

## Educational Assessment in Emergencies: COVID-19 Pandemic Experience in Nigeria

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**Abstract:** COVID-19 pandemic lockdown is an emergency period in education where assessment of teaching and learning became inevitable to determine effectiveness of the digital processes used. The objectives of this research are to; (a) investigate the types of assessment used during the COVID-19 pandemic in Nigeria; (b) establish the effectiveness of the assessment tools used for distance/online teaching and learning; (c) identify the challenges of educational assessment during the pandemic era. The research questions include: (a) what are the types of assessment used during COVID-19 pandemic? (b) How effective were the assessment tools? (c) What are the challenges of educational assessment during the COVID-19 pandemic period? The findings on types of online assessment are; online discussion, written assignment, field work / practical tasks, virtual presentation, multiple choice examination questions and quizzes, short questions and answers text messaging, homework hotlines and others . The research identifies ongoing COVID-19 implications on students and the schools as; learning losses and increased inequality, internet connection problems, increased pressure on schools and school system, increased school dropouts, unequalled access to learning due to lack of access to digital learning portals and additional pressure on teachers to acquire digital knowledge update. All these affected proper assessment negatively. The research design include; library information, interview and participatory observation. The research concludes by noting that assessment if properly used can help mitigate the impact of the COVID-19 pandemic on educational system in Nigeria. It can encourage innovations and flexibility. Thus, the work encourages further discussions among educators, researchers, policy makers and the general public to work towards making sure educational assessments are part of a system to further teaching and learning especially online and to further the pursuit of equity.

**Keywords:** Educational, Assessment, Emergencies, COVID-19 and Pandemic

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### Introduction

COVID-19 Pandemic which emerged in Wuhan, China affected the whole world in 2020, it turned into a pandemic globally within a short period. Schools were closed in 188 countries (UNESCO, 2020) and in many countries including Nigeria students had to take a break from face-to-face learning for months. During this

period, a rapid transition to emergency teaching and learning was required to prevent learning loss and ensure continuity of education. In this period, digital transformation and remote teaching became necessary, a situation that forced teachers and students to become digital in knowledge. According to Hodges and Fowler (2020) the remote teaching and digital teaching became temporary shift from face-to-face education, an alternative instructional mode in times of crisis.

In Nigeria these methods of teaching and learning allowed a large number of students to learn online. It also became inevitable to assess the students to provide feedback that will help stakeholders understand school children's progress and take appropriate pedagogical action to improve it. Berman, Haiertal and Pellegrin (2020) explained educational assessment as a process for getting information which can be used in making decisions especially as it concerns students' progress, teachers' performance, school curricula, programmes of the school, government policy and funding be it local, national or international.

Interest groups include; parents, caregivers who uses the assessment to measure the performance and ability of their children, teachers who will use the assessment to determine areas of success, focus additional and varied instruction. Schools, Districts, State governments and Organizations may use the assessment to monitor students' performance to enable them allocate appropriate funds to students need and take decisions on professional development needs as well.

Assessment is a federal government task, given as part of accountability to ensure equal educational opportunities. It not only measures learning outcome but also processes on how teaching and learning is occurring and opportunities to learning construct. (Gordon 1995). UNESCO (2020) recommends the use of distance learning programs, open educational application and social media platforms. In this uncertain and fluid environment, the regular challenges of assessing what and how students are learning became more complex especially in Nigeria with so many financial, technological, emotional, psychological, teaching and learning challenges.

Hodges, Moore, Lockee, Bond, & Jewett (2020) opine that teachers need information to guide online teaching and assessment. Most of the teachers were not prepared for the sudden emergency teaching both in facilities and knowledge of the digital system application. This situation they say affected the learning process of the historically marginalized, disadvantaged and undeserved students. Another issue is that assessment aid advancement in teaching and learning to the extent of bridging the gap emergencies like COVID-19 pandemic can create. Online assessment tools.com (2020) outlines these as the types of assessment tools that can be used; Alternative assessment, Authentic assessment, Summative assessment, Formative assessment, High-stakes assessment, Pre-assessment or Diagnostic assessment, Performance assessment and Confirmative assessment.

