LEARNING THROUGH RADIO AND TELEVISION DURING COVID-19: PERSPECTIVES OF K-12 STAKEHOLDERS

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Abstract

The COVID-19 pandemic has disrupted traditional education, leading to the adoption of alternative methods, such as learning through radio and television for K-12 students. Television and radio became popularly adopted platforms to disseminate educational resources during the pandemic in developing countries, such as Nigeria. This study gathers the perspective of K-12 teachers and students during the crisis to find out the effectiveness of the utilized platforms, examine the challenges encountered, and suggest the way forward in case of future occurrence. The concerns-Based Adoption Model (CBAM) guided the study. A qualitative methodology of interpretivism was employed using 20 participants that comprise students and teachers across the five south-western states in Nigeria. Findings show that teachers adapted their lessons to be delivered through broadcasts, while school administrators have worked closely with broadcasters to develop and implement educational content. Students have had mixed experiences, with some finding radio and television engaging, while others face challenges with engagement and adaptability. In essence, the result shows that most of the respondents though acknowledged the effectiveness of the radio and television approach to learning but opined that the lessons are not detailed enough. Furthermore, educational television broadcast is preferable to radio lessons as the visual effect contributes significantly to learning. The study concludes that broadcasters have played a critical role in delivering educational content, partnering with schools, and developing programs that align with the curriculum during the pandemic. The study discussed its implication, followed by limitations, and gave direction for future studies.

Keywords: television, radio, K-12 student, teachers, teaching and learning, COVID-19.

1. Introduction

The COVID-19 pandemic has necessitated the use of distance learning methodologies by different countries to reach students since they are unable to attend school in person. In sub-Saharan Africa, 89 percent of learners do not have access to household computers, 82 percent lack internet access, and about 50 percent of learners live in areas not covered by mobile networks [1]. Teaching and learning, therefore, cannot only use online modes but should explore alternative approaches, including the use of community radio and television broadcasts, as well as creativity in all ways of learning. [2] opines that radio may be the best way to reach students during the pandemic and perhaps beyond. [3] found that Africa is the most active in the efforts to leverage either television or radio and a combination of both for learning during a pandemic. At the same time, Europe and North America used less radio but actively in deploying television-based distance education programmes.

Consequently, different countries of the world designed several initiatives and utilized existing platforms to provide digital resources for teachers, administrators, students, and families using radio and television broadcasts [4]. The Nigerian states, NGO, and individuals also introduced initiatives to support teaching and learning in the pandemic. The initiatives included emergency online learning, while lessons were also broadcasted on radio and television, in which targeted K-12 students [5–7]. Though educational broadcast is not new in the Nigerian context [8, 9], it is not a widely adopted system for learning as presently forced by the pandemic. This emergency approach to learning ushered in new experiences, challenges and success factors. Since utilizing television and radio became one of the most used platforms to engage learners in the COVID-19 pandemic, conducting a study to evaluate this intervention is necessary for the effectiveness of the instructional model.

Several studies, such as [10–12], explored the teachers and students experience with e-learning during COVID-19. However, ICT tools, platforms and social networking sites (SNS), which include Zoom, LMS, WhatsApp, Facebook, among others, were the e-learning tools examined. Furthermore, little research was undertaken to investigate the effects of the television and radio pre-COVID pandemic in Nigeria, such as [8] study, with a focus on English Language speaking and writing skills of students in secondary schools and students' awareness and utilization of educational broadcasts [9]. The present study is explicitly concerned with the experiences with radio and television-based instruction during the pandemic. If teaching through the use of television and radio is widely adopted in national, state and local, including private-owned stations, the effectiveness of such programs and the model of intervention with the focus of supporting learners are worthy of evaluation. Specifically, "How effective is the learning through educational programs on television and radio stations?" "What interventions are needed to accelerate the pattern of adoption and effective use of the learning platforms?" How can the learning platforms be enhanced to support ease of learning? What are the challenges encountered and how it can be unravelled for future occurrence?

