Paper 8

Teachers' Perception and Effectiveness of the use of Edu-Driven Apps in Lagos State During Covid-19 Pandemic Era

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Abstract

The event of Covid-19 caused unusual opportunities for teachers who are technologically naive in the use of technological devices. This pandemic prompted the Lagos State Government to build an Edu-driven App to mitigate the impact of face-to-face classroom engagement, which was disrupted during the Covid-19 pandemic. The Lagos State government's educational reaction to

the Covid-19 outbreak was investigated in this study. The study also explored how teachers perceived Edu-driven Apps as stakeholders in the teaching profession by providing a quick overview of some common Apps utilized by teachers. The descriptive research design was used. The target population consisted all in-service teachers from public secondary schools in the six educational districts across the state respectively. Two hundred and forty respondents were selected by purposive sampling by the researchers. A 20-item researcher-designed questionnaire with a 4- point Likert type response scale was used to generate data. The descriptive and Chi-square statistical analysis were used to analyze the data at a .05 significance level. The findings showed that the use of Edu-driven Apps during covid-19 pandemic was beneficial to students in Lagos State and that the perception of the teachers on the use of Edu-driven Apps also assisted the teachers in teaching effectively. The study recommended the continuous training of the end-users of the Edu-driven Apps and the development of local content.

Keywords: COVID-19 Pandemic, Lagos State Government, Edu-Driven Apps, Effective Teaching.

Introduction

The untimely closure of schools across the country yielded a positive response by the Lagos State government to protect learners from possible risks of contracting Covid-19. This is because social contact can hardly be managed within the school environments where hundreds of students meet happily without fear. This intervention has made students invulnerable to the pandemic which can rapidly spread in an environment where social and physical distance can barely be managed. Conversely, the effect of the pandemic was felt in all sectors of the economy including the education sector. According to UNESCO (2020), almost 40 million learners have been affected by the nationwide school closures in Nigeria, of which over 91 percent are primary and secondary school learners, but there are also millions of students affected at the pre-primary and tertiary education levels. During this period, the learning landscape in Nigeria and across the world was disrupted, limiting how students access learning within the traditional classrooms across the country. The study of Simon and Hans (2020) claimed that the global lockdown of education institutions resulted in a significant (and presumably unequal) disruption in students' learning, interruptions in internal assessments, and the cancellation or substitution of public tests for degrees. In addition, Prayat (2020) opined that the COVID-19 pandemic had a negative effect on the education sector ranging from students and pupils experiencing learning hiatus; students and

pupils missing lessons; the schools losing a whole term or more; major examination bodies postponing their already scheduled examinations, and as well ravaging the purse of the private school owners alongside their employees because they are unable to generate income. This unexpected change has gradually shifted the social-psychological functions of classroom teachers and made teaching and learning a personalized affair (Okuntade & Ebimomi, 2020). Amidst the pandemic, the social activity of teaching was breached, the ethical caring was undermined while the empathy position of the teachers was supplanted by a technology-based teaching strategy (Okuntade & Ebimomi, 2020). In some standard private schools within the state, teachers were directed to teach students via the Internet, and deliver their lectures with video conferencing using different mobile and internet-based applications like Zoom, Telegram, Facebook, Youtube, Skype, and WhatsApp.

Although, all the public schools in Lagos State were caught unawares by the pandemic, forcing both teachers and students to run for their safety not minding the educational implication, it created an opportunity to switch from traditional classroom teaching to online and virtual teaching and learning modes (Okuntade, Aremu & Ebimomi, 2020). This opportunity inspired the Lagos State government to institute learning platforms to close the gap of waiting endlessly while another developed world is learning through alternative means.

Furthermore, Lagos State, a fast-growing modern African city with a well-balanced economy, intends to keep up with technological advances to boost the learning environment and prepare students to compete with their peers wherever in the globe. More so, as a mega city with a passion for quality education, one can arguably say that the pandemic has given the educational sector more rays of hope both for teachers and students to continue their educational activities through online teaching because prior to the pandemic, Lagos State Ministry of Education had given adequate attention to some learning activities via Radio and Television, but the teachers and students rarely paid keen attention. One can therefore say that the closure inspired teachers to see the significance of integrating ICTs into teaching and learning programme across the State.

