

Creating Interactive Online Learning Experiences among Secondary School Students in Lagos State, Nigeria.

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ABSTRACT

In the recent time teaching and learning is no more confined to face-to-face exercise where the students are mere listeners instead of fully participate in the class activities. The purpose of this study is to determine how to create interactive online learning experiences among secondary schools in Lagos State, Nigeria. It was a survey study and the population for the study included all the teaching staff members of all the Public Senior Secondary School in Shomolu Local Government Area. Random sampling technique was used to select 100 teachers who responded to the developed questionnaire. A structured questionnaire containing 40 questionnaire items were developed on four point scales. The response scale for the questionnaire is Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The questionnaire was face validated while the reliability of the test was determined using test re-test procedure. The findings of the indicated that there are number ways which online learning can be made interactive. These ways include: involving feedback, creating interactive activities, Assignments & Breakout groups, exploring other free ICT tools, limiting seat time, good teachers/student relationship, discourage absenteeism, allow few minutes of jokes among students during classroom activities and creating course content that is engaging and encouraging peer. Teachers and students related challenges to effective and interactive online learning include lack of motivation in online learners, technical difficulties with online teaching tools, time-consuming resources, setting and forgetting online learning activities, poor

learning outcomes, lack of appropriate devices, poor learning space at home, stress among students, lack of fieldwork and access to laboratories and loneliness. It was recommended that creating interactive online learning experiences among secondary school students in Lagos State, could be through involving feedback, creating interactive activities, assignments and breakout groups, exploring other free ICT tools, limiting seat time and good teachers/student relationship.

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Introduction

Ali (2020) observed that this academic year has brought new challenges with it making it more important than ever that classes whether in-person, mixed or online with e-learning utilize creative tools and methods to keep students' interest. As schools move away from traditional lecture-filled classrooms where students are mostly silent and often unengaged, teachers are seeking alternatives with interactive online learning. Globally, methods of teaching and learning in education seem to be constantly changing. Learners are no longer expected to sit on desks in a designated venue and take notes on a lecture. Lessons are much more engaging and interactive especially in developed countries where the facilities are available and are been used. Interactive learning is a hands-on, real-world approach to education. According to Mary (2020), Stanford University School of Medicine, 'interactive learning actively engages the students in wrestling with the material. It reinvigorates the classroom for both students and faculty. Lectures are changed into discussions, and students and teachers become partners in the journey of knowledge acquisition.

Interactive learning is a technique that seeks to get students actively engaged in the learning process, often through the use of technology. This is in contrast to more passive techniques where the learners are expected to sit on desks, listen to the teacher and take notes. Turning Technologies (2020) said that interactive learning is one method that instructors often integrate into their classrooms in order to capture student attention and increase their understanding of the course material. Below is a brief primer on this popular teaching strategy, along with some tips for getting started with it in your classroom. It is a real life approach to education founded upon building student engagement through guided social interaction. Interactive learning is a holistic methodology that has both online and offline components, which together make a complete educational experience. In interactive learning students strengthen their critical thinking and problem-solving skills using a much more holistic approach to learning. Interactive classroom

activities are activities that forgo one-way communication, or individual learning in favour of getting students involved and engaged the lessons or material. Interactive classroom activities can arouse students' interest to understand what they are learning on a deeper, less stressful and more integrated level which can make the classroom experience a more successful and rewarding. Mary (2020) observed what future classrooms might look like as interactive learning continues to evolve: **Highly creative lesson plans:** In the past, dusty black and white chalkboards were the focal point of the classroom which may not always hold learners' attention. Today, teachers who understand the value of interactive learning employ a variety of mixed media content such as video clips, quizzes, polls and social media, to keep lessons interesting. For more complex material, teachers may cycle through several different software systems or web applications, making previously resource-intensive lessons easier to complete. Interactive learning offers teachers the ability to adapt and change lessons easily to accommodate different learning styles or simply to keep students engaged.

