THE 21st CENTURY CLASSROOM TEACHERS' READINESS TOWARDS THE USE OF EKO EXCEL HANDHELD TECHNOLOGY IN PUBLIC PRIMARY SCHOOLS

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Abstract

This study assessed teacher readiness in the use of Eko Excel handheld technology in teaching and learning in public primary schools in Lagos State, Nigeria. The population of the study comprised public primary school teachers in Lagos who were given a handheld Eko Excel tablet for use in their classrooms and adopted the descriptive survey with partly structured and unstructured questionnaires on Google form. Data were analysed using the Likert scale, tables, and bar charts. Findings from the study reveal that teachers were ready for the use of ICT in the classroom as it enhances classroom instruction and shows their level of productivity. The study further reveals that there are technical issues that affect the workability of the device. The study recommends upgrading content delivery in line with local realities. Also, technical issues that hamper the workability of the device should be tackled on time in other for excellent performance.

Introduction

Globalization in the twenty-first century has necessitated the production of high-quality students with the necessary skills and competencies to cope with appropriate teaching and learning to achieve good learning outcomes. Teachers, according to Rusdin (2018), play a critical role in determining the outcomes of 21st-century learning outcomes because of their perception and comprehension of innovation in education that influences their actions, decisions, and practice in the classroom. As a result, teachers are the most important determinant element in students' ability to master 21st-century skills such as creativity, communication, cooperation, and critical thinking (Rusdin, 2018). The teacher's job is to motivate, guide, and give learning opportunities for pupils to attain their learning objectives. The teacher is responsible for monitoring everything that occurs in the classroom to aid pupils' growth and must always be ready to carry out the teaching of students. As a result, excellent teacher preparation and readiness is a prerequisite for effective teaching as it has a positive and significant effect on students' achievement (Tumanduk, Kawet, Manoppo & Maki, 2018). This made Padmadewi Artini, and Jayanta (2020) inform teachers must respond to the globalization demands for 21st-century abilities by preparing students to have life and job skills, build networking and partnerships, be creative, foster innovation, develop a problem-solving character, and have critical thinking. All of

these abilities must be included in classroom activities. Students must be able to do more than just grasp the main topics; they must have solid knowledge and skills foundations to meet the century of globalization and technology.

To meet these demands, teachers, as change agents in the classroom, must be prepared for change and educated about global developments. Knowledge affects many elements of human life, including the economy, society, and technology (Jan, 2017). As a result, any teacher must be aware of 21st-century education and be prepared to confront obstacles. Teachers are critical components in educating pupils to grasp 21st-century abilities (Singh & Chan, 2014). Therefore, readiness is an individual's condition to respond to a specific situation or willingness to do an action (Saputri, 2016; Nasution, Rusnandi, Qodariah, Amita & Windasari, 2018). It could also be being prepared to teach students which could be in terms of knowledge, attitude, and preparation to implement instruction in the classroom (Patmadewi *et al*.,2020). It can be interpreted as being prepared to face the changes demanded by the new era of the 21st century (Dalton & Gottlieb, 2003). Readiness is also a condition in which the school staffs are well prepared to engage in agenda to make some improvements (Lynch & Smith, 2016). Readiness is thus regarded as both a condition and process associated with a change to improve teaching and learning Nasuton *et al*., 2018; Dalton & Gotlieb2003), Therefore, due to the 21st-century requirements in the classroom, teachers should be prepared to make improvements and prepare students for the 21st-century teaching and learning skills (Patmadewi *et al*,2020). Therefore, Patmadewi *et al* (2020) sum up the various concepts and definitions of readiness as dealing with the preparation of the teachers to deal with changes needed for improving the quality of their teaching-learning process.

