

# African Journal of Education and Practice (AJEP)

## IS DISTANCE e-LEARNING OPTION ACCEPTABLE BY NIGERIANS AMIDST COVID-19 PANDEMIC?

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### Abstract

**Purpose:** In Nigeria, the current COVID-19 Pandemic stands-still virtually all formal learning activities, especially in Government owned institutions. Therefore, the aim of this study was to assess the perception and readiness of Nigerians on adapting Distance e-Learning option during and even after the COVID-19 Pandemic.

**Methodology:** The study applied a quantitative cross-sectional design approach. A closed-ended e-questionnaire was designed using google form and distributed in a snowball fashion-wise via online platforms. Three categories of the audience were targeted: teachers, students and parents. Descriptive statistics were used to analyze responses. ANOVA was used to analyze the collective decision across the three categories.

**Findings:** The findings revealed that there is no difference amongst the three groups in their final decisions on willingness to adapt ( $F(0.187)$ ,  $p$ -value 0.83), and kick-start distance learning ( $F(0.469)$ ,  $p$ -value 0.63). Poor internet infrastructure and unstable electricity supply were some of the challenges identified.

**Unique contribution to Theory, Practice, and Policy:** The study highlights the willingness of Nigerians in adapting distance e-learning approach as a viable alternative to traditional face-face learning amidst COVID-19 Pandemic and beyond. Administrative involvements are crucial to actualizing this educational dream of Nigerians.

**Keywords:** COVID-19 Pandemic, Distance e-learning, Nigeria's education system

## 1.0 INTRODUCTION

The novel coronavirus, SARS-CoV-2, spreads rapidly from country to country, causing the current Pandemic. This virus negatively affected virtually all human development sectors such as health, economy, education and general quality of life (1). Countries across the globe have implemented various measures to curtail the spread of this virus. One of the frontline measures in this curtailing effort is the closure of schools at all levels. Unlike in other continents/countries, the education system in the African region is almost totally grounded. In Nigeria, for example, nationwide closure of schools as part of the Government early measures taken. However, this closure had caused teachers and students more than half a year outside formal teaching and learning, which in turn affects their productivity and general well-being. As the health crisis unfolded, causing massive socio-economic disruptions, education systems worldwide were swift to react and adapt. The need to adapt to different and available learning methods, such as the Distance e-Learning (DL) system becomes paramount. Distance e-learning is the learning system where the facilitator and learners are not physically present in the place. Although it is not new to the learning system, COVID-19 Pandemic is just reviving its need.

The challenge of closing schools does not appear to be so in most developed countries as they quickly switched to an alternative teaching and learning method - the DL (2,3). DL becomes a priority requiring teachers to move to online delivery of lessons (4). In regions with low internet connectivity, traditional-distance-learning methods, often use a mix of television and radio programming and distribution of printout materials. DL aims to assist instructors (teachers and parents) in facilitating students' learning during and beyond the Pandemic. It plays a crucial role in helping teachers to manage, plan, deliver and track the learning and teaching process (5). This is contrary to some misconceptions about DL as either compromising standard or a room for obtaining a cheap certificate. In spite of these essential advantages, DL entails some challenges as well. These can largely be attributed to the digital divide with the disadvantage of having limited access to necessary infrastructures such as; electricity, lack of technological resources, and low levels of digital literacy among teachers, students and parents (4,5).

It is estimated that over 90% of students worldwide are affected by the school closure measure (6). For instance, nearly 40 million learners suffer this effect in Nigeria (7). While this fatality is preventable, it remains a nightmare in the country (8,9). With the recent Government plan to reopen schools, it is unsure how COVID-19 precautionary measures, especially the social distancing, will be observed in the face-to-face (physical) school environment. Thus, the aim of this study was to assess the perception and readiness of Nigerians in adapting DL as an alternative approach to the traditional physical learning method, during and even after the COVID-19 Pandemic.

Despite the importance of DL in view of modern realities and as a viable alternative to the face-face teacher-student relationship, no effort was made to ascertain Nigerians' readiness to accept the innovation. Particularly, when schools are shut down due to COVID-19 Pandemic. In this article, we present the views of Nigerian teachers, students and parents. This is to serve as a wake-up call to policymakers in the education sector to officially declare and enforce implementation of DL option in the country. The paper is structured in five sections, thus; following this background, section two presents empirical and theoretical literature, section three

highlights methodology, section four presents and discusses results, and section five contains a conclusion and recommendations.