This paper identifies these as assessment tools used in Nigeria during the COVID-19 pandemic; written assessment, online discussion, field work/practical online tasks, virtual presentation, multiple choice examinations and quizzes, short question/answer text messaging, homework hotlines and others. The researcher

observe that most of these assessment tools were effective except for a few lapses. The challenges are internet connections and related problems, lack of knowledge on digital use by both the teachers and students, difficulties in concentration during teaching times, too many assignments and limited time allocated to the assignments, unsuitable online assignments, lack of the necessary learning materials, national power failure and other distractions. The paper identifies the online platforms used as; social media platforms- (Facebook, WhatsApp, twitter and Instagram), virtual classroom, zoom, skype and other internet learning platforms.

The paper also identifies the implications of COVID-19 pandemic on education and its assessment. This research was concluded by noting that assessment if properly used can help mitigate the impact of the COVID-19 pandemic. It encourages innovation and flexibility in education. This work recommends further discussions among educators, researchers, policy makers and general public to work towards making sure educational assessment is part of the system to further teaching and learning online and to help pursue equity.

### **Statement of the Problem**

Due to social distancing, distance/ online teaching and learning became inevitable. The need to access what was going on as teaching and learning became necessary too. Considering the technological challenges and people's orientation to distance learning, there arose a need to know what was addressed using assessment and how it helped to solve the pandemic lockdown challenges in education.

### **Objective of the Study**

- To investigate the types of online assessment used during the COVID-19 pandemic lockdown;
- To establish the effectiveness of the educational online assessment tools used during the COVID-19 lockdown;
- To identify the challenges of educational online assessment during the COVID-19 pandemic lockdown.

### **Research Questions**

These research questions were adopted;

- What types of educational online assessment tools were adopted?
- How effective were the educational online assessment tools?
- What are the challenges of educational online assessment during the COVID-19 pandemic lockdown?

### **Significance of the Study**

The outcome of this study will be useful to the parents, teachers, government educational sectors, students and the general public. It will enable stakeholders to put in place urgent measures that will enhance educational

goals and achievements in emergencies. The research encourages innovations. Academically, it will be useful as library document also it will contribute to existing body of knowledge upon which future researches would be built.

## **Review of Related Literature**

### **Online Assessment**

Educational assessment is the systematic process of finding out about a student's knowledge, experience, skill and beliefs using empirical data. The ultimate goal is to quantify and document how much a student knows. It is a continuous process and the result helps to improve teaching and learning. (Formplus Blog 2022). According to Kubliszyn and Borich (2016) in any learning experience, assessment often falls into a few broad categories such as essay, performance-based portfolio, and tests. They are of the view that there are various ways of conducting educational assessments; one only need to find the method that works best in his environment. Noting that one can use more than one educational assessment method; for instance, a combination of formative and summative assessment in a single learning process can help achieve the target. In the context of online learning, Arend (2007) and Kearns (2012) identifies various types of assessment in online courses as; written assignment, online discussion, field work, test, quiz, examination, virtual presentation and e-portfolio. This research will review Arend and Kearns assessment types.

#### *Written Assignment.*

Weller (2018) opines that "text remains the dominant communication form in education". Written assignment he says refers to a text-based document authorized in word processing, or similar software and submitted to an instructor for evaluation. It has been observed to be very effective in emergency remote teaching because both students and teachers are familiar with the format. It also notes that written assignment could be constructed during synchronous activities given appropriate technologies, but he also observes that synchronous interactions might best support less complex issues or be for planning activities. As observed by Arend and Kearns, written assignment is often used online.

#### *Online Discussions*

Online discussion is a little different from written assignment because it involves less formal writing. Aloni and Harrington (2018) observe that synchronous online discussion boards are effective tool for assessment. Braton (2020) observes that anyone who wants to use online discussion method can find tips for effective implementation in practitioner-friendly publication or more academic treatment. Online discussion may come like general question for class discussion or class may be divided into small groups. However, there are choices to be made about the subject or focus of the discussion (Lowenthal and Duncap 2020).