It should be noted that prior to the outbreak of Covid -19, the Lagos State government had launched a programme called EkoExcel, which stands for Excellence in Child Education and Learning (EkoExcel). The programme's goal was to increase instructors' capacity and use technology to improve teaching and learning (Ogundare, 2020). According to Olujuwon, Bamiro, Akudo, and

Anagun (2021), the Eko Excel program introduced a creative approach to teaching and learning in the classroom, allowing teachers to keep up with new advances in their subject areas while also helping students to think critically in this digital age.

Above all, it reduces stress on the part of teachers in the writing of lesson notes. Olujuwon *et al.* (2021) however noted that the Eko Excel programme was mostly teacher-centered. In addition, there were technical issues like connectivity, and power failure which affects the functionality of the tablet, when not fully charged as electricity could not be guaranteed for hours in the State.

In addition, the government sponsored some media houses for school lessons that helped to reach thousands of pupils who would have been left out during the Covid-19 lockdown. Though not all parents and students were aware of this, some schools across the State also keyed into the vision and localized the lessons to cover a wider spectrum of the curriculum. Furthermore, both public and private school teachers were required to complete an online certification course on government procedures and norms, and schools were required to register and become certified for reopening after completing all prerequisites. According to Ejiofor (2020), 29,000 registered teachers passed the online school re-opening course, and 13,000 public and private schools in Lagos were registered and certified too and granted permission to re-open safely.

Conversely, in the process of meeting the expected standard, the Lagos State Government trained and encourages all her public secondary school teachers to connect to their students via various social media platforms that support teaching and learning not minding the cost implication on the part of parents. Major and Machin (2020) noted that during the pandemic, building a learning environment that encourages participation from all may hardly be possible considering the socio-economic status of parents. Aside from this, other challenges like the high cost of devices, unavailability of Iinternet facilities, epileptic power supply, students and teachers' technological knowledge coupled with individual differences in learners particularly students with learning disabilities were barely considered by the State Government.

In lieu of this and some other inherent challenges faced by students and teachers, the integration of ICTs as one of the best-proffered solutions to the situation was perceived and accepted with mixed feelings. This mix-feeling is based on conceptual understanding of the Edu App because it posed challenges to some teachers while some teachers perceived it as a welcome development coming at the appropriate time.

Perception is a feeling residing in the mind set of an individual and it varies based on individual understanding of the concept (Okuntade, 2020; Rivera, 2018). Nevertheless, before and after Covid 19, teachers who are technologically inclined have been using various Edu App to facilitate the teaching and learning process and their perceptions had been positive; this gave credence to its effectiveness (e.g., Ross, Maninger, LaPrairie & Sullivan, 2015; Chawinga, 2016; Vasquenz,2020 Adeoye, Adanikin & Adanikin, 2020). They claimed that Edu Apps offers an educational opportunity for students to learn at anytime and anywhere and has helped to switch from a classroom environment to a digitalized environment. Despite the significance of these Edu-driven platforms to promote effective learning, some teachers viewed it differently based on their technical knowledge, availability, and ease of use. However, two of these popular Apps are discussed below.

Telegram

The Telegram application is an Internet-based application that supports real-time communication and interaction. It is a messaging program that allows users to communicate videos, photos, audio, and other sorts of content stored on a cloud-based server without filling up their mobile device's storage (Abu-Ayfah, 2020). Wiranegara and Hairi (2020) described telegram as one of the most famous online social media networks that can help the learner to learn. This application allows teachers to share unlimited lesson materials with learners at once. It also allows the teacher to discuss learning materials with the students freely. Besides, both teachers and students can experience a new teaching and learning process using this application. Studies proved that Telegram has many features that drive its popularity and has been a vital tool for effective teaching and learning process when properly adopted (Ghaemi & Golshan, 2017). Similarly, Iksan and Saufian (2017) concluded that the use of Telegram became one of the latest innovations that could solve the problems in the teaching and learning process.

WhatsApp

According to Nurazizah, Frihatin, and Sugiarto (2019), WhatsApp is a tool for communicating with other people through instant messaging. As it could be used to send various information like text messages, documents, videos, audio, and images. Similarly, La Hanisi, Risdiany, Dwi Utami, and Sulisworo (2018) described WhatsApp as a smartphone and web-based instant message application that allows users to exchange information using many kinds of media, including text, image, video, and audio messages. This implies that WhatsApp is a messaging application that the

users install on the smartphone freely, conveniently, easy to use, and fast for the personal mode of communication. Although WhatsApp was not purposively created for education, during the Covid-19 pandemic, many teachers prefer the use of WhatsApp since it is easy to use, consumes fewer package data; and has many useful features such as group chat, audio messages, video calls, and voice note, and it helps both teachers and students to work smarter and more effectively. Above all these benefits, the effectiveness of these applications was however undermined as follows:

i. Inadequate/limited access to digital equipment and tools, both private and institutional (Beaunoyer, Dupéré, & Guitton, 2020).
ii. Insufficient Internet infrastructure (including data packages); network issues especially in rural areas (Major & Machin, 2020).
iii. Insufficient capacity of teachers to transfer teaching online and introduce distance learning (including the design and delivery of learning courses). This includes insufficient digital skills (König, Jäger-Biela, & Glutsch, 2020).
iv. Insufficient digital skills of learners and their capacity to use ICT as a means of acquiring knowledge and managing their learning (Owusu-Fordjour, Koomson & Harrison, 2020).
v. Challenge of conducting practical training without the physical presence of trainers and students (Ogunode, 2020).
vi. Lack of time to prepare for a crisis of this nature arising from nationwide lockdowns (Harris, 2020, Olujuwon, 2021).
vii. No prior experience in delivering training through distance mode and lack of planning for the same (Harris & Jones, 2020).

Research Objectives

1. To investigate the effectiveness of teachers' use of Edu-driven Apps used during the covid-19 pandemic era.
2. To find out whether teachers' perception of the use of Edu-driven Apps influenced their effective teaching during the Covid-19 era.

Research Hypotheses

HO_1: Teachers Integration of Edu-driven Apps did not significantly promote effective learning during covid-19 pandemic.

HO_2: Teachers' perception of the use of Edu-driven Apps did not significantly influence effective learning during the covid-19 pandemic.

Research Methodology

A descriptive research design was used for this study. The population of the study comprised all in-service teachers from public secondary schools in the six educational districts across the State. An in-service teacher is a professional teacher who is certificated and already teaching in a classroom situation. They are important in this study because they are the ones who are saddled with the responsibility of imparting knowledge through teaching. But during the pandemic, where face-to-face interaction was prohibited, the use of Apps was seen as the alternative; hence, they were better positioned to justify the relevance and effectiveness of the Apps while teaching. The study involved a sample of 240 teachers who were captured on the EKO Project across the six educational districts. It was noted that all the schools captured during the EKO project, had a minimum of 52 teachers (Including PTA personnel) because one of the criteria for capturing schools for such a project was adequate teaching size.

The researchers adopted a purposive sampling technique in selecting a senior secondary school from each of the 6 educational districts in the State. This was done in order to capture a minimum of one sampled school across the State. Firstly, records in the State show that a maximum of two secondary schools (Junior and Secondary) across the six educational districts were captured during the EKO Project. Thereafter, the multi-stage procedure was used to identify secondary schools that had IT devices in their schools. Secondly, a purposive sampling technique was adopted to select teachers from the identified schools. Thirdly, 40 teachers were further selected from each of the six schools sampled. The schools sampled had a minimum of 52 teachers, so selecting forty from each of the sampled schools was easy to select using a simple random technique. Fourthly, the teachers selected were picked irrespective of gender. Fifthly, teachers with a minimum of five years of teaching experience and age not below thirty years were involved in the study. The participants were selected from the schools based on their willingness to participate in the study. A 20-item researcher-designed questionnaire titled, "Dissecting Educational Response to Covid-19 Pandemic by Lagos State Government: Teacher's perspective for future Occurrence" (DERCPLSGQ), with a 4-Likert scale type response modes of was used as an instrument to generate data. The questionnaire was adjudged to meet both contents and construct validity

respectively after the removal and modification of items by three seasoned academics in the Department of Educational Measurement and Evaluation, University of Nigeria, Nsukka. However, the reliability index of 0.88 was derived from a sample of 30 respondents not part of the actual sample of the study, using the Cronbach alpha statistic. Descriptive and Chi-square statistical analysis was used to analyze the data and tested at a .05 significant level.

Results

Testing of Hypotheses

HO_1: Teachers Integration of Edu-driven Apps did not significantly promote effective learning during covid-19 pandemic.

Table 1

Chi-square analysis of data on the promotion of effective learning by the integration of Edu-driven Apps during the Covid-19 pandemic.