## 2.0 EMPIRICAL AND THEORETICAL LITERATURE

### 2.1 Empirical Literature

**Table 1: Previous Studies on the Impacts of e-learning on Learners**

Study	Methodology	Findings	Conclusion
Salamat L. et al. (10)	Quantitative research method using simple random sampling technique	e-learning provides time flexibility and motivates students them towards independent learning.	e-learning is a system that provides time flexibility to the students, learning independently.
Elfaki, et al. (11)	Facility-based and quasi-experimental research design and purposive sampling technique.	e-learning group had significantly higher scores and satisfaction compared to the traditional learning group.	There is a significant difference in learning outcomes using e-learning.
Sarikhani (12)	Pre-test/post-test experimental design using independent t-test.	e-learning method leads to a significantly higher score on learners' knowledge and creativity than the experimental group.	e-learning is effective for knowledge and creativity acquisitions
Zangeneh et al. (13)	A quasi-experimental method using multi-stage random cluster sampling.	ICT boosts the creativity of learners.	Creativity is a product of ICT
Alkhalaf et al. (14)	IS Success/Impact Measurement framework.	The use of e-learning systems shows a positive impact on student learning.	e-learning enhances learning.

*Source: authors design from various empirical studies, (10), (11), (12), (13) and (14)*

### 2.2 Theoretical framework

E-Learning systems are evolving concept, rooted in the concept of Computer-Assisted Instruction (CAI). The concept of CAI was first discovered in 1955 as a means of teaching problem-solving (15). Theory of e-learning incorporates three distinct concepts; *first*; Pedagogical Models; regarded as the basis of learning theory, and it links learning theory to e-learning practise (16). Some of the pedagogical models used in e-learning include; open learning, distributed learning, learning communities, communities of practice, and knowledge building communities (17). *Second*, Instructional strategies; regarded as enablers to learning (18). These include story-based learning, scenario-based learning, micro-learning, gamification; (19,20). *Third*, learning technologies; these are a diverse range of technological tools that teachers can



use to enhance learning and teaching situations, such as internet, YouTube, Skype, Twitter, smart-boards, blogs, and podcasting.

The e-learning systems' theoretical framework contains the three main components of information systems. These components are people, technologies, and services (17). Interaction of these information system component and the above three distinct concepts, derived what can be regarded as e-learning theoretical framework. The framework is well designed, clearly articulated and detailed discussed in (17).

### **3.0 METHODS**

#### **3.1 Study Design and Sampling**

This study used a quantitative cross-sectional design. A closed-ended e-questionnaire was designed using google forms and distributed in a snowball fashion-wise, via online platforms. Data was collected for 30 days, from September 28 to October 27, 2020. Three categories of the audience were targeted as the study population: teachers, students and parents at all levels (primary schools to universities) from all the 36 states and Federal Capital Territory, Abuja, Nigeria. A sample size of 335 respondents, including 122 from teachers, 100 from students and 113 from parents, was obtained. The responses generated were from 22 states cutting across all the six geo-political zones of the country.

#### **3.2 Data Collection**

The e-questionnaire was administered to the targeted audience and distributed online via emails, and social media platforms, worthy of mentioning are the WhatsApp and Facebook. Electronic informed consent was obtained before enrolling into the study. Respondents were encouraged to fill each questionnaire that is applicable only once. However, one person was allowed to fill more than one questionnaire if applicable. Each questionnaire has four sections; the first section captured the respondents' demographic information like gender, age, marital status, states of origin, residence and schooling/teaching, as well as the school levels. The second and third sections assessed the responder's knowledge and experience on DL, and their willingness/readiness to adapt to the learning model during and after COVID-19 Pandemic, respectively. Finally, the last section was on the challenges associated with the learning method. At the end of each section, respondents were asked to write any another opinion they think is relevant. For the closed questions, respondents were required to choose an option from 1 to 5 where 1; Strongly Agree, and 5; Strongly Disagree. At the expiration of the data collection period, available data was downloaded from the various e-platforms in a Microsoft Excel file, cleaned and formatted accordingly.