Literature has shown that teachers are aware and ready to promote the 21st century due to its importance but they have less confidence in using technology daily in their teaching and learning (Rusdin, 2018; Julaihi & Hamdam, 2019; Ibrahim, Adzara'ai, Sueb & Dalim, 2019). The study by Hung (2016) shows that teachers' judgments of their own and their institution's readiness are linked to ideas about their preparedness. As a result, perceptions of online preparedness will be a mix of attitudes and experiences influenced by a variety of individual, contextual, and cultural factors (Scherer, Howard, Tondeur & Siddiq, 2021). However, institutional readiness is dependent on the context in which online teaching and learning are implemented, which may include support structures, resources, and chances for professional growth (Kebritchi, Lipschuetz & Santiague, 2017). All these must be made available in other to enhance online teaching and learning, as teachers play an important role in integrating technology into classroom practice (Langworthy, 2013; Amran & Rosil, 2017). Integrating information technology and media with pedagogy and teaching strategies is critical in assisting and supporting students' success in the twenty-first century (Rahim & Abdullah, 2017). Technology integration allows students to grasp 21st-century abilities such as information skills, collaboration, and self-access learning. This is hinged on the way teachers prepare resources and select an appropriate strategy that would match the skills that will be taught (Ariffin & Yunus, 2017). Therefore, the teacher must have the capability in planning and implement the teaching and learning that would fulfil the needs of immersing 21st-century learning skills and interactive pedagogy practice through "learning by doing" where pupils are stimulated to think and build understanding meaningfully (Ariffin & Yunus, 2017). Salehudin, Hasan, and Hamid (2015) noted that the use of appropriate teaching and

learning processes will get pupils involved and actively maintain their motivation and interest during the learning process. There is a need to make classrooms more technologically advanced to expose pupils to a larger range of educational experiences that will make them relevant both locally and globally. However, the amount of technological readiness of the teachers determines the extent to which the classroom is equipped with appropriate technology for teaching and learning (Berezi & Eseyin, 2021). The e-learning applications integrated into the classroom for teaching and learning include Zoom, Microsoft Teams, Skype, and WebEx, as well as Learning Management Systems(LMS) such as Schoology, Canvas, Google Classroom, CIDOS, Moodle, and socialmedia (Facebook, WhatsApp, Instagram, YouTube) as these would make learning to be continuous and accessible (Ying, Stang & Mohamad, 2021).

According to Asiroglu and Akran (2018), technological readiness demonstrates how motivated and ready employees are to accept and use available technology to achieve the organization's aims and objectives. Furthermore, Geng, Law, and Niu (2019) noted that technological readiness is a combination of beliefs and the ability to manage obstacles linked to technology to use this innovation to help students reach their educational goals. Teachers, like any other employee in a formal organization, must be technologically prepared to build a 21st-century classroom environment in which the finest educational experiences are conveyed, particularly in this era of technical growth and development (Widodo, Wibowo & Wagiran, 2020). In an earlier study, Singh, and Chan (2014) noted that the respondents demonstrated a positive attitude towards the integration of technology in the classroom as it can positively enhance students learning. The study further noted that teachers' attitude toward the use of technology in the classroom varies their years of experience and their level of knowledge on the use of technology.

In related research, Al-Awidi and Aldhafeeri (2017) found that teachers are moderately ready for the implementation of technology in their classrooms. However, there are some identified factors such as knowledge, skills, infrastructure, and technical support that hinders their readiness. In related research, Undi and Hahsim (2021) noted the positive attitudes of respondents towards the use of technology and comfortable with using it for teaching and learning. However, some of the challenges identified were inadequate training on available computers or software, insufficient time to master new software or integrate ICT during a class period, and lack of support from administrators or colleagues. Similarly, the study by Ng and Yunus (2021) reveals that the lack of ICT infrastructure and basic facilities, teachers' attitudes, pupils' engagement, and parents' abilities are some of the challenges to the integration of ICT in schools in Malaysia.

In addition, the findings of Msila (2015) in South Africa demonstrate that, while many teachers are open to new ideas and initiatives in education, ICT can create a lot of ambiguity and make many teachers feel inept. Computers, according to teachers, will expose their weaknesses in the classroom if they are not properly trained. Also, those young teachers were more accepting of the changes than their older colleagues, who were concerned about the advent of ICT. The findings of the study show that the success of digital technology in the classroom will be determined by teacher competence and good attitudes toward ICT.

Nevertheless, the findings of Rusdin (2018) reveal that teachers are ready to implement the 21st century in the classroom and there must be constant training to improve their understanding, knowledge, and skills in teaching. Research has revealed that the integration of information communication technology (ICT) in the classroom provides wide opportunities for educators and improves students' academic performance. Kumar, Rose, D'Silva (2008) informed that the use of ICT in the classroom will inspire teachers to approach their tasks with a great sense of purpose and importantly make learning fun for students. The authors further noted that ICT provides more up-to-date information on different subjects in teaching and learning than any textbooks. These authors are of the view that searching for books is time-consuming and frustrating especially when the information looking for is not available or obsolete whereas the internet is very efficient and regularly updated. Due to the advancement of ICT in transforming teaching and learning, Angers and Machtmes (2005) noted that teachers cannot escape the fact that 21st-century classrooms must provide technologically supported learning and must be part of teachers' professional repertoire. Thus, workshops and seminars must be designed periodically to influence teachers' adoption and usage of technology in the classroom.