In this study, using a qualitative approach, the introduction and implementation of the television and radio classes across states in Nigeria in the role of remote teaching and learning will be measured. The Concerns-Based Adoption Model (CBAM) is the theoretical framework, used to study the process of implementing change. The study is divided into five parts. Firstly, the necessity of assessing the use of television and radio stations to teach K-12 in the Nigeria context is introduced. Secondly, the theoretical framework, used to drive the study as well as a review of relevant and related studies, was done. Thirdly, the methodology, employed in the study, was discussed, followed by the result of the findings. Lastly, the discussion, implications, limitations, and future study direction were explicated.

1. 2. Study underpinning theory

The theoretical framework that guided this study was the Concern-Based Adoption Model (CBAM), [13]. The CBAM converges on how individuals feel about the change, required to implement the innovation. [14] states that CBAM applies to anyone experiencing change, be the policymakers, teachers, parents, or students. For [15], CBAM is used as a way to assess change in education and often used for technology adoption. According to [16], the CBAM was an effort to understand the innovation adoption process and the concerns that teachers experienced when asked to adopt an innovation and change.

Studies utilized CBAM and the concept of stages of concern across disciplines and especially in IT research [17]. The Stages of Concern (SoC) concept emerged from the CBAM research as the personal component revealing educators' vocalization of concerns about teaching, adopting new curricula/programs, and different practices [16]. The Stages of Concern is one of three components that make up the diagnostic dimensions of the Concerns-Based Adoption Model. The stages fall under three broad categories: Self-concerns, Task concerns, and Impact concerns. A typical expression of concern about an innovation, which in this study is radio and television instruction, is shown in **Table 1**.

The three broad categories of SoC are described below, according to [16].

Self

0. Unconcerned: The individual indicates little concern about or involvement with the innovation.

1. Informational: The individual indicates a general awareness of the innovation and interest in learning more details about it.

2. Personal: The individual is uncertain about the demands of the innovation, his or her adequacy to meet those demands, and/or his or her role with the innovation.

Task

3. Management: The individual focuses on the processes and tasks of using innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, and scheduling dominate.

Impact

4. Consequence: The individual focuses on innovation's impact on students in his or her immediate sphere of influence. Considerations include the relevance of the innovation for students; the evaluation of student outcomes, including performance and competencies; and the changes, needed to improve student outcomes.

5. Collaboration: The individual focuses on coordinating and cooperating with others regarding the use of innovation.

6. Refocusing: The individual focuses on exploring ways to reap more universal benefits from the innovation, including the possibility of making major changes to it or replacing it with a more robust alternative.

Table 1

Typical Expressions of Concern about RTV Instruction (Adapted from [16]).

Stage of Concern	Expression of Concern
0. Awareness	I am not concerned about RTV instruction
1. Informational	I would like to know more about RTV instruction
2. Personal	How will utilizing RTV instruction affect me?
3. Management	I seem to be spending all my time getting materials through RTV
4. Consequence	How is RTV affecting me? How can I refine it to have more impact?
5. Collaboration	How can I relate what I am doing to what others are doing?
6. Refocusing	I have some ideas about something that would work even better.

Note: RTV: Radio and Television

The SoC describe how instructors perceive an innovation and their feelings, attitudes, perceptions, and thoughts about it [18]. Using SoC as a framework helps to identify faculty concerns, which would help faculty receive support from interventions appropriate to their level of concern [18].

Many research findings support the use of the Stages of Concern as a framework for assessing the adoption of innovations and professional development [17–21]. The earlier studies, however, focus mainly on the teacher's concerns as per their experiences after exposure to and involvement in an innovation [17, 22–23]. [24], gauge teachers' and teacher candidates' concerns using the Stages of Concern Questionnaire. A recent study recognizes the perceptions of faculty members utilizing SoC to gather the opinion of faculty members about adopting online teaching [17, 25]. The findings of the study showed that SoC ranked highest in the Collaboration stage, followed by Refocusing, Management, Unconcerned, Personal, Consequence, and Informational.

In order for any instructional initiative to be successful, teachers need to express a level of interest in the initiative's success [14, 26–28]. However, only the teachers' level of interest in an instructional initiative cannot alone translate to the complete success of the initiative without considering the students' interests. It is essential, that the opinions of students that witnessed the initiative be gathered to understand the holistic picture of the effect of the innovation.