#### **3.3 Statistical Analysis**

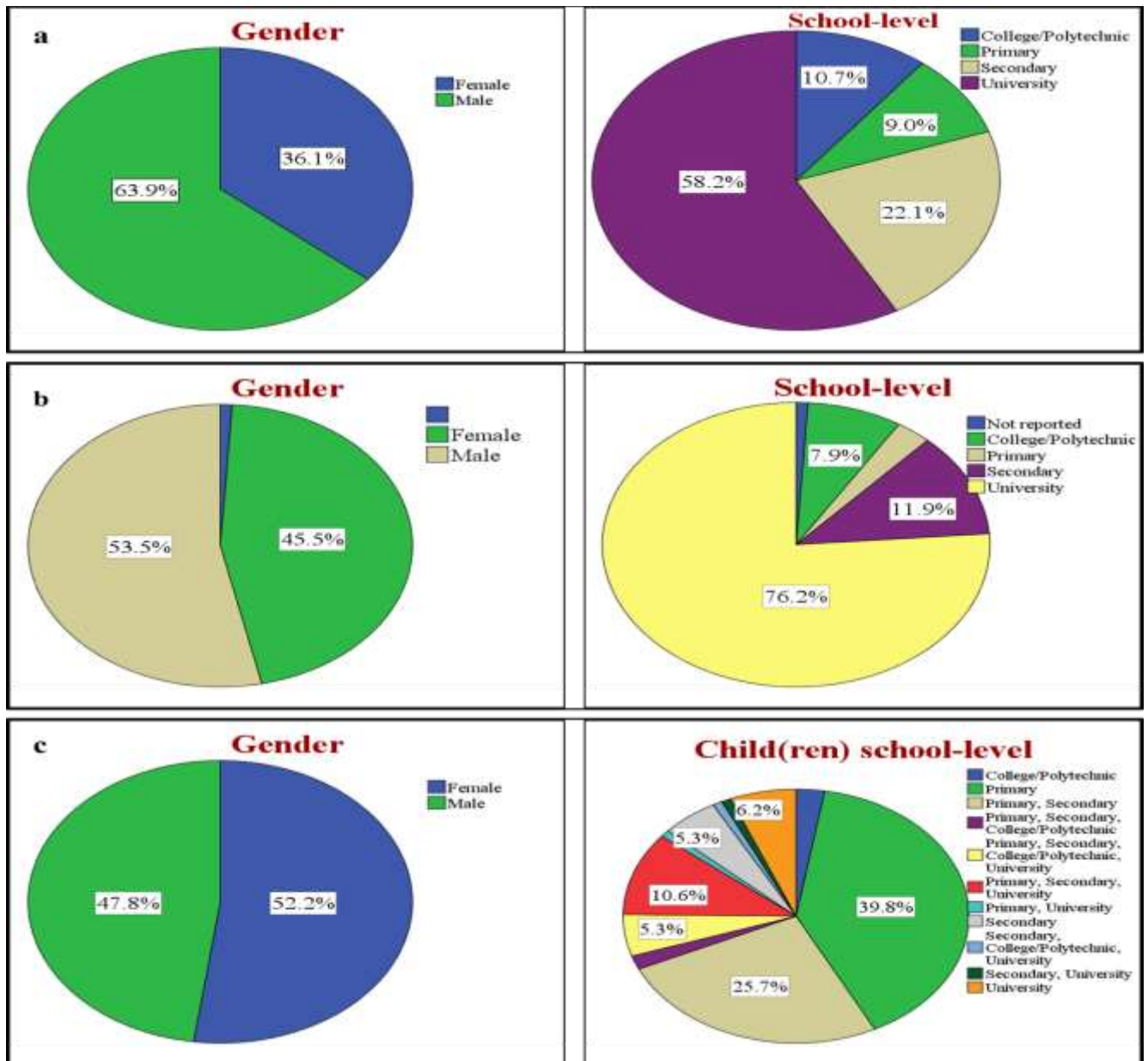
The curated data was then opened in SPSS version 26 and reformatted. Descriptive statistics, including frequency, and mode of each response from every category was performed. Finally, all the three categories were pulled as one data set, and Levene's test was performed for quality checks assessment. General Linear Model Univariate, One-way ANOVA was performed on the two key decision questions; 'Overall, do you think that adapting distance learning is good?' and 'I am ready to accept distance learning now, as we can grow and evolve through experience'.

Mean differences in these groups were compared using post-hoc Bonferroni's adjusted p values. *p*-value of less or equal to 0.05 was considered significant.

## **4.0 RESULTS**

### **4.1 Descriptive Statistics**

In this study, we gathered the opinion of Nigerian teachers, students and parents from all levels of education. In all the three categories, there were more responses from males than females. The majority of responses obtained in the categories of teachers and students were mainly from the university. There is a mixture of several levels of children's educational levels as reported by the parent. However, primary and secondary school pupils' parents dominated the responses, as shown in Figure 1.



**Figure 1: Respondents Demographic Information**

Panel a: Teachers' demographic information, gender (left), school level they teach (right). Panel b: Students' demographic information, gender (left), their school level (right).

Panel c: Parents' demographic information, gender (left), school level of their children (right).

The result revealed that nearly 90% of teachers are aware of what DL is, but only about 40% had its experience. Although there are about 20% of teachers who would accept DL only if schools will not reopen now or if COVID-19 precautionary measures are not adhered to in the schools, 61.5% are ready to accept DL now, to grow and evolve through experience. However, 17.2% remained neutral on the decision. Interestingly, almost 70% of the respondents were confident enough about their literacy skills on DL and believed that adapting DL is a welcome idea.

Nonetheless, up to 30% of teachers in Nigeria are not satisfied with adapting distance learning, probably due to their literacy level on the matter. About 80% of the respondents seem to have challenges with the necessary infrastructure as the foremost concern, and hence they would like assistance on getting these ICT devices available, accessible and affordable (Table 2).

