were not considerably employed for teaching-learning purposes.

The non-employment of cutting-edge technologies in educational industry made the process of teaching and learning drab and dry, a herculean task, a frustrating experience, abstract

venture and discouraging activity to be engaged in (Ike, Iwu & Onwuagboke, 2015). Technology in education manifested in areas of teaching aids and some conventional teaching-learning materials such as chalkboards, pens, rules, papers, chalk, ink, books, etc. Under the traditional dispensation, means to knowledge and information were gagged, censored and regulated. Learners were not at liberty to obtain information from channels not approved by school and the teacher. This limited eccentricism, innovation, knowledge reconstruction, learners' preferences and active participation in the learning process.

However, the 21st century brought with it radical transformation that changed the visage, pattern and strategies of teaching and learning. It placed the learner at the front burner of the educational process. Learners' interests, needs, perception , ego-involvement and opportunity to manipulate the learning process came to be allowed and prioritized (Iwuamadi, 2020).

Technologies were brought to bear in educational processes and activities which not only dispose the child to observe, explore listen, reason and question but also to utilize, operate and manipulate both the process of teaching – learning and the available technologies.
Learning therefore becomes an individual effort towards knowledge and skills acquisition as well as reconstruction of knowledge with others. To this end, the teacher diminishes as the purveyor of knowledge. Teaching- learning process assumes a community, societal and global posture where everyone including the learner collaboratively contributes to learning dynamics. These therefore, necessitate the employment of varying technologies in the educative processes. This provides a transactional pedagogy (rather than a transmissional pedagogy). This constructivism as advocated by Lev Vygotsky (1897 – 1934) and supported by Brunner recognizes the influence of the teacher, language, environment of the learner, his social setting and group interaction. This is what Adiaha, Ifegbo and Umune (2023:3) referred to as " the globalization of education " which according to them " has already necessitated the application of digital technologies".

Constructivism practically engages the five sensory organs in the learning process. This in turn stimulates the learner, encourages his ego-involvement, perfects his learning experience and assists him in knowledge, reconstruction. Indulgence in constructivistic approach makes teaching and learning a social burden being characterized by group interaction or inter-personal engagements, collaboration, cooperation and communicative exchanges. To this end, the common constructivist strategies to drive the new paradigm shift are the adoption and application of technology in education processes, Espousing this notion, Onwuagboke (2025), maintains that it gives students access to a wealth of information and resources to develop essential skills and prepare them for the digital world.

Some of these technologies in education that are learner – centric include: radio, television, computer, telecommunication, internet, teleconferencing, satellite dishes, global system mobile (GSM), virtual library, email, world wide web, online learning, video, smart board, disks, power point, instant messaging (IM) and many more ( Egbule, 2015). Ike (2025) however, classified them into hard -ware and software technologies such as the internet which provides electronic mail (Email). Newsgroup, file transfer protocol (FTP) and world wide web (www) services. The ICT equally aids in the service of tele-conferencing, tele - processing, desktop video conferencing, instant messaging, Chartroom and list server. These transmissible data and information are managed, controlled and sustained to the ICT equipment where the computer and smart phones play vital roles are called E- technologies. E- technologies as applied in teaching and learning giving rise to E-learning which is the prevailing rubric for constructivism.

According to Iwuamadi (2020), learning is enhanced by the use of ICT for information sharing globally. E- learning leverages on the dynamics of communications technology. The use of ICT in the classroom addresses learners' individual abilities and learning pace. Digital classrooms therefore, are designed by using electronic devices and other platforms like the social media, multimedia, and mobile phones to

teach learner for improved learning outcomes (Adiaha, Ifegbo & Umune, 2023).

Justifying the reality of E- learning, Oxford Languages(2024) defines electronic or virtual learning as a process through which learning is acquired by digital media and technologies; a process by which learner can access their course materials whenever they want. Clover (2017), affirming this explains that web- based learning which is commonly regarded as e- learning or online learning assists the learner in retrieving live and recorded information aimed at supporting their learning.

There are two primary types of E- learning viz computer- based e- learning and Internet- based e- learning where a technical distinction is made between e- learning and online learning. On a general standpoint, there appears to be ten (10) different types of e- learning.