Increased student engagement: Interactive learning also promotes a culture of engagement. As students become more deeply invested in the material, their brains are less likely to succumb to distraction or shut off in the middle of a lesson. Some classrooms accomplish this with digital whiteboards, which help students conceptualize subjects like never before. Even complex or seemingly unreliable material transforms into an immersive learning experience. Interactive learning also promotes a culture of engagement. As students become more deeply invested in the material, their brains are less likely to succumb to distraction or shut off in the middle of a lesson. Mary (2020) pointed out that some classrooms accomplish this with digital whiteboards, which help students conceptualize subjects like never before. Even complex or seemingly unreliable material transforms into an immersive learning experience. Even complex or seemingly unreliable material transforms into an immersive learning experience. Students may also be invited to more fully engage with a lesson by inviting them to take more ownership in the learning process. Mary (2020) further said that some classrooms provide students with screen recording software. This lets them share what's on their laptop or tablet and ask the rest of the class questions about a particular passage or concept. Hence engagement becomes contagious as other students take part in the conversation and offer their insights.

Glenn M. K (2020) observed that school closures in response to the pandemic led teachers to make heroic efforts to provide their students with online learning experiences and continued connections with their teachers and classmates. This has placed a spotlight on the critical need for all students to have access at home to the devices and Internet connectivity required for online learning. A related critical issue also needs to be spotlighted: the lack of readiness of many teachers to employ online teaching effectively. Most teachers have moved their existing course materials

online, provided live or recorded versions of their classroom lectures, and employed a social networking or discussion tool to enable interactions with and among students. However, in many cases the effectiveness of the implementation of the online courses has been limited. The hindering factors include:

Poor Internet connectivity (Technical Issues): Many students are not provided with the high bandwidth or the strong internet connection that online courses require, and thus fail to catch up with their virtual classmates: Their weak monitors make it hard to follow the Course Management System and their learning experience becomes problematic. Some of them don't even own computers and seek help in Learning Resource Centres for technical assistance. It is expected of the students to acquire technological support they will need as well as properly equipping themselves for the successful completion of the programme.

Computer Literacy: Some students are generally computer literate and thus able to manage computers well, lack of computer literacy is a major issue among teachers and students today. Many of them cannot operate basic programs such as Microsoft Word and PowerPoint and therefore are unable to handle their files. Furthermore, many teachers and students find it difficult fixing basic computer problems as they have little no knowledge in it. Sunil (2015) noted that technological proficiency is a must for following online courses, as it enables students to manage their assignments and courseware in an organized manner without struggling. Basic courses in computer literacy enhance students' knowledge in the field; having a fundamental knowledge of computer hardware would help them participate in online classes without interruptions and hindrances.

Accessibility of Internet tools by teachers and students: Some teachers and students do not own computers especially those in rural areas. Online learning cannot take place without this basic tool and other requirements that may assist in effectiveness of the online teaching exercise. Most parents cannot afford to buy computers for their wards let alone the issue of connectivity. These parents are poor, live in farm settlements where there is no electricity.

Adaptability Struggle: Sunil (2015) pointed out switching from traditional classroom and face to face teaching to computer-based virtual classroom makes the learning experience entirely different for both teachers students. Their resistance to change doesn't allow them to adapt to the online learning environment, whereas it takes time for them to get accustomed to Course Management Systems (CMS) and the methods of computer-based education. While passive listening and notes taking are expected in a traditional classroom, online discussions or creating a web page demand springing into action. Teachers and students with a "traditional" mind-set find it difficult to adapt; however, they need to accept the new learning circumstances with an open mind and heart. Understanding the benefits of eLearning and even discussing them with their peers may change this mind-set and better prepare students for online classes.

Time Management and Self-Motivation: Self-motivation is an eLearning essential requirement; however, many online learners lack it, much to their surprise. Students need to find the motivation to follow the new educational trends and also properly equip themselves for future challenges in their education and careers. Only a positive attitude will help them overcome the challenges in eLearning; though this is hard to practice, students need to understand that it is necessary in order to reap the eLearning's benefits in the future.

Statement of the Problem

School closures in response to the pandemic led teachers to make concerted efforts to provide their students with online learning experiences and continued connections with their teachers and classmates. This has placed a spotlight on the critical need for all students to have access at home to the devices and Internet connectivity required for online learning for effective interactive sessions with the teachers. In the past, dusty black and white chalkboards were the focal point of the classroom which may not always hold learners' attention. Today, teachers who understand the value of interactive learning employ a variety of mixed media content such as video clips, quizzes, polls and social media, to keep lessons interesting. For more complex material, teachers may cycle through several different software systems or web applications, making previously resource-intensive lessons easier to complete. Interactive learning offers teachers the ability to adapt and change lessons easily to accommodate different learning styles or simply to keep students engaged.