**Table 2: Teachers' views on adapting distance learning in Nigeria**

S/N	Question	Decision (%)		
		Agreed	Neutral	Disagreed
<b>Opinion on distance learning</b>				
1	I know what distance learning is.	63.9	23.0	13.1
2	I was involved in a distance learning course before	61.5		38.5
3	Distance learning can be as good as face-to-face interaction	42.6	25.4	31.9
4	Distance learning is more effective than the traditional classroom-based approach.	34.4	14.8	50.8
5	In the 21 <sup>st</sup> century, distance learning can enhance students' satisfaction.	34.4	30.3	35.3
6	I will prefer distance learning than face-to-face.	32.8	11.5	55.7
7	Distance learning is flexible; I can control my learning	63.1	13.9	22.9
8	Distance learning saves time and effort to reach the campus	64.8	19.7	15.6
9	Blending traditional learning with online learning will reduce the challenges of social distancing, inadequate classrooms and overcrowding, thus reducing the over-dependence on face-to-face activities.	67.2	13.9	18.9
<b>Challenges of distance learning</b>				
1	I don't know how to use devices required for distance learning	29.5	16.4	54.1
2	Distance learning provides materials for teaching and learning that are readily available for use at a reduced cost.	37.7	23.0	39.4
3	I don't have distance learning technological resources at home	48.4	19.7	32
4	The financial cost of distance learning is more than what I would spend on face-to-face learning	48.4	14.8	36.9
5	I don't have a constant source of electricity required for the use of distance learning devices.	61.5	13.1	25.4
6	Distance learning will limit my interaction with my friends	57.4	12.3	30.3
7	Distance learning is not secure.	35.2	19.7	45.1
8	There is a little teacher-student interaction	60.7	22.1	17.3
9	Overall, do you think that adopting distance learning is good?	36.9	33.6	29.5
<b>Assistance for distance learning</b>				
1	I would like special training on how to use devices required for distance learning.	62.3	17.2	20.5
2	I am ready to accept distance learning, as I have the required basic information and communication technology skills.	51.6	18.9	29.5
3	I would like assistance on getting the devices required for distance learning.	56.6	27.0	16.4
4	I would like the cost of the internet to be reduced specifically for distance learning.	76.2	9.8	13.9
5	I would accept distance learning only if there are available and reliable information and communication technology infrastructures that can support teaching and learning.	77.0	13.9	9.1
6	I am ready to accept distance learning now, as we can grow and evolve through experience.	61.5	17.2	21.3
7	I will accept distance learning only if schools would not be reopened soon.	38.5	23.0	38.5
8	I will accept distance learning only if COVID-19 precautionary measures are not adhered to in the school environment.	45.1	20.5	34.4

On the perception of the students, the result indicates a similar outcome with that of the teachers. Almost 70% of the respondents had knowledge and experience using DL. Moreover, they agreed



on blending the traditional method with online teaching to enable adherence to social distancing and reduce overcrowding. Despite the challenges of epileptic power supply, the high financial cost of distance learning, and limiting peer and teacher-student interaction, nearly 50% of the students are satisfied with distance learning. Furthermore, a reasonable subset of them even preferred the DL to the conventional method. Nevertheless, 17% are neutral on their decision. Besides, over 80% of the students are also willing to accept the learning method if the ICT infrastructures are available and affordable. Nonetheless, more than 50% would require special training in using ICT (Table 3).

**Table 3: Views of Nigerian students on adapting distance learning in the country**

S/N	Question	Decision (%)		
		Agreed	Neutral	Disagreed
<b>Opinion on distance learning</b>				
1	I know what distance learning is.	69.3	16.8	13.8
2	I was involved in a distance learning course before	65.0		35.0
3	Distance learning can be as good as face-to-face interaction	31.0	17.0	52
4	Distance learning is more effective than the traditional classroom-based approach.	33.7	16.8	49.5
5	Distance learning can enhance my learning satisfaction.	34.7	17.8	47.6
6	I will prefer distance learning than face-to-face.	26.7	16.8	56.5
7	Distance learning is flexible; I can control my learning	53.5	19.8	26.7
8	Distance learning saves time and effort to reach the campus	69.3	18.8	11.9
9	Blending traditional learning with online learning will reduce the challenges of social distancing, inadequate classrooms and overcrowding, thus reducing the over-dependence on face-to-face activities.	67.3	22.8	10
<b>Challenges of distance learning</b>				
1	I don't know how to use devices required for distance learning	23.8	15.8	60.4
2	Distance learning provides materials for teaching and learning that are readily available for use at a reduced cost.	53.5	15.8	30.7
3	I don't have distance learning technological resources at home	49.5	18.8	31.7
4	The financial cost of distance learning is more than what I would spend on face-to-face learning	51.5	18.8	29.7
5	I don't have a constant source of electricity required for the use of distance learning devices.	66.3	18.8	14.8
6	Distance learning will limit my interaction with my friends	57.4	24.8	17.8
7	Distance learning is not secure.	41.6	23.8	34.6
8	There is a little teacher-student interaction	66.3	22.8	10.9
9	Overall, do you think that adopting distance learning is good?	47.5	16.8	35.6
<b>Assistance for distance learning</b>				
1	I would like special training on how to use devices required for distance learning.	54.5	24.8	20.8
2	I am ready to accept distance learning, as I have the required basic information and communication technology skills.	46.5	22.8	30.7
3	I would like assistance on getting the devices required for distance learning.	60.4	19.8	19.8
4	I would like the cost of the internet to be reduced specifically for distance learning.	81.2	5.9	12.9
5	I would accept distance learning only if there are available and reliable information and communication technology infrastructures that can support teaching and learning.	81.2	9.9	9.0
6	I am ready to accept distance learning now, as we can grow and evolve through experience.	65.3	14.9	18.8
7	I will accept distance learning only if schools would not be reopened soon.	54.5	19.8	25.7
8	I will accept distance learning only if COVID-19 precautionary measures are not adhered to in the school environment.	61.4	16.8	21.8