- Computer Managed Learning (CML) otherwise called computer managed Instruction (CMI). Although not online device, computer is used to assess learning process. It operates through Information databases. The database has Information a learner has to learn which concedes certain individual considerations to the learner and has the capacity of repitiveness and replicability until the learner achieves the self-goals on a step-by-step basis.
- Computer Assisted Instruction (CAI) commonly called Computer Assisted Learning (CAL). Not an Online learning but a mixture of both computer intervention and conventional teaching efforts. It could use text, graphics, sound and video in combination with tutorials.
- Synchronous Online Learning (SOL) is mainly regarded as virtual learning and according to Adonu (2017:37), "this sort of e-learning is the one that is live and requires all learners to be in front of their computer at the same time" . According to him, it takes care of diverse learners at diverse locations at the same time. An instructor could show a slide or write on chalkboard which appears on every leaner's computer screen simultaneously.
- Asynchronous Online Learning (AOL) is more students oriented in that it allows flexibility of time. Asynchronous online learning allows students to access the learning material at different or own time and at different locations without real time communication taking place.
- Fixed e-learning (FEL) presents materials already predetermined with determining learning differences.
- Adaptive e- learning (AEL) is the opposite of fixed E- learning where materials are designed to fit learner's needs.
- Linear e-learning allows the use of radio and television as a medium of sending training materials to learners as was experienced during the Covid-19 debacle in 2020 across the world.
- Interactive Online Learning (IOL) is a two-way communication channel which allows the learner and the teacher to send and receive information as senders and receivers online. This makes it more acceptable than linear online learning.
- Individual Online Learning (IOL) focuses on serving Individuals rather than group of learners. The learner does not share the material or has any interaction with other learners but works independently to achieve own goal.
- Collaborative Online Learning (COL) is very modern, trendy and inter-active. It allows for learners cooperation, team work and collaboration to achieve a common goal. It encourages group sharing for learners' development.

e-learning and computer literacy has been accepted as mode of teaching and learning in Nigeria but non-availability of e-learning resources, manpower and bureaucratic bottleneck to effectively empower their use appears to be a big challenge (Dogara, Ahmadu, Lawal, 2019; Nzegbulem & Onuekwusi, 2023). In most of our public Secondary Schools the dearth of e- learning facilities has created a chasm in the e- learning movement thereby, stalling the gains therefrom. It is widely believed that e- learning technologies are purveyors of competencies and skills through its ability to generate array of information that support

teaching and learning (Kazma, 2019 in Nzegbulem & Onuekwusi 2023).

Okeke (2023) postulates that to sustain a good national secondary school curriculum there must be in place trained, experienced and motivated teaching staff adequately armed with necessary facilities and equipment. He observed that learners are enhanced by availability of learning resources and services apropos to their number.

Computer facilities have made it much easier for learners to access information online (Okere, 2025). It is observed that online learning accommodates learners needs, offers access to updated content, offers quick delivery of lessons, offers lessons any number of times, affords adequate coverage of lessons with reduced cost, being effective and with less negative impact on the environment (Gupa, 2017 & Clover, 2017). Inspite of all the usefulness of e- learning, our public schools have not yet taken the advantage of this technology to improve on the teaching and learning activities.

**Statement of the Problem**

E-learning appears to be gradually dominating the education domain in the areas of teaching and learning in compliance with the mandate of the Federal Republic of Nigeria (FRN,2014). This however, requires the installation of basic equipment, e- facilities and constant power supply to drive the policy. A walk around Imo State public schools reveals a far cry towards these expectations which is an indication of shortfall in walking up the e-learning project in Imo schools. This informed the need to investigate at what level e-learnng pedagogy and resources are being applied in order to proffer the needed solution.

**Purpose of the Study**

The purpose of the study was to show how e-learning was being applied in the post-basic public schools in Imo State. Specifically, the study sought to:

i. Identify the prevailing instructional strategies for curriculum delivery in post-basic schools in Imo State.
ii. Ascertain the extent e-learning facilities are utilized in post-basic school curriculum delivery in the state.
iii. Underpin the possible challenges in adopting e-learning for instructional purposes.
iv. Articulate teachers' views on how to effectively apply e-resources in public schools.

**Research questions**

The following research guided the study:

I. What are the e-instructional strategies used for curriculum delivery in post-basic public schools in Imo State?
II. To what extent are e-learning facilities applied in curriculum delivery in post-basic public schools in Imo State?
III. What are the envisaged challenges towards adopting e-learning for instructional purposes?
IV. What are teachers' opinions on effective of e-resources?