In addition, the study byBuenvinida, Rodriguez, Sapin, Alforja, and Panoplo (2020) in the Philippines reveals that teachers 'readiness for the use of ICT in teaching and learning is high but they still need professional development to increase their knowledge and use of technology in handling 21st-century students. That is why the authors, recommended a comprehensive training programme to enhance teachers' professional and technical skills. However, Hew and Brush, (2006) have identified some barriers to technology integration such as inadequate technology knowledge and skills, technology-supported pedagogical knowledge, and skills as well as technology-related classroom management knowledge and skills. Nevertheless, if teachers improve themselves on these barriers above, they will effectively and successfully have an impact on student's academic achievements.

Therefore, Lagos the commercial nerve centre of Nigeria as never before must prepare students with the 21st-century skills required to compete and be relevant on a global scale with a new learning methodology that will motivate them in their teaching and learning. So, the benefits accrued to the use of technology in the classroom made the Lagos State Government launch an initiative called "Excellence in Child Education and Learning popularly referred to as Ëko Excel in December 2019 as part of the Transformation Agenda of the State Government. This initiative was first started in Edo state before its adoption in the State. This initiative amongst others aims to transform teaching and learning in all public primary schools through innovative technology and data-driven platform in other to enhance learning outcomes in schools; as well as enhance teachers' content delivery, and effective classroom and behaviour management thereby improving their methodology. Through this technology in the classroom, teachers will be able to create and practice exercises productively, as well as monitor their student's progress and provide diagnostic assistance. It will also allow them to preserve accurate and up-to-date student records in a digital format.

This initiative will encourage students to take an active role in their education and gain the necessary skills for success in the twenty-first-century economy. Similarly, it will aid in the formation of an intentional bond between teachers and students, as well

as the development of a positive attitude toward accomplishing educational objectives. As it is, the tablet handed to teachers would assist them in their classroom teaching as it is loaded with the curriculum and lesson notes daily and how teachers would teach each topic thereby eradicating the stress teachers go through in writing lessons. Also, it will enhance the monitoring of teachers and quickly discover what has been achieved or is yet to be achieved in educational goals and objectives. Thus, all public primary schools in Lagos State were provided with personal e-learning MP3 player devices packed with grade-appropriate pre-recorded lessons. It thus makes learning easier, convenient, and accessible for kids in the state. This corroborates the study of Geng *et al* (2019) that students' ability to direct themselves in learning and to utilise learning technologies can affect student learning effectiveness. Since the inception of the programme, in January 2020, more than 5,000 teachers in the state public primary schools have been trained on how to integrate learning in their classrooms with the tablet given to all the teachers. It is hoped that this initiative will be sustained by the successive government in the state.

Purpose of the Study

The purposes of this study are to:

i. determine the level of teacher knowledge and competency in using Eko Excel.
ii. examine the attitudes of teachers and ease of taking attendance taking on Eko Excel platforms.
iii. investigate the problem encountered when using the Eko Excel learning platforms.
iv. suggests a possible solution for the use of Eko Excel learning platforms.

Research Questions

i. What is the level of teacher competency in using Eko Excel?
ii. What are the attitudes of teachers to Eko Excel?
iii. What is the teacher's knowledge of Eko Excel?
iv. How does Eko Excel enhance attendance taking?
v. Which of the problem have you encountered when using the Eko Excel App?
vi. Possible suggestions for the problem when using the Eko Excel App?