Purpose of the study

The study is on Creating Interactive Online Learning Experiences among Secondary School Students in Lagos State, Nigeria. Specifically The study intends to:

1. Find out how to make online learning interactive.
2. Find out teacher related challenges to effective and interactive online learning.
3. Find out students' related challenges to effective and interactive online learning.
4. Find out online learning tools mostly used.

Research Questions

1. How can online learning be made interactive?
2. What are the teachers related challenges to effective and interactive online learning?
3. What are the students related challenges to effective and interactive online learning?
4. What are the online learning tools mostly used?

Method

The design adopted for the study is a survey. The population for the study include all the teaching staff members of Senior Secondary School in Shomolu Local Government Area. The area is chosen because there are both middle and upper class parents living in the area.

Sample and Sampling Technique

A random sampling technique was used to select ten Public Senior Secondary Schools in the area. Ten teaching staff was randomly picked from each of the ten schools making a total of 100 respondents.

Instrument for Data Collection

A structured questionnaire containing 40 questionnaire items were developed on four point scales. The response scale for the questionnaire is Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The questionnaire is in four sections A – D, corresponding to the four research questions raised for the study. Section ‘A’ seeks to elicit information on how online learning can be made interactive while section ‘B’ sought information on challenges to effective and interactive online learning. Section ‘C’ elicited information on students related challenges to effective and interactive online learning while section ‘D’ asked questions on online learning tools mostly used.

Validation of Instrument

The questionnaire was face validated by four experts, two from the Department of Science and Technology Education, Faculty of Education, another from measurement and evaluation of the Department of Educational Foundation, and a staff of Centre for Information and Technology Service (CITS) University of Lagos. They all made their inputs and suggestions and the items were finally adjudged.

Reliability of the Instrument

The reliability of the test was determined using test re-test procedure. Twenty copies of the questionnaire were administered on teachers of CMS Grammar School, Bariga on two occasions at interval of three weeks. The respondents are not part of study. The two sets of scores were correlated using the Spearman Rank Ordered Correlation Coefficient. The result yielded 0.77.

Data Collection and Analysis

A total of 100 copies of the instrument were administered on the responded. They were all completed and returned. Mean and Standard Deviation were employed to analyze the data for research question 1, 2 and 3 while research question 4 was analyzed using frequency and percentage. Mean value of 2.50 and above is regarded as Agreed while mean value below 2.50 is regarded as Disagreed.

Table 1 showed that all the factors raised are ways of making online learning interactive with item 9, the highest mean value of 3.08 and item 10 the highest standard deviation of 0.82. From the table it can be inferred that online learning can easily be made more interactive through various methods.

Research Question 1: Find out how to make online learning interactive?

Table 1: Reponses of the teachers on how to make online learning interactive

S/No	Items	SD	\bar{X}	Remark
1	Ask for feedback	0.68	3.01	Agreed
2	Encourage peer evaluation	0.71	2.68	Agreed
3	Provide Interactive Activities	0.58	3.45	Agreed
4	Assignments & Breakout Groups	0.81	2.72	Agreed
5	Explore Other Free Tools	0.59	2.86	Agreed
6	Limit seat time	0.77	2.88	Agreed
7	Teachers should consider personal Adequate contact with students.	0.81	2.56	Agreed
8	Be aware of absenteeism	0.49	3.00	Agreed
9	Allow few minutes of jokes among students	0.63	3.08	Agreed
10	Creating course content that is engaging	0.82	3.45	Agreed

Allow few minutes of jokes among students which have the highest mean value can reduce fatigue and also create enthusiasms among students.

Research Question 2: What are the teachers related challenges to effective and interactive online learning?

Table 2: Reponses of the teachers on the teachers related challenges to effective and interactive online learning

S/No	Items	SD	\bar{X}	Remark
1	Isolation. Learning from home can be lonely.	0.83	2.60	Agreed
2	Lack of motivation in online learners.	0.68	2.76	Agreed
3	Technical difficulties with online teaching tools.	0.57	3.06	Agreed
4	Time-consuming resources.	0.78	1.89	Agreed
5	Setting and forgetting online learning activities.	0.72	2.01	Disagreed
6	Need help with distance teaching?	0.77	1.27	Disagreed
7	Online courses require more time than on-campus classes.	0.83	2.10	Disagreed
8	Online courses make it easier to procrastinate.	0.77	1.56	Disagreed
9	Online courses require good time-management skills.	0.68	2.67	Disagreed
10	Online courses may create a sense of isolation.	0.80	2.80	Disagreed
11	Online courses allow you to be more independent.	0.79	3.28	Disagreed