Accordingly, more than 50% of the parents' category's responses indicated that they are aware of DL. Furthermore, view adapting it as a good idea by virtue of its potentials to save time and effort of reaching the campus coupled with providing learning materials at a reduced cost. Nonetheless, over 70% of them preferred the traditional classroom-based approach since they may not have time to assist their children/wards in the process, and possibly the lack of

technological resources at home. Meanwhile, 60% of the parents would potentially accept DL if ICT devices to be made available and affordable (Table 4).

**Table 4: Opinion of students' parent on adapting distance learning in Nigeria**

S/N	Question	Decision (%)		
		Agreed	Neutral	Disagreed
<b>Opinion on distance learning</b>				
1	I know what distance learning is.	74.3	14.2	11.5
2	I was involved in a distance learning course before	54.9		45.1
3	Distance learning can be as good as face-to-face interaction	37.2	24.8	38.1
4	Distance learning is more effective than the traditional classroom-based approach.	33.6	13.3	53.1
5	In the 21st century generation, distance learning can enhance child(ren) 's satisfaction.	32.7	21.2	46.0
6	I will prefer distance learning than face-to-face.	18.6	10.6	70.7
7	Distance learning is flexible; I can control child(ren)'s learning	49.6	16.8	33.6
8	Distance learning saves time and effort to reach the campus	70.8	15.0	14.1
9	Blending traditional learning with online learning will reduce the challenges of social distancing, inadequate classrooms and overcrowding, thus reducing the over-dependence on face-to-face activities.	69.9	20.4	9.7
<b>Challenges of distance learning</b>				
1	I don't have time to help my children/wards during the distance classes.	41.6	12.4	46.0
2	I don't know how to use devices required for distance learning	30.1	9.7	60.2
3	Distance learning provides materials for teaching and learning that are readily available for use at a reduced cost.	46.9	17.7	35.4
4	I don't have distance learning technological resources at home	41.6	11.5	46.9
5	The financial cost of distance learning is more than what I would spend on face-to-face learning	51.3	11.5	37.2
6	I don't have a constant source of electricity required for the use of distance learning devices.	69.9	8.8	21.3
7	Distance learning will limit my child(ren) 's social interaction with friends.	77.9	10.6	11.5
8	Distance learning is not secure.	36.3	23.9	39.8
9	There is a little teacher-student interaction	72.6	13.3	14.1
10	Overall, do you think that adopting distance learning is good?	48.7	19.5	31.9
<b>Assistance for distance learning</b>				
1	I would like special training on how to use devices required for distance learning.	52.2	17.7	30.1
2	I am ready to accept distance learning, as I have the required basic information and communication technology skills.	57.5	15.9	26.5
3	I would like assistance on getting the devices required for distance learning.	71.7	8.0	20.3
4	I would like the cost of the internet to be reduced specifically for distance learning.	85.8	6.2	8.0
5	I would accept distance learning only if there are available and reliable information and communication technology infrastructures that can support teaching and learning.	81.4	10.6	8.0
6	I am ready to accept distance learning now, as we can grow and evolve through experience.	60.2	21.2	18.6
7	I will accept distance learning only if schools would not be reopened soon.	57.5	19.5	23.0
8	I will accept distance learning only if COVID-19 precautionary measures are not adhered to in the school environment.	62.8	15.9	21.3

## 4.2 Multivariate

Having been satisfied by the Levene's test for equal variances, we performed a one-way factorial ANOVA using General linear model on two major decision variables on adapting DL in Nigeria. The respondents' overall decision on whether adapting DL is good was analysed, the result showed  $F(2.721)$ ,  $p$ -value 0.03 with a moderate partial Eta squared of 0.32. Similarly, the respondents' willingness to kick-start the learning method and grow through experience was  $F(2.662)$ ,  $p$ -value 0.03, with a moderate partial Eta squared of 0.31. Interestingly, when these variables were analysed among the three respondents' categories, none was significant. They resulted in  $F(0.187)$ ,  $p$ -value 0.83 and  $F(0.469)$ ,  $p$ -value 0.626, respectively. These non-significant results imply that the teachers, students and parents are all willing to kick-start DL.