Even though online discussion is not purely text-based, it is possible that most discussion tools have embedded media and provide hypertext links that connect to learner-curated or learner-created element. To share their perspective for example, learner can create a slide-show presentation concept, map or other elements. Creative thinking on the teacher's part can result into more engaging discussion activities. Online discussion assessment is very effective for emergency remote education like in the COVID-19 pandemic era (Wilton & Brett 2020).

#### *Fieldwork/ Practical Tasks*

Dawn, Hodges & Jones (2020) observes that during emergency period fieldwork may be one of the most challenging activities to adapt. During emergency era arrangements and adaptations need to be approved by a licensing body. E. g. Medical students had to adapt to scheduled hours. During COVID-19 most schools curricula were redirected to suit the lockdown rules. To work with results, teachers need to modify fieldwork experiences in conjunction with stakeholders to make appropriate changes and significant cost were required to have access to technology (Hodges and Barbour 2020).

#### *Test/ Quizzes/ Examination*

Fawn and Ross (2020) states that these types of assessment can be done technological even though they are best fitted for offline assessment. According to Fawn and Ross in crisis times like COVID-19 pandemic, access to proper equipment to meet remote proctoring requirements can be problematic. Kim (2020) observes several circumstances relating to the pandemic that made these types of assessment far less ideal during the pandemic. He says, they add stress to the learner who are probably stressed, and they are not the best for students with special needs. Kim did not recommend these types of assessment for online assessment in emergency remote education, his reason being that they encourage poor academic performance and malpractice. However, these assessment tools were useful in Nigeria during the COVID19 pandemic era.

#### *Virtual Presentation*

According to Kenyon (2020) live presentation help students to "Generate learning". During crisis period students may struggle to find internet access and environment conducive for live presentations. However, Grajek (2020) and Trust (2020) opine that students learning through summarizing, mapping, drawing, self-explaining and teaching are well supported in the research literature as valid activities to support students learning that tally with generative learning are often provided. If students have sufficient access to technology, virtual presentation as assignment can take place in times of emergency, it is not difficult for students to create slideshow, narrated multimedia presentation, info graphics or other types of virtual presentation tools. According to Delmas (2017) some tools for presentation include community building features that may be beneficial in times of emergencies. Even under normal online learning conditions, a sense of belonging to a learning community matters. Budhai (2014) recommends working with students to select topics for presentation that align with course goals, provide specific details such as the length of the presentation time for presentation

and summarizing activity which will highlight key learning points. This tool is usually very effective where the internet and other technologies are available.

### *E-Portfolio*

Farrell (2020) observes that COVID-19 pandemic and its requirement for instructors to seek alternative assessment greater types has pushed e-portfolio into greater use. It has been used to improve teaching. E-portfolio may be useful tool in assessment for organizing and displaying written assignments, reflections on fieldwork experiences and student created presentations in each of the various types of assessment discussed.

### **Challenges of Online Assessment**

According to Kearns (2012) online assessment challenges arises with the process of gathering and evaluating information on what students know, understand and can do in order to make an informed decision about the next steps in the educational process. Before COVID-19 most learning assessment were dependent on students' physical presence. In Online Assessment Tools. Com (2020) formative assessment is particularly critical because learning needs to take place outside of the physical classroom and teachers and parents-turned teachers need to understand whether students are absorbing the content that is delivered to them in formats that differ from business-as-usual. In the absence of regular face to face interaction and observation that most teachers are used to, teachers are expected to develop practical strategies to make online classes engaging or effective. There have been reports of lack of trust in online tests as cheating may be facilitated (Whittle 2020).

During the COVID-19 crisis, pandemic induced restraints such as social distancing, home quarantine and isolation impacted family income and general wellbeing so much that teaching, and learning stopped. (Braton 2020). These effects are reported to have been seriously felt among the students and the teaching professionals in a range of contexts. The pandemic had added additional stressors like health concerns, travel restrictions, shortage of daily necessities and uncertainties about the future. The vacuum created and occupied by the COVID-19 pandemic provided the opportunity to learn and assess learning progress/effectiveness online.