Methodology

The design adopted for this study was a descriptive survey. The population of the study includes all public primary schools, represented in the training on the use of Eko Excel tablets in Lagos state. The target population from which the sample for the present study was drawn represented teachers in public primary schools in Lagos who were actively involved in teaching and learning and are using the Eko Excel tablet in their daily teaching and learning. The sample of the study consists of 26.8 per cent males and 73.2 per cent female public primary school teachers. For three months, we launched an online survey assessing teachers' readiness and the challenges in the use of technology in their classrooms using structured and unstructured questionnaires on Google Form, a web-based device designed for such. the questionnaire is scaled with a modified 5-point Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree which are used in measuring the responses of the respondents. The

questionnaire has a Cronbach Alpha value of 0.83 and was both structured and unstructured and easy to obtain responses from participants due to COVID-19 protocols and in their own time and space. It was electronically validated by three lecturers in the fields of education, technology, and mathematics. We distributed the links via channels such as WhatsApp and we invited teachers to participate by email and phone based on the criteria of using the tablet in their daily teaching and learning. We provided the participants with information about the study, data management, and ethical issues that they are free to fill out the questionnaires, and that their identity will be protected. This made us have the consent of participants in the study. Also, the questionnaire is scaled with a modified 5-point Likert scale of Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree which are used in measuring the responses of the respondents. The study used descriptive statistics to answer the research questions using tables and, simple percentages bar-chart to analyze the data gathered. The results of the study are discussed below.

Results

Table 1: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	19	26.8
Female	52	73.2
Total	**71**	**100.0**

Source: Field Survey (2021)

The table above shows the distribution of respondents by gender. The result shows that 26.8% of the respondents were male while 73.2% of them were female.

Table 2: Distribution of Respondents by Educational Qualification

Educational Qualification	Frequency	Percentage (%)
NCE	25	32.5
OND	2	2.8
HND	2	2.8
First degree	32	45.1
Master's degree	10	14.1
Total	**71**	**100.0**

Source: Field Survey (2021)

The table above shows the distribution of respondents by educational qualifications. The result shows that 32.5% of the respondents were NCE holders, 2.8% were OND holders, 2.8% were HND holders, 45.1% were First-degree holders and 14.1% of them were Masters degrees.

Research Questions

Question One: How does Eko Excel enhance attendance taking? The question was answered with data generated from items 1 to 4. The answer to the question is presented in table 3.

Table 3: Attendance Taking by Eko Excel.

S/N		SA	A	N	D	SD	TOTAL	MEAN
Eko Excel tablet usually eases my attendance task immediately after the assembly.		140 (28) 39.4%	116 (29) 40.8%	6 (2) 2.8%	14 (7) 9.9%	5 (5) 7.0%	281 (71) 25.0%	3.96
I prefer the manual register to Eko Excel attendance tracking.		65 (13) 18.3%	68 (17) 23.9%	9 (3) 4.2%	46 (23) 32.4%	15 (15) 21.1%	203 (71) 25.0%	2.86
I usually battle with forgetfulness during Eko Excel attendance tracking.		25 (5) 7.0%	88 (22) 31.0%	3 (1) 1.4%	60 (30) 42.3%	13 (13) 18.3%	(71) 25.0%	2.66
Eko Excel lesson timing for each learning task is unrealistic.		135 (27) 38.0%	100 (25) 35.2%	6 (2) 2.8%	30 (15) 21.1%	2 (2) 2.8%	273 (71) 25.0%	3.85
TOTAL	**F**	**365** **(73)**	**372** **(93)**	**24** **(8)**	**150** **(75)**	**35** **(35)**	**946** **(284)**	**3.33**
	%	**25.7**	**32.7**	**2.81**	**26.4**	**12.3**	**100**	

Source: Field Survey (2021)

The table above provides data for the answer to research question one. The analysis above shows that the percentage of total responses for Strongly Agreed was 25.7%, 32.7% were Agreed, 2.81%were Neutral, 26.4%Disagreed and 12.3% Strongly disagreed respectively. The total positive responses were 58.4%, Neutral was% while and negative responses were 38.7%. The total average mean score of the respondents was 3.33, which is greater than the acceptance mean score of 3.0 which indicates that most of the respondents agreed with the question that, Eko Excel helps in attendance taking.

Question Two: What is the level of teacher competency in using Eko Excel? The question was answered with data generated from items 5 to 9. The answer to the question is presented in table 4.

Table 4: The level of Teachers' Competency in Using Eko Excel.