## 5.0 DISCUSSION, CONCLUSION AND RECOMMENDATION

As the curve of COVID-19 cases began to flatten worldwide (21), many governments tried to ease lockdown restrictions to stabilise their economies. These measures include the reopening of schools. The situation is the same in Nigeria, COVID-19 cases curve is flattening (22), and the Federal Government is committed to reopening schools nationwide. In the physical schooling system, observing COVID-19 precautionary measures especially social distancing certainly may not be feasible, particularly in public schools, where the majority of Nigerian students and teachers cluster. For this, we sampled views of Nigerians concern, which are the teachers, students and their parents on adapting distance learning. Our data indicate that both teachers and students have good knowledge of DL and are willing to adapt the learning approach with immediate effect. These factors make it hopeful that DL could be successfully adapted and sustained in Nigeria.

Implementing DL requires integrating technology into our current curriculum. The present situation of COVID-19 signals a need for amendment of Nigeria's educational curriculum to meet up the learning challenges of her citizens while maintaining their health. Looking into the significant role technology plays in implementing DL, we sampled the ICT skills of the respondents and their opinion on the possible technological challenges that could impede the success of DL in Nigeria. DL is an innovative teaching approach recognised globally. The use of technology in teaching in the 21<sup>st</sup> century is the heart of innovative teaching. The Technology, Pedagogy, and Content Knowledge (TPACK) is a framework that interrelates the three known knowledge domains - Pedagogy, and Content Knowledge (PCK). The PCK is the intersection between facts and theories of the subject matter and how the teacher conveys these facts and theories (23,24).

COVID-19 Pandemic necessitates the use of TPACK as the model of choice in current times. Hence, online teaching is now referred to as the 'new normal' learning approach. Interestingly, our result shows that Nigerians teachers have adequate technology skills to implement TPACK and successful DL. Understanding the need for flexibility as technology advances is essential in today's teaching and learning (25,26). The TPACK model helps teachers select, use, and integrate appropriate technology into their curricula to advance teaching for deep, effective and lasting learning experiences. For Nigeria to compete with the rest of the world, more innovation and use of relevant technology have to be implemented in the educational curriculum. For example, the need for adapting courses with blended and even pure online modules.

The role of DL systems is evident in this Pandemic as it facilitates learning during the trial period. For example, in Nigeria, formal teaching/learning is interrupted due to the COVID-19, which causes massive distortion in the academic calendar. The country is currently facing a spike of the second wave, and the academic calendar could be in jeopardy. However, it would be interesting if schools could adapt DL to rescue their calendars; especially as the findings of this study disclose that both teachers and students are willing to put in their best towards it.

DL is very flexible in that it accommodates a different array of tools, resources, pedagogical approaches, and meets with many organisational arrangements for monitoring and evaluation. Most of the online teaching platforms are freely available. Although we appreciate the hurdle of assessing internet in some areas of the country, the ray of hope is that most Nigerians in question are ICT literates and are willing to kick-start the distance learning. Previous studies confirmed that ICT literacy is an essential factor in the successful implementation of DL (27–29). Alleviating the illiteracy level can help to achieve the strategic goals with regard to implementing distance learning. However, administrative support is crucial in actualising and sustaining this dream of Nigerians.

It has been reported earlier during this Pandemic some private institutions of learning attempted DL through various online platforms, notwithstanding, inadequate preparedness and shortage of the required infrastructures hampered the process (30). These infrastructures include erratic power supply, higher data consumption, and internet network fluctuations (30). Unfortunately, these are the same challenges raised by our respondents (Tables 1, 2, and 3). Others are financial challenges and low regard for online certification (31). Importantly, administrators and governments involvements are essential in addressing these challenges (32) and ensuring the smooth operation of the whole process.

Nonetheless, the fact that the teachers and the students are willing to adapt this teaching and learning method is an encouraging point for the administration's full cooperation. Earlier studies have emphasised the importance of user willingness on DL's overall effectiveness and progress, particularly the online learning system (33). Several studies have also identified that lack of awareness is responsible for DL adaption failure (4,5,28). Increasing awareness and ICT literacy skills can be achieved by conducting training programs on online learning system use. This increasing awareness can lead to improvements in teaching performance and students' efficiency.