Kearns (2012) identifies these as the challenges: faulty technological facilities; Internet connection problems; Students' inability to absorb knowledge and skills; coverage and learning outcomes; difficulties in concentration during classes due to shortage of facilities and limited student's interactions with teachers. Hodges and Fowler (2020) identify low resources, poor parental background and low connectivity context, network service providers inconsistency, poorly trained teachers in digital knowledge, academic dishonesty, poor infrastructure, commitment of students to submitting assessment, limited time allocated to the assignment, and decreased practical skills among the students as challenges.

Those affected by online learning adversely as observed are; homeless children, juveniles pushed into crime, working or hawking children subjected to abuse, refugees children, displaced children, children with special

education needs and disabilities (SEND), the social economically disadvantaged groups and the rural dwellers where the basic amenities are absent (UNESCO 2018). Assessment is not possible without education. Inequality of opportunities in educations is not a new issue in Nigeria, it was observed that low-income group may not have received adequate educations during this pandemic period due to no access to internet. There is a risk that millions of children may not return to school again due to the pandemic, financial constraints, fear of contacting the virus, and other barriers to education. This situation may create class gap, learning losses, learning gaps and incorrect assessment reports. (Ozgul multler, bunyamen. Babil 2022, UNESCO 2018, Hodges 2020 et al).

## **COVID-19 Pandemic Implications on Nigeria**

In the view of National Academy of Education (2021) the COVID-19 implications will be felt for years, and we must continue to attempt to measure these implications on academic, social and emotional learning to provide support that will address such issues. Moreover, we will have a generation of children impacted by the COVID-19 pandemic, who will lack benchmark assessments, have inconsistent measures, or for a variety of factors stated earlier have summative assessment measures impacted by contextual variables. We must be vigilant to monitor and address the COVID-19 pandemic legacy particularly for our historical disadvantaged children.

Dorn, Hancock, Sarakasannus and Viruleg (2020) writing on ‘the hurt that COVID-19 induced on learners’ identifies these; learning losses and increased inequality. The implication is that these have brought significant disruption to education that may last for a lifetime. Children from families below poverty level dropped out of school. Even when schools resumed, they preferred to hawk goods and services.

## **Research Method**

The researcher used information from the library, person to person interview and participatory observation method.

## **Population of the Study**

The population of this study comprises of teachers and students from selected secondary schools in Southeastern States of Nigeria. The states are Abia, Enugu, Anambra, Imo, and Ebonyi. The study was conducted in the state capitals of these five states, the cities are Umuahia, Akwa, Abakaliki, Enugu, and Owerri. The choice came as a result of the availability of online facilities, most of the rural schools were not involved in online teaching and learning but some received little attention through radio and television teachings as directed by the federal government of Nigeria.

### Sample Size and Sampling Techniques

The sampling technique was used in selecting thirty (30) teachers and sixty (60) students who were interviewed based on the distance learning/online teaching that was trending during the COVID-19 pandemic lockdown. Three teachers and six students were selected from each of the ten schools chosen from the urban areas. The researcher practically observed some teaching and learning sections within private schools and various homes.

### Research Question 1

*What are the Types of Online Assessment Used during COVID-19 Pandemic Teaching and Learning?*

To answer this question interview was used. The respondents which include the teachers and students identified these seven (7) assessment tools as what was used. Though some schools did not use all as observed.

Both the teachers and students identified online platforms such as; Social media platforms (Facebook, WhatsApp, Instagram & Twitter), virtual classroom, Zoom, Skype, and android/smart phones as the channel used for teaching, learning and assessment.

Table1. Online Assessment Tools

• Written assignment	30/60
• Online discussion	30/60
• Fieldwork/ practical tasks	30/60
• Virtual presentation	30/60
• Multiple choice examination questions/quizzes	30/60
• Short questions/answers text messages	30/60
• Homework hotlines	30/60

### Research Question 2

*How Effective Were these Assessment Tools?*

To answer question 2, the responses from the teachers and students reveal that;

- Written assignments were effective.
- Online discussions were very effective but due to technological challenges, such as low data, power failure, insufficient computers and android phones also network providers' inconsistency some lapses were observed.
- Fieldwork/practical task: the students accepted the adoption of this tool, however some students were not interested because they had no one to supervise or direct them. Some students could not submit their task result because they felt it was inadequate and poorly performed.
- Virtual presentation fairly utilized, students were timid and majority lacked the necessary facilities and skills.