S/N	SA	A	N	D	SD	TOTAL	MEAN
I am proficient in the use of ICT facilities (e-lesson notes, educational games, mobile apps) to enhance classroom instruction.	105 (21) 29.6%	168 (42) 59.2%	9 (3) 4.2%	6 (3) 4.2%	2 (2) 2.8%	290 (71) 20.0%	4.08
I am not sure that I possess the required skills necessary to use the Eko Excel tablet.	15 (3) 4.2%	20 (5) 7.0%	6 (2) 2.8%	50 (25) 35.2%	36 (36) 50.7%	127 (71) 20.0%	1.79
My interaction with the Eko Excel tablet is not clear and I still believe I need guidance from colleagues.	15 (3) 4.2%	24 (6) 8.5%	3 (1) 1.4%	60 (30) 42.3%	31 (31) 43.7%	133 (71) 20.0%	1.87
The Eko Excel tablet enables me to teach my lessons in a form that is adapted to my teaching style.	55 (11) 15.5%	88 (22) 31.0%	12 (4) 5.6%	40 (20) 28.2%	14 (14) 19.7%	209 (71) 20.0%	2.94

Using the Eko Excel tablet requires a lot of mental effort, and it frustrates teachers in the discharge of their duties.		65 (13) 18.3%	76 (19) 26.8%	6 (2) 2.8%	46 (23) 32.4%	14 (14) 19.7%	207 (71) 20.0%	2.92
TOTAL	**F**	**255 (51)**	**376 (94)**	**36 (12)**	**92 (101)**	**14 (97)**	**773 (355)**	**2.18**
	%	**14.37**	**26.48**	**3.38**	**28.45**	**27.32**	**100**	

Source: Field Survey (2021)

The table above provides data for the answer to research question two. The analysis above shows that the percentage of total responses for Strongly Agreed was 14.37%, 26.48% Agreed, 3.38% Neutral, 28.45 %Disagreed and 27.32% Strongly disagreed respectively. The total positive responses were 40.85%, Neutral was3.38%and total negative responses were 55.77%. The total average mean score of the respondents was 2.18, which is less than 3.0 which indicates that most of the respondents disagreed with the question that, teachers have competency in using Eko Excel.

Question Three: What are the attitudes of teachers to Eko Excel? The question was answered with data generated from items 10 to 12. The answer to the question is presented in table 5.

Table 5: The Attitudes of Teachers to Using Eko Excel

S/N		**SA**	**A**	**N**	**D**	**SD**	**TOTAL**	**MEAN**
I would be glad to use Eko Excel Tablet to teach my pupils when schools resume.		125 (25) 35.2%	100 (25) 35.2%	24 (8) 11.3%	14 (7) 9.9%	6 (6) 8.5%	269 (71) 33.33%	3.79
I would encourage and sensitize my colleagues to use the Eko Excel initiative because it reduces the stress of writing lesson notes.		200 (40) 56.3%	80 (20) 28.2%	3 (1) 1.4%	6 (3) 4.2%	7 (7) 9.9%	296 (71) 33.33%	4.17
I prefer the Eko Excel tablet because it tracks my level of productivity, and shows my weakness in completing my teaching task.		75 (15) 21.1%	116 (29) 40.8%	6 (2) 2.8%	32 (16) 22.5%	9 (9) 12.7%	238 (71) 33.33%	3.35
TOTAL	**F**	**400 (80)**	**296 (74)**	**33 (11)**	**52 (26)**	**22 (22)**	**803 (213)**	**3.77**
	%	**37.5**	**34.74**	**5.16**	**12.21**	**10.33**	**100**	

Source: Field Survey (2021)

The table above provides data for the answer to research question three. The analysis above shows that the percentage of total responses for Strongly Agreed was 37.5%, 34.74% were Agreed, 5.16% were Neutral, 12.21%have Disagreedand10.33% were Strongly disagreed respectively. The total positive responses were 72.24%, Neutral was5.16%and total negative responses were 22.54%. The total average mean score of the respondents was 3.77, which is greater than the acceptable mean of 3.0 which indicates that most of the respondents agreed with the items of the questionnaire raised as regards the attitudes of teachers toward the use of Eko Excel.

Question Four: What is the teacher's knowledge of Ecko Excel? The question was answered with data generated from items 13 to 24. The answer to the question is presented in table 6.

Table 6: Teacher's knowledge of Eko Excel.