From the table 2, most of the respondents agreed that items 1, 2, 3, 4, 9, 10 and 11 are teachers' related challenges to effective and interactive online learning. Some of these factors as stated in the table don't affect the online teaching and learning. The items like procrastination, sense of isolation, independent and some others have nothing to do with the teachers' online lesson delivering however, long stay at home without facial contact with students could cause loneliness.

Research Question 3: What are the students related challenges to effective and interactive online learning?

Table 3: Reponses of the teachers on the students' related challenges to effective and interactive online learning.

S/No	Items	SD	\bar{X}	Remark
1	Lack of social interaction among students.	0.84	2.86	Agreed
2	Poor communication.	0.78	2.26	Disagreed
3	Lack of ICT resources	0.91	3.10	Agreed
4	Poor learning outcomes	0.84	2.03	Disagreed
5	Lack of appropriate devices	0.59	3.10	Agreed
6	Poor learning space at home.	0.63	2.75	Agreed
7	Stress among students.	0.71	2.88	Agreed
8	Lack of fieldwork and access to laboratories.	0.68	3.08	Agreed
9	Loneliness	0.71	2.68	Agreed

It is revealed in table above that most of the respondents agreed that all the items are challenges to effective and interactive online learning. Items 2 and 4, poor communication and poor learning respectively were disagreed on as students' related challenges to effective interactive online learning. These factors do affect both teaching and learning among students.

Research Question 4: What are the online learning tools mostly used?

Table 1: Reponses of the teachers on the online learning tools mostly used.

S/No	Items	Frequency (f)	Percentage (%)
1	Edmodo	126	84
2	Socrative	53	35.33
3	Projeqt	-	-
4	Thinglink	-	-
5	TED-Ed	3	2
6	cK-12	-	-
7	ClassDojo	35	23.33
8	eduClippe	10	6.66
9	Storybird	-	-
10	Animoto	-	-
11	Kahoot!	-	-
12	Google Classroom	100	66.66
13	Khan Academy	76	50.66
14	Seesaw	-	-
15	Quizlet / Quizlet Live	-	-
16	Microsoft Teams	72	48
17	Nearpod	-	-
18	Buncee	-	-
19	Hapara	-	-
20	Flipgrid	-	-

Table 4 showed that most of the needed ICT tools are not used by teachers probably because of poor knowledge of the tools. However, facilities for these tools may not be available for download. It is also an extra cost for the users which may not compensated.

Findings of the study

The following findings were made in the study:

1. There are number ways which online learning can be made interactive. These ways include: involving feedback, creating interactive activities, Assignments & Breakout groups, exploring other free ICT tools, limiting seat time, good teachers/student relationship, discourage absenteeism, allow few minutes of jokes among students during classroom activities and creating course content that is engaging and encouraging peer evaluation.
2. Teachers related challenges to effective and interactive online learning include lack of motivation in online learners, technical difficulties with online teaching tools, time-consuming resources, setting and forgetting online learning activities. Online courses require more time than on-campus classes, online courses make it easier to procrastinate, online courses require good time-management skills and online courses may create a sense of isolation.
3. Students related challenges to effective and interactive online learning are Poor communication, lack of ICT resources, poor learning outcomes, lack of appropriate devices, poor learning space at home, stress among students, lack of fieldwork and access to laboratories and loneliness.
4. The result of the study showed that the online learning tools mostly used are few as compared to various online tools available. Those frequently used are: Edmodo Socrative, TED-Ed, classDojo, edu clippe, goggle classroom, Khan Academy, micro-soft and Khan Academy.

Discussion of the findings

It is evident from the study that online learning can be interactive and there are a number of ways it can be enhanced. These ways identified in the study are: involving feedback, creating interactive activities, Assignments & Breakout groups, exploring other free ICT tools, limiting seat time, good teachers/student relationship, discourage absenteeism, allow few minutes of jokes among students during classroom activities and creating course content that is engaging.

