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Teachers' Utilization of Virtual Learning Platforms for Instructional Delivery in Public Secondary Schools in South-South, Nigeria

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Abstract

Teachers' use of virtual learning platforms is becoming increasingly essential for instructional delivery in the 21st century school system. Teachers' utilization of virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria was explored in the study. A total of 160 teachers were purposively selected as sample for the study. Instrument adopted for gathering of data was a 15-item questionnaire with the title "Teachers Utilization of Virtual Learning Platforms Questionnaire (TUVLPQ)". The entire 160 questionnaire distributed were retrieved on the spot within four weeks using four trained research assistants. Findings of the study showed that Zoom was the most used virtual platform for instructional delivery but was used at a very low extent across all levels. Challenges faced in the utilization of these devices included the problem of digital illiteracy and malfunction of devices. The study concluded there was still a low utilization of virtual platforms for instructional delivery and training on the use of alternative virtual platforms for teachers use was recommended.

Keywords: Teachers' Utilization, Virtual Learning Platforms, Instructional Delivery, Nigeria

Introduction

Education is one the most essential social service required by any individual or nation to achieve its developmental goals and objectives. This explains why billions of naira are expended annually to ensure that schools have a well-equipped environment where teachers and students can interact meaningfully on how knowledge and skills shared and developed can contribute to individual and national advancement. Emphasis is also placed by the government on public secondary education not just because it serves as a link between primary and tertiary education but because the free education enforced at this level helps to raise literate, reasonable and responsible citizens.

In recent times, precisely in 2019, the education system was forced to discontinue the traditional method of teachers and students converging in a classroom for instructional delivery as a result of the COVID-19 pandemic. This is only a furtherance of series of education shocks such as insecurity, flooding etc. which has made it difficult for teachers and students to converge in a regular classroom. The need for teachers to switch to virtual method of instructional delivery has become more important more than ever before for the sustainability of this middle level of education especially in the South-South which was not left out of these disruptions. It is commendable that some teachers have started to gradually familiarize with the use of virtual platforms for instructional

delivery and investigating how well these platforms are used and the challenges faced so far have become very important as teachers and schools in general continue to grapple with how to continue interfacing with their students in the midst of these developments and going forward.

Public secondary education in Nigeria has witnessed a massive increase in the level of enrollment in the last two decades as a result of the effort of the Federal and State governments to increase access to education at the basic and secondary level. However, some of these schools have been faced by several social crises ranging from insecurity to flooding and the recent pandemic (COVID-19) which has made it difficult for instructors and their learners to meet in the regular classroom setting. Similarly, it is expected that with these developments, teachers should have switched to the virtual mode of learning so that the purpose/essence of secondary education will not be jeopardized. It however remains uncertain if these teachers are familiar with some of the virtual learning platforms that can be used for instructional delivery as well as the extent to which these platforms are utilized. This study hence intends to investigate teachers' utilization of virtual learning platforms for instructional delivery within the study context.

Literature Review

Meaningful and result oriented education can only take place in an atmosphere where teachers can freely interact with their students under a well-equipped environment. This is because it is through their channel of instructional delivery that students are able to gather the needed skills and knowledgeable that will enable them bring appreciable changes to their environment. The instructional delivery process also enables the teachers to gather information from the learners and enabling them to learn, unlearn and re-learn. However, this process is only successful when the needed resources for meaningful instructional delivery are available and adequate. Andrew as cited in Garner *et al.,* (2013) asserted that a collection of hardware and software combinations may also be used in instructional formats in order to fulfill the demands of those who are being taught, in this case students or learners, and to achieve the instructional goals of the teacher. Teachers welcome any avenue that will make this goal possible whether it is by meeting in the traditional classroom setting or using the virtual platform which is the new normal.

Virtual Learning Platforms and its Relevance in Schools

Virtual learning platform which is the alternative to the traditional method of instructional delivery has been accepting a wide range of acceptance all over the world as a result of its simplicity, convenience and effectiveness for continuous teaching and learning. Barajas and Owen as cited in Hamid *et al.,* (2018:1296) mentioned that "the Virtual Learning Environment (VLE) is a technology that facilitates learning through in-person and online interactions and Wilson in Hamid *et al.,* (2018) also stated that the VLE is defined by a computer-based environment, internet use, user interaction, viewpoint sharing, and the ability for users to access a variety of helpful resources. This platform makes it easy for teacher and students to connect no matter how far apart they are geographically.