S/N	Sit down	Sit tall	TOTAL	MEAN
The letter 'S' in the word STRIVE means?	(1) 1.4%	(70) 98.6%	(71)	1.99

S/N	3	4	5	6	TOTAL	MEAN
There are ____ items under striving pupils.	(7) 9.9%	(7) 9.9%	(32) 45.1%	(25) 35.2%	(71)	3.06

S/N	Good pupil	Smart pupil	TOTAL	MEAN
Which of these is found under striving pupils?	(9) 12.7%	(62) 87.3%	(71)	1.87

S/N	3	4	5	6	TOTAL	MEAN
How many items are found under peoples' jobs?	(7) 9.9%	(14) 19.7%	(43) 60.6%	(7) 9.9%	(71)	2.80

S/N	Ambassador	Class Attendant	Midline captain	TOTAL	MEAN
Which of these can be found under peoples' jobs?	(66) 93.0%	(2) 2.89%	(3) 4.2%	(71)	1.11

S/N	Applauding them	Calling their names	Giving them special names	Writing their names under great works	TOTAL	MEAN
People are celebrated for great work on the character board by?	(5) 7.0%	(7) 9.9%	(1) 1.4%	(58) 81.7%	(71)	3.58

S/N	Head teacher's office	Sick bay	Staff room	TOTAL	MEAN
A teacher can take action to redirect pupils' misbehaviours.	(69) 97.2%	(1) 1.4%	(1) 1.4%	(71)	1.11

S/N	Contain Head Teacher's	Tell pupils	Tell the answer	Tell the section	TOTAL	MEAN

	comment	what to do		header		
The solid line box with timing is?	(4) 5.6%	(34) 47.9%	(6) 8.5%	(27) 38.0%	(71)	2.79

S/N	Contain Head Teacher's comment	Tell the correct answer	Tell the section header	Tell what the teacher should write on the board	TOTAL	MEAN
The solid line box without timing is?	(3) 4.2%	(13) 18.3%	(5) 7.0%	(50) 70.4%	(71)	3.44

S/N	Contain the teacher's comment	Tell pupils to talk	Tell the answer	Tell the section header	TOTAL	MEAN
What is the function of the dash line box?	(14) 19.7%	(7) 9.9%	(43) 60.6%	(7) 9.9%	(71)	2.61

S/N	Correct or incorrect	Right or wrong	TOTAL	MEAN
Does the teacher respond to the pupils' answer by saying ____?	(70) 98.6%	(1) 1.4%	(71)	1.01

S/N	Correct the pupil	Prompt the pupil	Punish the pupil	Reward the pupil	TOTAL	MEAN
What do you do when a pupil gives a wrong answer?	(37) 52.1%	(32) 45.1%	(1) 1.4%	(1) 1.4%	(71)	1.52
AVERAGE MEAN OF THE RESPONDENTS						2.24

Source: Field Survey (2021)

The table above provides data for the answer to research question four. The analysis above shows that the total average means a score of the respondents was 2.24, which is less than the acceptable means of 3.0 which indicates that most of the respondents disagreed with the items of the questionnaire raised as regards the teacher knowledge of Eko Excel.

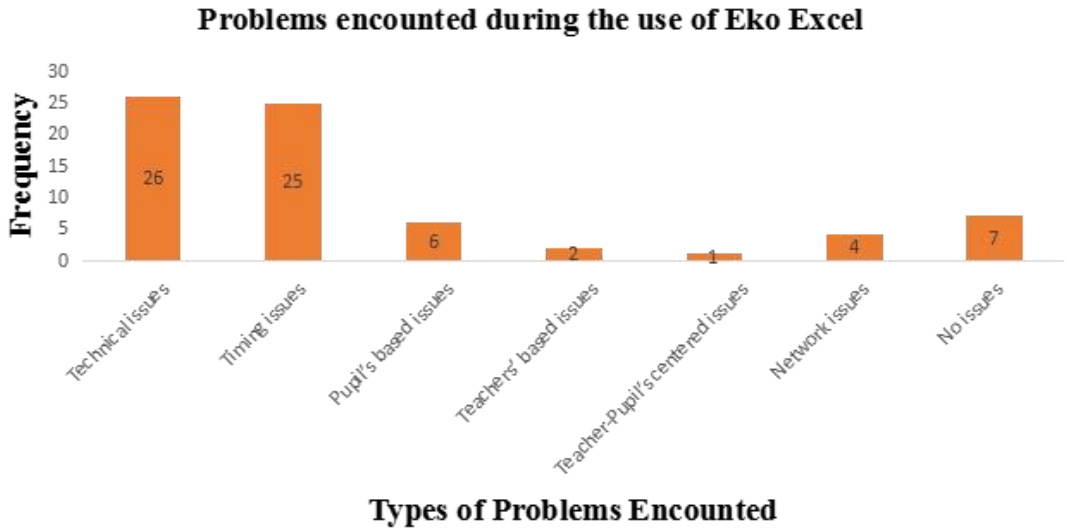
Question Five: Which of the problem have you encountered when using the Eko Excel App? The question was answered with open-ended data generated from item 25. The answer to the question is presented in table 7.