The aim of this study is to use the SoC, as a diagnostic tool of the CBAM, to understand the use of radio and television as a remote learning channel for K-12 learners in Nigeria during the COVID-19 pandemic

2. Methodology

The study employed a purposeful sampling technique to recruit participants. Purposeful sampling was used because it was discovered, that not all the students and teachers listened to or watched the educational broadcast on radio and television, respectively. The researcher contacted colleagues across the five south-western states in Nigeria to identify two teachers and two students each that listen to educational programs on radio or TV (**Fig. 1**), targeted at K-12. Altogether, twenty respondents were used in the study, which includes ten teachers and ten students, as seen in **Table 3.** The five states covered are Osun, Oyo, Ogun, Ondo, and, Lagos. The researchers are aware of various stations that deliver educational content in different states with several subjects, aired daily, as presented in **Table 2**.

The study is not particular about the subjects the respondents follow on the learning platforms or particular stations they choose to learn. Also, specific K-12 audience is not the concern of the study but all programs in K-12 classes. **Table 3** reveals the demography of the respondents, interviewed for the study, which shows that out of the ten teachers interviewed, six represent males, while four are females. The male teachers are older than their female counterparts, with an average age of 40 years and with more years of teaching experience. An equal number of teachers came from both private-owned schools and government schools. For students, an equal number of them represent both male and female respondents. The boys have the highest average age of 16 years, and they are from junior secondary school (K-9) to senior secondary school (K-12). An equal number (5) of the students represent private and government-owned schools. **Table 2** shows some educational TV and radio programs that are designed for students during school closures in southwest states in Nigeria.

Table 2

Some educational TV and radio programs for students during school closure in southwest states, Nigeria

Audience	Programme	Time	Station	Cable channels
Primary school Pupils	DigiClass	Monday to Friday 9am – 11am	**Ogun** State Television (OGTV)	DSTV channel 260 GOTV channel 100 StarTime channel 113
Secondary school Students	DigiClass	Monday to Friday 11am – 12pm 1pm – 2pm	**Ogun** State Television (OGTV)	DSTV channel 260 GOTV channel 100 StarTime channel 113
SS3 students	Educational broadcast	Monday to Saturday 7:30am – 10:30am	**Ondo** State Radiovision Corporation (OSRC TV)	
SS3 students	'Call-in' tutorials	Friday 11am – 1pm	Wazobia FM 95.1, **Lagos**	Search on TuneIn and RadioGarden
SS3 students	Daily Lesson	Monday to Friday 2pm – 4pm	Wazobia Max TV, **Lagos**	StarTimes channel 19 GoTV Channel 98 MyTv channel 17
Primary 1 and 2 pupils	*Ko-ko-ka Labe igi orombo*	Monday to Thursday 9:00am – 11:55am	Radio **Lagos** 107.5 FM	Search on TuneIn and RadioGarden
Primary 3, 4, 5 and 6	Animal Garden Learning is fun Let's go learning Auntie Bola's Workshop	Monday and Wednesday 10:30am – 1pm Tuesday 12:05– 1:05pm Thursday 11am – 12pm	Eko FM 89.7 **Lagos**	Search on TuneIn and RadioGarden
Junior Secondary School students	Radio teaching programme	Monday to Friday 12 noon – 1pm	Naija 102.7 FM, **Lagos**	Search on RadioGarden
Primary and Secondary School students	School on air	Monday to Friday	Orisun Television, **Osun** OSBC radio 104.5 FM Orisun 89.5 FM	www.osun.csm.ng
Primary school students	School on air	Monday to Friday 3:10pm – 4:00am	**Ekiti** 91.5 FM	
SS3 students	School-on-air	Monday to Friday	Broadcasting corporation of **Oyo** State (BCOS) Ajilete 92.1 FM Oluyole 98.5 FM	

Adapted from [29]

Fig. 1. Images of radio and television initiatives across the five south-western state governments in Nigeria during COVID-19