- Multiple choice examination questions were effective according to the respondent however it cannot be seen as a true assessment because respondents claim it encourages guess work.
- Short answer text messaging was very effective. The respondent agreed that it helped the students very well.
- Homework hotlines were also effective. The students and teachers claim that it tracked the students and compelled them to work at home and submit to the teacher once the work is ready, however it was for students that had access to android and smart phones.

According to the respondent these assessment tools helped them to know their ability and performance while the teaching and learning was going on. On a general note, the assessment tools were effective.

### **Research question 3**

*What are the challenges of educational assessment during the COVID-19 pandemic lockdown?*

The researcher through interview respondents and participatory observation identifies these as the challenges of educational assessment during the COVID-19 pandemic lockdown in Nigeria;

- Internet connection problems;
- Limited students/ teachers interaction;
- Difficulty in Concentration during teaching times due to faulty facilities;
- Too many assignments without supervision;
- Limited time allocated for the assignment;
- Most Online assignment were not suitable; and
- Poor family background for some students thereby hindering the provision of the necessary materials for assessment.

### **Discussion of Findings**

From the information gathered and the analysis made it can be established that Nigerian students took a break from face-to-face learning during the lockdown and transition to emergency online education was required to prevent learning loss and ensure continuity of education. This temporary shift from face-to-face education had to alter instructional mode. Hodges, Moore, Lockee, Bond, and Jewett (2020) referred to it as emergency remote teaching (ERT), it differs in subjects (such as design, preparation, structure, instructional materials, students' access to learning, learning activities etc). This assessment from a distance and unexpected transition to learning online did not give Nigeria time for adequate preparation and design.

To eliminate the adverse effect of COVID-19 pandemic and to ensure continuity in education, online assessment was endorsed. In depth interviews were conducted using semi-structured interview questions for 30 teachers and 60 students across selected secondary schools in South Eastern States of Nigeria that are capable of running online learning/ teaching classes.

Natural observation was conducted by the researcher and literatures were reviewed. Results shows that students were really assessed using written assessment tools, online discussion, field work/practical tasks, tests, quizzes, examination, virtual presentation and other tools suitable for online assessment. Results shows in terms of effectiveness that these assessment tools were effective but with various lapses. Schools and teachers were not ready for the transition from normal classroom to virtual classroom. Results from the study revealed that half of both students and teachers had poor internet connection and limited knowledge of digital use.

Students and teachers agree that they had limited interactions with one another, and students claim it was part of the factor that made understanding of online teaching difficult. Approximately, 26 out of 60 students (43%) claim online teaching was not very effective because of distraction, faulty facilities and lack of the technologies while 34 (57%) claim it was very effective. Most of the teachers had limited experience on virtual teaching, only 12 (40%) teachers reported previous experience. All the 30(100%) teachers interviewed agree that they started learning and improving on the job.

About 22 out of 30(73%) interviewed teachers agreed that distance learning/ online tools are effective for teaching non-practical related courses. 43 out of 60 (73%) interviewed students' states that Practical tasks/ field work did not capture much of the students' attention. Most of them did not return their assignment due to no supervision. 45 out of 60 (77%) interviewed students says limited time allocated to teaching and assessment was a problem. 20 out of 30 (66%) interviewed teachers claimed it was difficult explaining complex ideas or concepts to students as more time was required. The same was the problem of students answering multiple choice examination questions. 25 out of 30 (83%) interviewed teachers believe online assessment promotes examination malpractices.

Notes made during the teachers and students interview as well as direct observation shows that virtual presentation was effective but there were few lapses. Efforts were made by teachers and students to use these tools for assessment but technology challenge, time allocation and lack of digital knowledge and software made it difficult.