Variables	SA	A	D	SD	Total	Df	P	Cal. val.	Tab. val.
Edu-Apps usage	48	41	10	07	106	3	0.05	11.892	7.82
Effective learning	61	44	20	09	134				
Total	**109**	**85**	**30**	**16**	**240**				

Table 1 shows that 240 respondents were captured in this study. At the degree of freedom 3, the Chi-square calculated value recorded a co-efficient value of 11.892 while at a p-value of 0.05, a Chi-square table value of 7.82 was obtained. Since the Chi-cal. value of 11.892 is greater than the Chi-square table value of 7.82, the null hypothesis is rejected. Hence, the hypothesis that states that Teachers Integration of Edu-driven Apps did not significantly promote effective learning during covid-19 pandemic is rejected meaning that teachers' integration of Edu-driven Apps significantly promoted effective learning during covid-19 pandemic.

HO_2: Teachers' perception of the use of Edu-driven Apps did not significantly influence effective learning during the covid-19 pandemic.

Table 2

Chi-square analysis of data obtained on teachers' perception of the influence of the use of Edu-driven Apps for effective learning during the covid-19 pandemic.

Variables	SA	A	D	SD	Total	df	P	Cal. val.	Tab. Val.
Teacher Perception	22	51	15	18	106				
Effective learning	61	44	20	09	134	3	0.05	12.813	7.82
Total	**83**	**95**	**35**	**27**	**240**				

Table 2 shows that 240 respondents were captured in this study. At the degree of freedom 3, the Chi-square calculated value recorded a co-efficient value of 12.813 while at a p-value of 0.05, a Chi-square table value of 7.82 was obtained. Since the Chi-square value is greater than the Chi-square table value, the null hypothesis is rejected, meaning that that teachers' perception of the use of Edu-driven Apps significantly influenced effective learning during the covid-19.

Discussion of Findings

Hypothesis 1 shows that the integration of Edu-driven Apps significantly influenced effective learning during the covid-19 pandemic. This finding is similar to that of Wiranegara and Hairi (2020) who in their work reiterated that the use of Edu-Apps is primarily designed to meet the perceived gaps while teaching and learning. With the introduction of interactive Apps like Telegram, Zoom, and Whatsapp, learning to a relative extent is seen to be real, relevant, and contextual. The integration of Edu-Apps strengthens the interaction between teachers and learners as it affords the exchange of ideas and interaction between teachers and learners. The dynamics of these Apps are seen to be relevant as revision packages are developed thereby drawing the attention of teachers to susceptible areas where contents are not cleared; Moreso, Okuntade, Aremu and Ebimomi (2020) alluded that during the outbreak of Covid-19, Lagos State government enforced and maximised the use of technology in the teaching space, as this act allowed for a continuum in

learning as teaching and learning activities continued in the cloud through the use of Edu-apps. Learning was adjudged to be effective as most of the barriers that stood as obstacles to effective teaching and learning were managed through the intervention of technology. Edu-Apps took the place of traditional teaching as most of them were built and configured to meet the learning needs of heterogeneous learners.

However, in hypothesis 2, the result shows that teachers had a positive perception of the use of Edu-driven Apps, and this was well visible during the covid-19 pandemic. Although, this outcome was in line with a previous study by Victor, Udofia and Babarinde (2018) who affirmed that teachers' positive perception of the use of technology goes a long way in promoting content delivery and enhancing effective learning. Interestingly, even before the outbreak of the pandemic, Victor et, al. (2018) reiterated that many teachers would always applaud the initiative of adopting the use of technology in a classroom situation but maintained that these Apps in practice come with various degrees of implications. Some alluded that the cost implication of using any of these apps is on the high side as over 79.5% of learners in the state come from poor homes. As most parents could not afford it, the learners who would have been the direct beneficiary of this device find it difficult to partake in the use of these apps. Most teachers are of the perception that aside from the high-cost implication, issues like erratic power supply, access to Internet facility, challenges of the network, lack of knowledge on the usage of the Apps, non-acceptability of the apps by some stakeholders among others remain a pivotal assertion often put forth by the teachers, especially in public primary and secondary schools in Lagos State.

Conclusion

The findings of this study led to the conclusion that the use of Edu-driven Apps during covid-19 pandemic was beneficial to students in Lagos State. Similarly, the perception of their teachers on

the use of Edu-driven Apps also assisted the teachers in teaching effectively. Their belief in it resulted in effective teaching.

Recommendations

The study recommended that continuous training should be organized for teachers, students, and other stakeholders on the use of technology in the classroom. Also, aside from Ekoexcel that have local content, more local content technology should be developed to enhance efficiency and result-oriented in schools. This is premised on the positive results obtained with the use of Edu-driven Apps as revealed in this study.

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