Table 3

Demographic Characteristics of the Interviewee

Teachers (n=10)		Freq.	Students (n=10)		Freq.
Gender	Male	6	Gender	Male	5
	Female	4		Female	5
Average age (years)	Male	40	Average age (years)	Male	16
	Female	32		Female	14
School type	Public	5	School type	Public	5
	Private	5		Private	5
Average years of teaching experience	Male	15	Grade	Male	9–12
	Female	10		Female	9–12

Note: Freq = frequency, Grade 9-12 means students from junior secondary school (K-9) to senior secondary school (K-12)

3. 1. The Interview and Data collection process

The data was gathered through a telephone voice call recording. All 20 respondents were contacted through a phone call. The researchers resulted in the use of phone calls due to the physical distancing and restriction of travel during the pandemic as enforced by the government to curb the spread of COVID-19. A study, conducted by [12, 29], used a similar method to gather information from respondents using telephone, Skype, and Zoom to conduct and record interviews with respondents. The researchers carried out all the interviews in July 2020. The length of the interviews ranged from 12 minutes to 25 minutes for all respondents. Similar questions were posed to both teachers and students, with little modifications to glean information from them. It is noteworthy to state, that data for this study were collected during the crisis in the year 2021.

The interview items were developed using the stages of the concern-based adoption model, which are; awareness concerns, information concerns, personal concerns, management concerns, consequences concerns, collaboration concerns, and refocusing concerns. The content

was reviewed by expert colleagues to increase coherency and readability. The items, developed for students and teachers, range from knowledge about learning through radio and television to the experience using distance learning methods. The questions were scrutinized back and forth and modified to elicit the information, required for the study. Though the interview items were semi-structured, there was sufficient room for flexibility with regard to the topics, raised during the conversation. The participants responded to the items in terms of their present concerns or how they felt about their involvement with emerging technologies in Nigeria. The questions aimed primarily at assessing the impact of radio and television educational programs on learning for K-12 in Nigeria during COVID-19 and help the students think about factors influencing their concern about innovation. The teachers' views were also gathered to understand the holistic concern of K-12 stakeholders and their perception of radio and television for learning. In the data transcriptions, the interviewees are identified randomly by numbers 1-10 each for students and teachers; their gender is indicated by capital letters F (female), M (male), while S denotes students and T denotes teachers.

3. 2. Ethical considerations

The consent of guardians or parents of the interviewed students was first sought before interviewing the students. The contacts of the guardians or parents were retrieved from the researchers' contact person as most of the students did not own a personal mobile phone after they had been briefed on the aim of the study. The teachers, interviewed in this study as part of respondents, are not teachers teaching on radio or television or content development but K-12 teachers that follow the educational broadcast themselves. All respondents were informed that the interview was solely for academic purposes, with their identity anonymized in the findings, and that they could withdraw participation at any time in the course of the questioning.

4. Result

This section presents the findings of the study. The transcribed interviews were analyzed and used for the result. The results were presented based on the stages of the concern-based adoption model to understand the opinions and perceptions of both teachers and students on the use of radio and television as tools for providing distance education.

The first stage of the concerned concept is awareness concern. In the awareness stage, both students and teachers are somewhat concerned about the introduction of learning through radio and television. Most of the students are not aware that classes can be taken through radio and television, but they all listen to educational broadcasts, designed for them to mitigate the effect of school closure. This scenario is in tandem with the studies of [9, 26] on students' awareness and utilization of educational broadcasts in one of the states under study. The findings revealed that the students are not aware of the educational radio and television programs even though they have access to it. Several factors may account for all the students interviewed, confirming they listen to the program, targeted at their class grade. This development may be due to the fact that schools are closed, and they have more time to listen to the radio and watch TV or are monitored by teachers, parents, or guidance. Before the recent upsurge of radio and television instruction across the country as a result of the COVID-19 outbreak, [9] stated that local radio and television stations in Nigeria have specific programs, aired to educate the audience on different content related to basic science and technology curriculum. Since specific educational programs were aired pre-COVID, why then do student seems not to be aware that learning is possible through radio and TV? This situation is because the program broadcast teaches the listeners about general topics, such as sexually transmitted diseases, community development, or ones that sensitize the learners on the environment and how to preserve it. By so doing, students do not see the topics as subject-specific lessons that contribute to their academic achievement.