## **Conclusion**

COVID-19 Pandemic leads to closure of schools in a bit to curtail and contain the outbreak in Nigeria. However, this has resulted in a complete lack of formal education which primarily affects the teachers, students, and parents. Distance learning - the alternative learning method adapted in many countries to rescue their formal education suffers in Nigeria. Nigerians appeared to be willing to adapt distance learning, and they believe they can grow and evolve through experience. Of course, there are many concerns raised about accepting the DL method such as the infrastructures needed like computers, printers/scanners, and internet should be improved and their costs should be reduced for a common-man to afford. Moreover, the results of this study offer new insights and suggestions for policymakers to ensure the usage and adaption of DL systems successfully during and even beyond COVID-19 Pandemic.



## Recommendations

In view of the significance of e-learning and its positive impact on learners' academic achievement and learning independently, especially at a higher level of learning, Nigerians' readiness to adapt e-learning as an option to COVID-19 lockdowns in the country. Policymakers, especially in the education sector, shall provide the necessary infrastructures needed to implement e-learning in Nigeria. Furthermore, effective government policies are required to ensure the sustainability of social infrastructures and enforce standards and other quality improvements in the teaching and learning model. Motivation and reward system shall be institutionalized at all levels to encourage adequate participation of stakeholders.

## Value of data

The data presented in this article revealed the views and willingness of stakeholders in Nigeria's education sector (Teachers, Students, and Parents) and potential obstacles in adapting distance learning.

- The data can aid practitioners and policymakers in designing distance-learning tools that could survive in Nigeria. The data could also be useful in amending the current curriculum to suit the Nigerian's need.
- We provide descriptive statistics data that could be used for a meta-analysis and be compared to data obtained from similar surveys.

## REFERENCES

1. Hassan Z, Hashim MJ, Khan G. Population risk factors for COVID-19 deaths in Nigeria at sub-national level. *The Pan African Medical Journal* [Internet]. 2020 Aug 4 [cited 2020 Sep 14];35(131). Available from: <https://www.panafrican-med-journal.com/content/series/35/2/131/full/>
2. Al Lily AE, Ismail AF, Abunasser FM, Alhajhoj Alqahtani RH. Distance education as a response to pandemics: Coronavirus and Arab culture. *Technology in Society*. 2020 Nov 1;63:101317.
3. Al-Balas M, Al-Balas HI, Jaber HM, Obeidat K, Al-Balas H, Aborajooch EA, et al. Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. *BMC Med Educ* [Internet]. 2020 Oct 2 [cited 2020 Nov 28];20. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7530879/>
4. Rapanta C, Botturi L, Goodyear P, Guàrdia L, Koole M. Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity. *Postdigit Sci Educ*. 2020 October 1;2(3):923–45.
5. Doghonadze N, Aliyev A, Halawachy H, Knodel L, Adedoyin AS. The Degree of Readiness to Total Distance Learning in the Face of COVID-19 - Teachers' View (Case of Azerbaijan, Georgia, Iraq, Nigeria, UK and Ukraine) | *Journal of Education in Black Sea Region*. *Journal of Education in Black Sea Region* [Internet]. 2020 [cited 2020 Dec 2];5(2). Available from: <https://jebs.ibsu.edu.ge/jms/index.php/jebs/article/view/197>