**Method**

The study was done using survey research design. The study attempted to find out the opinions of post-basic school teachers about the prevailing instructional strategies, the extent e-resources are utilized in curriculum delivery, their envisaged challenges and suggested solution towards and effective application of e-learning pedagogy. The population of the study consists of 795 (seven hundred and ninety-five) teachers in the 66 (sixty six) post-basic public schools in owerri education zone 1 of Imo State.

The sample size was made up of 226 teachers. Proportionate, stratified, simple random sampling techniques were used to arrive at the sample size. The instrument used for data collection was a structured questionnaire tagged Questionnaire on e-learning Application for Post-basic Education (QEAPE). The instrument was validated by two experts from measurement and evaluation, and curriculum and Instruction. The consistency of the items in the instrument passed the reliability test conducted through pearson's product moment correlations statistics at index of r=0.82. The researchers administered

the instrument which ensured a 100% returns. The questionnaire elicited information on the extent of application using 4-point scale of Very Large Extent (LE), Small Extent (SE) and No Extent (NE). The data obtained was analyzed using mean (X) and Standard Deviation (SD) and 24 items were generated. Items with smaller SD and mean of 2.5 and above were seen as accepted items whereas mean<2.5 were seen as not-accepted or rejected items.

**Research Question (i): what are the e-instructional strategies used for curriculum delivery in post-basic public schools in Imo State?**

***Table 1:*** *Mean and Standard Deviation on the e-instructional strategies used for curriculum delivery.*

| S/N | ITEMS | Mean | SD | Remarks |
|---|---|---|---|---|
| 1 | Teachers make use of white board | 3.00 | 1.0 | Accepted |
| 2 | Class physical meeting is widely practiced | 3.03 | 1.0 | Accepted |
| 3 | Teachers use Google classroom for pedagogy | 2.03 | 1.3 | Rejected |
| 4 | Virtual learning is practiced in the school | 1.09 | 1.0 | Rejected |
| 5 | Teachers make use of power point technology | 2.00 | 1.5 | Rejected |
| 6 | Teachers encourage the use of social media in Class to source for information | 2.03 | 1.2 | Rejected |
| 7 | Class groups have chat/ Whatsapp platforms | 1.32 | 1.1 | Rejected |
| 8 | There are Inter-net facilities in the school | 1.30 | 1.1 | Rejected |
| 9 | Radio and television are employed as teaching resource | 2.00 | 1.5 | Rejected |
| 10 | Interaction boards are mounted in schools | 1.62 | 1.2 | Rejected |
| 11 | Computer resources are applied in class learning | 1.50 | 1.3 | Rejected |

*Results in table 1 show that teachers in public schools deliver their lessons using conventional strategies. Items 1 and 2 had 3.00 and 3.03 mean ratings in support of this claim while items 3-11 had a mean range of 1.9-2.03 indicating non-usage of e-instructional strategies.*

***Research Question (ii):*** *To what extent are e-learning facilities applied in curriculum delivery in post-basic public schools in Imo State?*

**Table 2: Mean and standard deviation on e-learning facilities applied in curriculum delivery in post-basic public schools in Imo State.**

| S/N | Items | Mean | SD | Remarks |
|---|---|---|---|---|
| 1 | Some lessons are done using CAI | 1.28 | 0.04 | Rejected |
| 2 | Some lessons are delivered through synchronous e-learning facilities | 1.06 | 1.2 | Rejected |
| 3 | Some lessons are presented to the learners asynchronously | 1.23 | 0.40 | Rejected |
| 4 | Teacher at times employ Google classroom or other websites to deliver lessons and instructions | 2.00 | 0.60 | Rejected |

*Results in table 2 show that all the items scored below 2.50 indicating that e-learning facilities are not applied in curriculum delivery in post-basic public schools in Imo State.*

***Research Question (iii):*** *What are the envisaged challenges towards adopting e-learning for instructional purposes?*

**Table 3: Mean and standard deviation on envisaged challenges towards adopting e-learning for instructional purposes.**

| S/N | Items | Mean | SD | Remarks |
|---|---|---|---|---|
| 1 | Poor funding of schools | 3.01 | 1.0 | Accepted |
| 2 | Lack of ICT facilities in schools | 3.00 | 1.1 | Accepted |
| 3 | Lack of training opportunities for e-learning skills for teachers | 3.03 | 1.2 | Accepted |
| 4 | Non-availability of e-learning and ICT professional in schools | 3.00 | 1.0 | Accepted |
| 5 | Lack of incentives for post-basic teachers | 3.04 | 1.3 | Accepted |