Challenges and concerns appeared to cut across all of the assessment categories. These broad themes emerged from the discussion of challenges:

- Limited students-teachers interactions;
- Difficulty in concentration during teaching;
- Inability to absorb knowledge and skills;
- Cumbersome assignments given;
- Internet connection problems;
- Limited time allocated for the assignment;
- Poor results due to unsuitable online assignments;
- Shortage of laptops, computers, data;
- Constant power failure and

- Network service providers' irregularities. (Adedoyin and Soyikan, 2020).

Results of the findings identifies these as the impact COVID-19 pandemic had and may continue to have on educational assessment;

- Unpreparedness of schools and schools management for online education and assessment;
- Parents unpreparedness for distance and home schooling;
- Low income families' inability to produce learning resources without external support;
- Gaps in children care leading to increased influence of peer pressure and substance abuse leading to school dropouts;
- High economic costs and additional expenses on parents; and
- Rural communities lack of social amenities as well as inability to run digital schools.

The paper also identifies the implications of COVID-19 pandemic on education and its assessment as having a generation of children impacted by the COVID-19 pandemic, who will lack benchmark assessments, have inconsistent measures, or for a variety of factors have summative assessment measures impacted by contextual variables.

The research also identifies that online assessment can be made flexible and new innovations introduced for instance teachers can provide feedback to students through mailed or e-mail instructions also messaging platforms like (Messenger and WhatsApp) can be adopted.

Direct phone calls between teachers, Students and parents can also be utilized in the face of any pandemic. Homework hotlines can be provided to give feedback to students and parents. Communication between teachers and learners are necessary through phones since social distancing is required.

## **Conclusion**

Nigerian educational systems were adversely affected during the COVID-19 pandemic lockdown. For a period of eight (8) months schools were shut down and students weren't learning. More than 60% of the students in South Eastern Nigeria did not attend online learning as recommended due to lack of technologies and financial handicap. Those in urban areas from poor background had issues such as inability to access the necessary technology learning tools.

Poor school management by federal and state government made the transition to online education difficult, assessment was not easy. Fear of contacting the virus made many to be withdrawn. The existing class gap brought learning loss. The issue of low-income group and the high-income group made many students drop out of school. Telecommunication industries were ineffective in providing services. There is a need for the telecommunication network providers to increase their internet coverage and broadband services so as to overcome internet-related issues.

Online assessment did not yield the much-expected result in Nigeria because being inappropriately handled, provided the wrong results in some areas. Students became unserious in submission of assessment and misunderstanding of concepts and ideas during the assessment became a routine.

## Recommendation

The sudden transition to online assessment due to COVID-19 brought unique challenges. Obviously, pandemics don't come always, there is need for educational institutions and schools to develop contingency strategies and methods that may be useful for emergency teaching and learning. The research recommends the following;

- Courses and training should be organized regularly to address usage of online learning materials and management systems. Using Zoom, Google classroom, WhatsApp, etc. as learning apps should be added to the school curriculum.
- Federal and State School Management Board should develop a document showing assessment methods specifically prepared for emergency learning and teaching.
- Infrastructure for distance learning/online learning should be provided in secondary schools, where they exist, be improved.
- Sufficient timelines should be given for students to complete required assessments and submit assignments. The timeline should be designed based on student's programme or level.
- Schools should provide homework hotlines that will help the teachers and students in doing regular assignments.
- Most students are from low-income background and as such cannot afford a laptop, android phones and regular data. Some reside in regions with no internet connection, no electricity and poor network services. The schools should provide these devices in the school premises with the aid of government.
- Network providers should be encouraged to improve on their internet coverage and broadband services as well as subsidize data subscription for students and teachers, if possible, collaborate with the government to give this subsidized cost of internet services.
- Teachers should be trained on the usage of online teaching/learning management systems for effective training and assessment strategies.
- Online teaching and learning management systems should be integrated into normal daily teaching routine of each school. This would facilitate students-teacher understanding of these tools.
- Parents should be encouraged to provide learning facilities where it is financially possible to enable students use short question and answer text messaging to do some online assessment.
- Further research and discussions are recommended for educators, researchers and policy makers even the general public.

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