6. Adeoye IA, Adanikin AF, Adanikin A. COVID-19 and E-Learning: Nigeria Tertiary Education System Experience.pdf. *International Journal of Research and Innovation in Applied Science*. 2020;V(V).
7. UNESCO. COVID-19 Educational Disruption and Response [Internet]. UNESCO. 2020 [cited 2020 Sep 17]. Available from: <https://en.unesco.org/news/covid-19-educational-disruption-and-response>
8. Oyediran WO, Omoare AM, Owoyemi MA, Adejobi AO, Fasasi RB. Prospects and limitations of e-learning application in private tertiary institutions amidst COVID-19 lockdown in Nigeria. *Heliyon*. 2020 Nov;6(11):e05457.
9. Ifijeh G, Yusuf F. Covid – 19 pandemic and the future of Nigeria’s university system: The quest for libraries’ relevance. *Journal of Academic Librarianship*. 2020 Nov;46(6):102226.
10. Salamat P, Ahmad L, Bakht G, Saifi I. Effects of e-learning on students’ academic learning at university level. *Asian Journal of Social Sciences & Humanities*. 2018 July 9;2(2).
11. Elfaki NK, Abdulraheem I, Abdulrahim R. Impact of E-Learning vs Traditional Learning on Student’s Performance and Attitude. *International Journal of Medical Research & Health Sciences*. 2019;8(10):76–82.
12. Zare M, Sarikhani R, Salari M, Mansouri V. THE IMPACT OF E-LEARNING ON UNIVERSITY STUDENTS’ ACADEMIC ACHIEVEMENT AND CREATIVITY. *Journal of Technical Education and Training [Internet]*. 2016 Jun 28 [cited 2020 Dec 30];8(1). Available from: <https://publisher.uthm.edu.my/ojs/index.php/JTET/article/view/1152>
13. Hossein Z, Rogaye M, Mehdi B. THE EFFECTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON PROMOTION OF CREATIVE THINKING. *Innovation & creativity in human science*. 2013 January 1;3(2):39–59.
14. Alkhalaf S, Drew S, Alhussain T. Assessing the Impact of e-Learning Systems on Learners: A Survey Study in the KSA. *Procedia - Social and Behavioral Sciences*. 2012 January 1;47:98–104.
15. Zinn KL. Computer-assisted learning and teaching. In: *Encyclopedia of Computer Science*. GBR: John Wiley and Sons Ltd.; 2003. p. 328–36.
16. Dabbagh N. Pedagogical Models for E-Learning: A Theory-Based Design Framework. *International Journal of Technology in Teaching and Learning*. 2005;1(1):25–44.
17. Aparicio M, Bacao F, Oliveira T. An e-Learning Theoretical Framework. *Educational Technology & Society*. 2016;19(1):292–307.
18. Jonassen D, Grabinger RS, Harris N. Analysing and Selecting Instructional Strategies and Tactics. *Performance Improvement Quarterly*. 2008;3:29–47.
19. Lominadze TN, Papiashvili RG, Asatiani TM. Instructional strategies for e-learning. In: *2011 5th International Conference on Application of Information and Communication Technologies (AICT)*. 2011. p. 1–4.
20. Ali SA. Top 4 Proven Instructional Design Strategies to Enhance eLearning for Corporate Training - eLearning [Internet]. 2017 [cited 2020 Dec 30]. Available from: <https://elearning.adobe.com/2017/11/top-4-proven-instructional-design-strategies-to-enhance-elearning-for-corporate-training/>
21. Worldometer [Internet]. 2020. Available from: [www.worldometers.info](http://www.worldometers.info) > coronavirus
22. NCDC. Nigeria Centre for Disease Control [Internet]. 2020. Available from: <https://ncdc.gov.ng/>

23. Shulman LS. Those Who Understand: Knowledge Growth in Teaching. *Educational Researcher*. 1986;15(12).
24. Youm J, Corral J. Technological Pedagogical Content Knowledge Among Medical Educators: What Is Our Readiness to Teach With Technology? *Academic Medicine*. 2019 Nov;94:S69–72.
25. Dietrich L. Unpack TPACK in your Classroom. In: *Technology and the Curriculum: Summer 2018* [Internet]. Power Learning Solutions; 2018 [cited 2020 Sep 17]. Available from: <https://techandcurriculum.pressbooks.com/chapter/tpack/>
26. Mishra P, Koehler M, Kereluik K. The Song Remains the Same: Looking Back to the Future of Educational Technology. *TECHTRENDS TECH TRENDS*. 2009 Sep;53(5):48–53.
27. Alhabeeb A, Rowley J. Critical success factors for eLearning in Saudi Arabian universities. *Intl Jnl of Educational Mgt*. 2017 March 13;31(2):131–47.
28. Almaiah MA, Al-Khasawneh A, Althunibat A. Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 Pandemic. *Educ Inf Technol (Dordr)*. 2020 May 22;1–20.
29. Salloum SA, Al-Emran M, Shaalan K, Tarhini A. Factors affecting the E-learning acceptance: A case study from UAE. *Educ Inf Technol*. 2019 January 1;24(1):509–30.
30. Olasunkanmi I. Nigerian university students find online learning painful: here's why [Internet]. *The Conversation*. 2020 [cited 2020 September 17]. Available from: <http://theconversation.com/nigerian-university-students-find-online-learning-painful-heres-why-143919>
31. Aliyev A, Halawachy H, Knodel L, Adedoyin AS. The Degree of Readiness to Total Distance Learning in the Face of COVID-19 - Teachers' View (Case of Azerbaijan, Georgia, Iraq, Nigeria, UK and Ukraine). *Journal of Education in Black Sea Region* [Internet]. 2020 [cited 2020 Nov 6];5(2). Available from: <https://jeps.ibsu.edu.ge/jms/index.php/jeps/article/view/197>
32. Frehywot S, Vovides Y, Talib Z, Mikhail N, Ross H, Wohltjen H, et al. E-learning in medical education in resource constrained low- and middle-income countries. *Hum Resour Health*. 2013 Dec;11(1):4.
33. Almaiah MA, Jalil MA, Man M. Extending the TAM to examine the effects of quality features on mobile learning acceptance. *J Comput Educ*. 2016 December 1;3(4):453–85.