There are several other benefits that teachers can derive from the adoption of virtual platforms both to teach and learn, while Fernández *et al.,* (2011:310) stated that these benefits include "interactivity, flexibility and scalability". All of these makes virtual platforms more teacher and student friendly thereby making it easy for instructional delivery to continue uninterrupted when all the required auxiliary resources have been put in place. Similarly, several virtual learning platforms are evolving to make teachers and students closer than even what is obtainable in the traditional classroom and platforms such as Skype, google classroom and zoom are among the most notable virtual learning platforms which has made it easy for instructional activities to continue between teacher and

students uninterrupted (Minhas *et al.,* 2021). Teachers in public schools in Nigeria especially those in the Southern part of Nigeria are also gradually aligning with this new method of instructional delivery. The uses of virtual learning platforms for instructional delivery are enormous and Glava and Glava (2011:673) stated that:

> The following are some examples of educationally relevant actions that can be developed using this type of virtual classroom software: posting documents, course materials, bibliographic resources, delivering learning tasks, setting up discussion forums, debate groups, chat rooms, instant messaging, and using other audio and video communication tools as well as certain command and administration tools.

Teachers can use virtual platforms to carry out any kind of task that can be carried out in the regular classroom ranging from planning instructions to evaluation, counselling among others. However, these benefits do not come without challenges which are evolving as a result of the newness of these platforms to some teachers. Supporting this assertion, Murgatrotd as cited in Pokhrel and Chhetri (2021:136) "broadly identified challenges with e-learning as problems of accessibility, affordability, flexibility, learning pedagogy, life-long learning and educational policy". It is only when these challenges are dealt with that the full benefits of the platforms can be realized by teachers, students and the education system as a whole.

Global Perspectives on Virtual Teaching and Learning

As the world is becoming more globalized and networked through emerging technologies, various aspects of human life are becoming increasingly technology driven and the education sector is not left out. Therefore, in order to keep up with global best practices, different countries are putting measures in place to promote sustainable education delivery despite geographical boundaries. These inventions make it easy for teaching and learning to take place unhindered using virtual channels. Kintanar *et al.,* (2021) alluded to this by asserting that even in Philippines, students are becoming more acquainted with and prefer using virtual conferencing and learning management systems since this is readily available for use. These students have alternative platforms to choose from based on the availability of variety of digital learning platforms. Experiences however differ from one region to another.

In Sub Saharan Africa, research has shown that very little gains have been made in the area of virtual teaching and learning and while Partnership for African Social & Governance Research (2023) identified the poor state of quality assurance practices, other factors such as population explosion and lack of political will, inadequate stakeholders' interest and shortage of resource allocation have widened digital gaps, making it difficult for schools to practice virtual teaching and learning. Similarly, in South Africa just like other part of the continent, research has shown that students just like their teachers are dissatisfied with the state of digital education (Moonasamy & Naidoo, 2022) and this is simply because supply is lesser than demand for this platform.

The case in Nigeria, particularly in the South-South is not different as Aduba and Mayowa-Adebara (2021) identified that digital division remains a major issue in virtual learning environments as identified by students. The readiness of students to adopt these platforms remains an issue of concern due to the unstable digital environment in the country which has remained a source of concern for many education stakeholders in this digital era.

Empirical Reviews

Some scholars have examined the perception of teachers and students on virtual learning platforms as a channel for instructional delivery. Kintanar *et*

al., (2021) investigated preferred web-based teaching-learning platforms of university students in the new normal at Cebu Technological University–Argao Campus in Cebu, Philippines and found that students prefer virtual conferencing and learning management systems, which are commonly utilized by university lecturers. The students favored virtual conferencing as it allows them to engage in online teaching and learning with their instructors and conveniently access and download course materials. Google Meet, Zoom, and the Messenger Room were the most used virtual conferencing platforms by the teachers at 98.9%, 97.8% and 32.2% response rate respectively.