*Results in table 3 show that all the five items scored 3.00 and above. This implies that poor funding, lack of motivation for teachers, lack of training opportunities for teachers, lack of ICT professionals in schools and lack of motivation for teachers are all observed challenges in adopting e-learning pedagogy in schools.*

**R*esearch Question (iv):*** *What are teachers opinions on effective application of e-resources?*

**Table 4: Mean and standards deviation on teachers' opinion on effective application of e-resources.**

| S/N | Items | Mean | SD | Remarks |
|---|---|---|---|---|
| 21 | Government should prioritize the provision of ICT Equipment in school | 2.90 | 0.50. | Accepted |
| 22 | There is need to train and retrain teachers to acquire e-learning skills | 2.94 | 0.85 | Accepted |
| 23 | The use of e-learning resource to deliver classroom instructions should be made the new normal | 2.90 | 0.50 | Accepted |
| 24 | ICT policies should be totally implemented to establish e-learning | 2.90 | 0.50 | Accepted |

*Results in table 4 indicate that all the items scored above 2.50 meaning that Government should prioritize the provision of ICT equipment in school, the need to train and retrain teachers to acquire e-learning skills, the use of e-learning resources to deliver classroom instructions should be made the new normal and ICT policies should be totally implemented to establish e-learning tradition.*

**Discussions of the Findings**

Finding in table 1 shows that teachers in Imo State public secondary schools still use traditional practice or strategies to deliver the school curriculum. This is basically antithetical to the needs of the modern learner and prevailing educational polices. According to Obilo (2021), traditional ways of teaching centralizes the teacher, makes learners passive and restricts avenues of multiple information and educational enhancement. This finding leaves us with no other option than to join the e-world.

In table 2, it was yet discovered that the teachers in post-basic schools do not apply e-learning facilities in their lesson delivery. Technology in education and educational technology that give vent to e- learning and e-resources are the 21st century approach to teaching and learning which is characterized by inquiry, discovery, experience, hands-on

activities, interactivity and learner-friendly techniques (Iwuamadi, 2020). The non-utilization of constructivism and e-resources would only dumb down education, Adiaha Ifegbo and Umune (2023) see constructivism as "the globalization of education" which necessitates and the application of digital technologies.

The findings in table 3 show that the prominent setbacks towards the operationalization of e-learning and e- resources are governmental lack of patronage and sustained policies seen in insufficient funding, no provision of ICT resources, professionals; lack of training opportunities for teachers and apparent lack of incentives to staff. This agrees with the assertions of Dogara, Ahmad and Lawal (2019) and Nzegbulem and Onuekwusi (2023) that e-learning curriculum delivery is hampered by non- availability of learning resources, manpower and bureaucratic bottleneck, and that our post- basic institutions are faced with the dearth of e- learning facilities.

Table 4 reveals weighted opinions of teachers which was considered a setback to e- learning pedagogy. It was opined that the provision of ICT equipment to schools; training and retraining of teachers, practical utilization of e-resources and implementation of ICT policies would bring about the solution. This is as echoed by Okeke (2023), Kazma (2019) in Nzegbulem and Onuekwusi (2023) that e- learning technologies are purveyors of learned skills; they make it easier for learners to access information and that there in need to sustain good educational policies.

**Conclusion**

This study investigated e- learning application in post-basic schools in Imo State using Owerri Education zone 1 as a case study. It is obvious that human skills, potentials and development can only be elicited and harnessed through education. Teaching and learning are the baseline in acquiring education. To this end, conventional pedagogy is being substituted by a more robust, pragmatic, resourceful and result-oriented constructivst e- learning or digitalized approach which shores up human capacity and agrees with the prevailing global movement. The benefits of e-learning make it a desideratum in our public schools as it presently dictates the global education trend while the conventional mode and practice of lesson delivery runs counter to the child-centric orientation.Government and indeed our society should put structures in place and make policies that would help the Imo learners and teachers embrace e- learning technologies to properly direct and maximize their teaching – learning efforts.

**Recommendations**

1. Teachers in the state public schools should be encouraged to migrate into the 21st century instructional strategies which are e- learning friendly.
2. Teachers should be trained to embrace learner – friendly techniques so as to effectively deliver.
3. Government should fund education by injecting funds and providing necessary e-learning resources and enabling policies.
4. The state should prioritize teachers' training and re-training especially towards acquiring e-learning skills to fill the existing gaps and setbacks.

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