Table 7: Problems encountered when using the Eko Excel App

Problems Encountered During the Use of Eko Excel	**Frequency**	**Percentage**
Technical issues	26	36.4
Timing issues	25	35.0
Pupil's based issues	6	8.40
Teachers' based issues	2	2.80
Teacher-Pupil centred issues	1	1.40
Network issues	4	5.60
No issues	7	9.80
Total	**71**	**100.0**

Source: Field Survey (2021)

Figure 1: Bar Chart showing the problems encountered when using the Eko Excel App.



Source: Field Survey (2021)

Table 7 above shows the distribution of respondents by Problems encountered when using the Eko Excel App. The result shows that 36.4% of the respondents were Technical issues, 35.0% were Timing issues, 8.40% were Pupil based issues, 2.80% were Teacher based issues, 1.40% were Teacher-Pupil based issues, 5.60% were Network-based issues while 9.80% of them were respondents who picked the items with No issues. Figure 1 further shows the bar chart of the problems encountered when using the Eko Excel App.

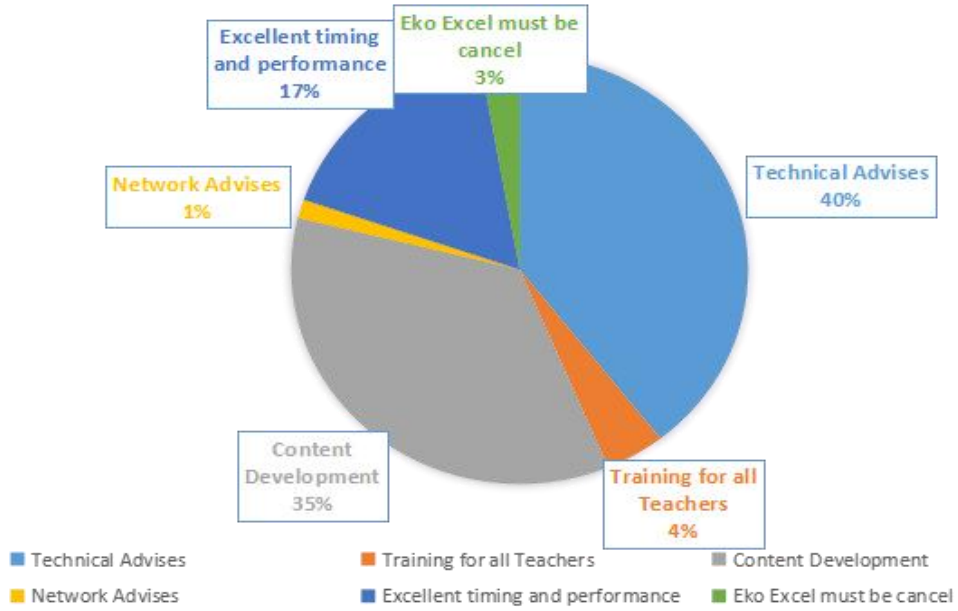
Question Six: Possible suggestions for the problem when using the Eko Excel App? The question was answered with open-ended data generated from item 26. The answer to the question is presented in table 8.

Table 8: Possible suggestions for the problem when using the Eko Excel App

Possible suggestions for the problem when using the Eko Excel App	**Frequency**	**Percentage**
Technical Advises	28	39.4
Training for all Teachers	3	4.22
Content Development	25	35.21
Network Advises	1	1.4
Excellent timing and performance	12	17.0
Eko Excel must be cancelled	2	3.0
Total	**71**	**100.0**

Source: Field Survey (2021)

Figure 2: Bar Chart showing the Possible suggestions for the problem when using the Eko Excel App.