Similarly, Saidi *et al.,* (2021) also conducted a related study on evaluating students' preferences of Open and Distance Learning (ODL) tools and the study found out that the Google Meet (95%) was the most popular live meeting technology among instructors and students for ODL, followed by Zoom (10%), Cisco Webex (3%), and Microsoft Team (11%) and Jitsi (4%). Darius et al., (2021) also conducted a survey on the effectiveness of online teaching–learning methods for university and college students and the study found that platforms such as animations, digital collaborations with peers, video lectures delivered by teachers in charge of a subject, online quizzes with multiple-choice questions, availability of student version software, a conducive environment at home, and interactions by the teacher all promoted effective online learning.

Furthermore, Martin and Parker (2014) also investigated the use of synchronous virtual classrooms with emphases on the why, who, and how. Instructors used virtual classrooms to increase participation, establish community, and reach students in diverse locations, according to the study's findings. All of this demonstrates that the utility of virtual learning platforms has no bounds as long as users are skilled in their use. However, challenges were identified in its usage and the study by Aduba and Mayowa-Adebara (2021) on online platforms used for teaching and learning during the COVID-19 era focusing on the case of LIS students in Delta State University, Abraka The expense of data, network failure, student laziness, difficulty to administer tests, and students' casual attitude toward lectures are all issues associated with teaching utilizing the online platform, according to the study. Digital division and a lack of social skills among students in virtual learning environments were recognized as issues in a related study by Dung (2020) on the positives and downsides of virtual learning. As a result, if the goals and objectives of education are to be realized in the new normal, virtual teaching and learning platforms as an alternative to the traditional method of instructional delivery will require a collaborative effort among all relevant stakeholders in the region and the country as a whole.

Purpose of the Study

The study mainly investigated teachers' utilization of virtual learning platforms for instructional delivery. Three objectives were specifically formulated from the main purpose of the study which were to:

1) identify the virtual learning platforms used for instructional delivery in public secondary schools in South-South, Nigeria.
2) determine the extent of utilization of these virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria.
3) ascertain the challenges to the utilization of these virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria.

Research Questions

Research questions answered in the study were as follows:

1) What are the virtual learning platforms used for instructional delivery in public secondary schools in South-South, Nigeria?
2) What is the extent of utilization of these virtual learning platforms for instructional

delivery in public secondary schools in South-South, Nigeria?

3) What are the challenges to the utilization of these virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria?

Methodology

The design used for the study was a descriptive survey since the study intends to investigate a situation that is ongoing. The population of the study consisted of all teachers in the teachers in public senior secondary schools in South-South, Nigeria. However, 160 teachers were purposively selected comprising of five teachers from 32 public senior secondary schools (16 from each of Rivers State and Bayelsa State). These teachers are those teaching the compulsory subjects at the senior secondary school level which are English Language, Mathematics, Civic Education, Computer Studies and Entrepreneurship. The instrument used for data collection was a 15-item questionnaire titled "Teachers Utilization of Virtual Learning Platforms

Questionnaire (TUVLPQ)". Research question one was answered using frequency while research question two was answered on a scale of High Extent (HE), Moderate Extent (ME) and Low Extent (LE) and research question three was answered on a scale of Agree (A), Disagree (D) and Not Sure (NS) with weights of 3, 2 and 1 respectively. The instrument was validated by two researchers at the Nigerian Institute of Social and Economic Research (NISER) for face and content validation. The reliability index was estimated using Cronbach alpha statistics with an index of 0.91. The entire 160 questionnaire administered were retrieved on the spot within four weeks using four trained research assistants. The research questions raised were answered using percentage, mean and standard deviation scores.

Results and Discussions

RQ1: What are the virtual learning platforms used for instructional delivery in public secondary schools in South-South, Nigeria?