In line with the findings of the study Will (2021) pinioned that engaging learners in your online learning program is one of the keys to ensuring they learn effectively and get the most out of what they are doing. One of the most effective ways to make learners more engaged in what they are doing it to make it interactive. With interactive online learning experiences, learners have no option other than to get involved and take an active role in their learning. Here are five simple ways to engage your learners by making your online learning program more interactive.

Ask for feedback

Any chance the learners have to leave feedback is a great opportunity for interaction. How we respond to the feedback can also have other advantages for streamlining programs and making them more relevant.

Let people choose the way

Giving the learner the choice of where to start in a selection of topics and units allows them to pick out relevant content instantly and become engaged in the program. They can be guided along the learning path with recommendations or some compulsory units if necessary, but letting them choose the order in which they learn topics empowers and engages the learner.

Make it social

Social functions such as sharing and commenting on content are part of the way most of us are used to communicating. Combined with ramification, this makes any course more interactive. It's a lot of fun for the learners, too.

Invite learners to contribute

Having the learners contribute their knowledge by making resources or hosting online group study sessions is another way to empower them. Task-based learning can provide the learners with a real, relevant outcome which can be shared with other learners who are earlier in their learner journey to inspire them and help with their studies.

Encourage peer evaluation

A classic classroom technique that works a treat online. Enabling learners to review each other's work reinforces their understanding of what they are doing and encourages a culture of sharing which can be valuable in spreading best-practice.

Discussing on making online interactive, Karen (2021), suggested limit seat time where one has to concentrate to no more than 40 minutes; then engage in some physical activity to distract people and get their body to engage. This helps the mind engaged. He was of the opinion that the problem of ghosting is occurring and teachers need to be made aware of this and assess the reasons the child/children is/are not participating. This is key and it cannot be allowed to linger. Also children should be allowed to play and experience the joy of learning; that cannot disappear online. Laughter and joy and self-expression are more central than ever. This can be done through humour, tongue twisters, charades, and other activities. The point is to engage children in fun activities and play which can lead to learning. And, if children are not getting pleasure from learning, the quality and effectiveness of learning are diminished. Different learning environments work differently for different children. Let them pick a place that works for them. Seriously, it matters where one learns, and having choice matters too.

Amy Peterson (2016) said that the use of multiple communication tools is engaging and that the

teacher is not alone in wanting to increase and enhance student engagement and interaction. For example, schools can create a program-wide social network that allows students to continue their relationships with other students from course to course. Within this private social network, the administrators and support staff can use direct messages, announcements, and live events to enhance student engagement in the program.

Elsa, Nasrullah & Eka (2020) observed that successfully shifting from classroom-based teaching to online teaching requires an engagement strategy. After all, if students aren't paying attention during class lessons, they won't be in a position to learn anything. An engaged audience is also an active audience. This results in a vibrant classroom environment and encourages the types of behaviours and results that the teacher would like to see. With a fun-focused online teaching game plan, all this is possible. The engagement soon turns into motivation and motivation soon turns into a habit.

First from beginning, online synchronous instruction in a virtual classroom is problematic. The truth is that collecting the class online at the same time is becoming harder and harder, let alone being able to offer structured lectures and encourage learning activities. Time zones, Internet access and bandwidth, technological breakdowns, individual student schedules (work vs. study), are all real problems facing online teachers and learners. Even if an instructor manages to get all students to come to virtual classrooms at the same moment, basic things like lack of lip coordination and verbal clues, time lags, bad sound and pictures, turn-around, etc., become major challenges (Coverdale-Jones, 2000; Hampel & Stickler, 2005; Wang, 2004).

Rasheed, Kamsin, & Abdullah, (2020), pointed out that the biggest challenge for doing online learning is in the teacher's feeling itself. The negative perception about technology influences the willingness of the teacher to explore more technologies.

Conclusion

Based on the research findings and discussion, it can be concluded that creating interactive online learning experiences among secondary school students in Lagos State, could be through involving feedback, creating interactive activities, assignments and breakout groups, exploring other free ICT tools, limiting seat time, good teachers/student relationship, discourage absenteeism, allow few minutes of jokes among students during classroom activities and creating course content that is engaging and encouraging peer. Also learners should be allowed to play and experience the joy of learning; that cannot disappear online. Laughter and joy and self-expression are more central than ever. The biggest challenge for doing online learning is in the teacher's feeling itself. The negative perception about technology influences and the willingness of the teacher to explore more technologies.

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