Source: Field Survey (2021)

Table 8 above shows the distribution of respondents by Possible suggestions for the problem when using the Eko Excel App. The result shows that 39.4% of the respondents were Technical advice, 4.22% were Training for all teachers, 35.21% were Content development, 1.40% were Network advice, 16.90% were Excellent timing and performance, while 3.0% were Eko Excel must be cancelled. Figure 2 further shows a pie chart of the possible suggestions for the problem when using the Eko Excel App.

Discussion of findings

The research is a survey on the utilization of Eko Excel handheld technology in public primary schools, five questions were raised for this purpose. Research question one is about ifEko Excel enhances the taking of attendance in the classroom. The findings revealed that the average mean score of respondents is 3.33 while the acceptance means the score is 3.0 this shows that more respondents agree that Eko Excel improves attendance taking in the classroom and this aligns with the study of Jimoh, Bamiro, Akapo, Ibrahim &Ismail (2020) that the use of ICT facilities in education has a strong positive relationship with perceived usefulness, perceived ease of use amongst Teachers in schools. This supports UNESCO's (n.d) view that ICT facilitate universal access to education, bridge learning divides, support the development of teachers, enhance the quality and relevance of learning, strengthen inclusion, and improve education administration and governance.

Research question two on the level of teacher competency in using EkoExcel, reveals that most of the respondents disagreed with the question, which reveals that teachers have relatively low knowledge of the usage of Eko Excel, this corroborates the works of Milizar& Fan (2019) on Indonesian Teachers' Knowledge of ICT and the Use of ICT in Secondary Mathematics Teaching. The authors' study found, to a large extent,

that Indonesian secondary mathematics teachers have largely inadequate knowledge of ICT and knowledge of ICT use in teaching.

Research question three examines the attitude of teachers towards the use of Eko Excel, although the knowledge of Eko Excel is low, results from the third question showed that respondents have a positive attitude towards the use of Eko Excel in primary school, this agrees with the works of Sanchez, Marcos, Gonzalez & GuanLin (2012), that teachers' attitudes towards ICT are highly positive but the use of them in class is scarce and it is subjected to innovative processes.

The fourth question examines teachers' knowledge of Eko Excel, teachers showed low knowledge of Eko Excel because of poor knowledge of ICT as stated in question two. The fifth question informs on the problems encountered in the use of Eko Excel, the analysis revealed that the major challenge faced in the use of Eko Excel is technical issues. This corroborates the study of Habibu, Al Mamun & Clement (2012) that teachers have difficulties in the use of ICT in teaching and learning in Uganda. The major barriers identified were lack of genuine software, inadequate computer in the classroom, low-speed internet, lack of motivation from both teacher and student side to use ICT, lack of proper training skills, unavailability of latest ICT equipment, lack of expert technical staff, poor administrative support, and poor course curriculum.

The sixth question seeks the opinion of respondents on the possible solutions to the problem with the usage of Eko Excel. The findings showed that technical advice should be provided to teachers on the use of Eko Excel. Habibu *et al* (2012) also suggested that ongoing professional development of teachers to model new pedagogies and tools for learning to enhance the teaching-learning process and that it is important for teacher trainers and policymakers to understand the barriers and cost-effectiveness of different approaches to ICT use in teacher training so that training strategies can be appropriately explored to make such changes viable to all.

Conclusion

The study examined the 21st-century classroom teachers' readiness to use Eko Excel technology in the classroom in public primary schools in Lagos State. The study reveals the introduction of Eko Excel has improved taking of attendance in the classroom and eased the process of classroom control for teachers. Also, that teachers have a positive attitude towards the initiative and are willing to use the app in their teaching and learning. The study further reveals that the use of technology in the classroom has a strong positive relationship between teacher and students and thus improves their analytical thinking, and world view which in turn produces positive learning outcomes. However, the study shows that there is low knowledge of Eko Excel because of technical challenges faced in using the application which is why some of the respondents are of the view of scrapping it.

Recommendations

Based on the findings, the study recommends that:

i. The developers of Eko Excel should provide adequate technical support to teachers on the use of the app regularly

ii. The Ministry of Education should sensitize teachers regularly on innovations and knowledge of ICT through workshops and seminars.

iii. There should be regular assessments of the programme to enhance its viability and sustainability.

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