Table 1: Percentage Scores of the Virtual Learning Platforms Used for Instructional Delivery

ITEMS		Frequency	Percent
	Zoom	102	63.8
	Google Class	51	31.9
	Skype	7	4.3
Total		160	100.0

As presented in table 1, Zoom, Google Class and Skype were platforms used for instructional. However, the responses showed that 102 teachers representing 63.8% used the Zoom platform while 51 teachers representing 31.9% used the Google Class for instructional delivery and only 7 teachers depicting 4.3% used Skype for instructional delivery.

The Zoom platform had the highest level of utilization among the itemized virtual learning platforms highlighted.

RQ2: What is the extent of utilization of these virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria?

Table 2: x̄ and SD Scores of the Extent of Utilization of these Virtual Learning Platforms for Instructional Delivery

S/No	ITEMS	High extent	Moderate extent	Low extent	Mean	Std. Dev	
1	The platform is used for transmitting assignment to students	12.8	15.1	48.0	1.54	.769	LOW EXTENT
2	The platform is used for delivering planned lessons	13.4	16.2	46.4	1.64	1.117	LOW EXTENT
3	Academic counselling sessions are held on the virtual platform with students	17.9	24.6	35.2	1.78	.799	LOW EXTENT
4	Examinations are conducted using the online platform	8.4	25.1	44.1	1.54	.684	LOW EXTENT
5	The virtual learning environment is used for communicating academic instructions to students	14.0	21.8	40.2	1.65	.773	LOW EXTENT
6	The platform is used for carrying out team project work	10.6	17.3	48.6	1.50	.729	LOW EXTENT
7	The platform is used for receiving academic feedback from students	15.6	15.6	45.8	1.61	.805	LOW EXTENT

Table 2 showed that the responses of the teachers to items 1, 2, 3, 4, 5, 6 and 7 produced mean scores of 1.54, 1.64, 1.78, 1.54, 1.65, 1.50 and 1.61. All of these mean scores were below the criterion mean score of 2.00 used for decision making and implied that there was a low extent to which teachers utilized the virtual learning platforms for transmitting assignments, delivering planned lessons, counselling, conducting examination, communicating, carrying out team projects and getting feedback from students. These outcomes suggest a low extent of utilization of these platforms for instructional delivery activities among the teachers.

RQ3: What are the challenges to the utilization of these virtual learning platforms for instructional delivery in public secondary schools in South-South, Nigeria?

Table 3: x̄ and SD Scores of the Challenges to the Utilization of These Virtual Learning Platforms for Instructional Delivery

S/No	ITEMS	Agree	Disagree	Not sure	Mean	Std. Dev	Remark
8	The level of digital literacy is still very low	52.0	11.2	11.7	2.54	.753	Agree
9	The course content does not allow for virtual instruction	20.7	24.6	31.3	1.86	.815	Not sure
10	Cases of cyber threats is a bane to the adoption of virtual learning techniques	43.0	11.2	21.8	2.28	.884	Agree
11	Malfunctioning of devices is a threat to the process	54.2	10.6	11.2	2.57	.737	Agree

12	Organization of work process is a limiting factor	40.2	8.4	28.5	2.15	.935	Agree
13	Virtual learning environment is not suitable for the disabled	21.2	35.8	19.6	2.02	.732	Disagree
14	The platform creates isolation between the teacher and the students	25.1	30.1	21.2	2.05	.777	Disagree

Table 3 indicated that the responses of the teachers to items 8, 9, 10, 11, 12, 13 and 14 produced mean scores of 2.54, 1.86, 2.28, 2.57, 2.15, 2.02 and 2.02. Only items 8, 10, 11 and 12 with mean scores of 2.54, 2.28, 2.57 and 2.15 were agreed while the remaining items were disagreed or the respondents were not sure. This implied that digital illiteracy, cyber threats, malfunctioning devices and workload were challenges teachers faced in the utilization of virtual platforms for instructional delivery in these schools.

Discussion of Findings

In the findings of the study, it was revealed that 63.8% of the teachers were familiar with the Zoom platform of instructional delivery and this was followed by Google Class and then Skype. This finding points to the fact that Zoom is the most recognized virtual learning platform among the teachers despite the fact that other virtual teaching and learning platform exists. This finding only corroborates a similar study conducted by Kintanar *et al.,* (2021) on the preferred web-based teaching-learning platforms of university students in the new normal which showed that students of Cebu Technological University–Argao Campus in Cebu, Philippines 97.8% familiar with Zoom and this was only second to Google Meet with response of 98.9%. This only indicates that the Zoom platform has popular recognition among teachers or on the contrary the teachers have not been able to tap into other available virtual platforms.

Supporting the fact that teachers need to increase their familiarity and use of virtual platforms, the study carried out by Saidi *et al.,* (2021) on evaluating students' preferences of Open and Distance Learning (ODL) tools revealed that Google Meet was the most popular at 95% Zoom (10%), Cisco Webex (3%), and Microsoft Team (11%) and Jitsi (4%). This again upholds the popularity of the Zoom platform and the need for other platforms to become more teacher and students friendly to increase their usage in the school environment.

The responses of the teachers on the utilization showed that there was still a low extent of utilization of virtual platforms for all instructional delivery activities such as delivering lessons and giving assignments among others. This position negates the outcome of the study by Darius et al., (2021) on the effectiveness of online teaching–learning methods for university and college students which established that the platform was already being used for animations, digital collaborations with peers, video lectures, online quizzes with multiple-choice questions among others. Therefore, the fact that the teachers cannot even use the platform for conducting evaluation activities either depicts a low extent of acceptance or a low extent of skillfulness which should motivate the teacher to use these platforms.

Furthermore, the response that these platforms were not also adequately used for getting feedback from students and giving of assignments is also at variance with the result of the study by Martin and Parker (2014) on the use of synchronous virtual classrooms with emphases on the why, who, and how which showed that virtual classrooms contributed to increased participation, establish community, and reach students in diverse locations. This indicates that teachers have a lot that can be achieved educational with virtual learning platforms but this is subject to their level of competence and exposure to possible uses.

The participants of the study agreed that the level of digital literacy is still very low which may pose challenge to adoption of virtual platforms for instructional delivery. They also agreed that cases of cyber threat were a bane to the adoption of virtual platforms as well as malfunctioning of devices and work overload. This slightly agrees with the result of the study by Aduba and Mayowa-Adebara (2021) on online platforms used for teaching and learning during the COVID-19 era focusing on the case of LIS students in Delta State University, Abraka which established that digital division and a lack of skills were challenges to virtual learning environments in the study areas. This calls for immediate action from relevant stakeholders for the gains of virtual learning platforms to be fully appropriated.

On the other hand, the participants disagreed that virtual platform is not suitable for the disabled and that the platform creates isolation between the teacher and the students and that they were not sure the course content allow for virtual instructional delivery. This agrees with the position of the findings in the study by Dung (2020) on the positives and downsides of virtual learning which indicated that virtual platforms as an alternative method of instructional delivery will require a collaborative effort among all relevant stakeholders and as such teachers and the relevant school administrators must be ready to harmonize to make this new technology a lasting system of instructional delivery in these schools.

Conclusion and Recommendations

The study concluded that the Zoom virtual learning platform was the most used alternative platform for instructional delivery used by teachers in public secondary schools in South-South, Nigeria. It was shown that there was still a low extent to which these virtual learning platforms were utilized for instructional delivery among teachers in the public secondary schools in South-South, Nigeria. Similarly, the study revealed that the factors hindering the utilization of these virtual learning

platforms among teachers included problem of digital illiteracy, malfunction of devices, cyber threats and excessive work load in these schools. Based on these, It was recommended that:

1) Teachers need to be trained on the use of alternative virtual learning platforms in order to have options for instructional delivery when the need arises. This will help to ensure that teachers and students are fully prepared for the transition into full time virtual teaching and learning in the schools.

2) The government needs to implement policies that will compel the teachers to utilize virtual learning platforms for all academic activities as part of the rules of engagement as this will make teachers and students to be more virtually inclined and ready to teach and learn under any condition that threatens regular classroom gathering.

3) The government needs to be financially committed to public education in this new era of virtual teaching and learning as adequate funding is needed for training and procurement of resources that will be needed for virtual educational interactions between the teacher and students in these schools.

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