Responses from the students also revealed that some are more concerned about another form of learning during the period of the pandemic. S7 denotes an expression of one of the students.

S7 (F): I am more concerned about another form of learning during the COVID-19 period…. I prefer learning through an ICT platform as obtainable in advanced countries.

Students prefer another form of innovation to help them get the best of learning remotely. The medium they choose includes the use of ICT platforms, such as WhatsApp and Facebook, with which they believe to receive instant and immediate feedback from their teachers. Relatedly, a recent study [30] shows that WhatsApp group is the most effective in the early COVID-19 pandemic because it is easy and simple, with a small data quota package requirement. The choice of the social media platform the students prefer to learn is a result of the media they are more familiar with. While few of the students identify other platforms, such as Zoom and Skype, for teaching and learning, they are inexperienced about its use. The students affirmed that they are not preoccupied with anything other than radio and TV educational programs at this time. They submit that there is no alternative for them to learn if they do not follow up with the broadcast programs, since physical distancing has denied them access to physical classroom settings. Furthermore, the responses from the students also confirm that no other priorities prevent them from focusing attention on radio and TV classes. Even though some of the students stated that the period of the school closure was utilized to learn new skills, such as graphics design, cookery, or a vocational trade, but they still follow-up with classes taking cognizance of the schedule.

For teachers, they are fully aware of the passage of instruction through radio and television. The teachers are more concerned about another innovation, as in the case of the students. They also prefer a channel that will enable immediate feedback from students and clarification during classes. They stated that the present form of teaching on radio and TV, as experienced by students, does not allow the student to "call in" to the program for questioning and clarification where necessary. They further opined that even if call-in and questioning time were to be built into the programs, it will disrupt the learning process as the duration, allocated for each lesson, is a factor to be considered, as well as the overwhelming potential audience that will be competing to call in. It can be inferred from most of the teachers' responses, that the use of ICT platforms, as opined by the students, would have provided better results for learning. They are, however, quick to mention that there are myriads of a challenge to the effective use of ICT platforms, such as internet issues, technical, know-how, and availability of computer systems and mobile devices, among others. This view is in line with the study of [12], which asserts that e-learning is an alternative model for learning in Nigeria but for the challenges. Most of the teachers follow up with the educational program, aired at various times.

Information concerns

In this stage, the individual indicates a general awareness of the innovation and an interest in learning more details about it. The interest includes its general characteristics, effects, and requirements for use. When the students were asked if resources are available for the adoption of radio and television instruction, they all stated that resources are available as radio and television are owned by virtually everyone, irrespective of socio-economic status. The availability of especially radio at almost every home will acquaint the student's opportunity to learn in the comfort of their homes. The students do not see the radio and educational television broadcasts being better than learning through traditional class settings. The students have a preference for face-to-face classes concurring with findings from [12].

S4 (F): I do not see how radio and television lesson is better than traditional class; there is no opportunity to ask questions or ask for clarification.

Relatedly, a teacher submits that *since learning was forced to be remotely through broadcast, it was noticed, that students were unable to concentrate. This circumstance led to teachers' increased interest in human encounters in education.* Most teachers interviewed believe that some of the topics taught are too basic and that some important aspect of the subjects is not taught, unlike the students that have no reservations regarding that. For instance, T5 and T7 express their opinion on the content of the lessons.

T5 (M): …. I do listen to the programs, especially mathematics; the lessons take merely students through the basics of the topics treated…

T7 (M): the English class on the radio programs focuses on comprehension and letter writing, whereas the poem is left out, which is very important.

There are concerns on the part of the teachers as regards the information or the quality of content, delivered to the learners. The teachers believe that important areas are not treated, and sometimes the basics of most of the subjects are delivered through television and radio broadcasts.

Personal concerns

The personal concern stage gauges the perception of concern of both students and teachers about the newly adopted model of learning to know if it meets the demands of their role. For students, they all agree that the learner's role is still assumed as in traditional class settings, but their responsibilities changed as they have to listen and watch throughout the lesson. For instance, S1 statement below is a sample of students' expressions.

S1 (M): I sit and listen to educational programs on the radio and TV without the opportunity to ask questions when necessary.

The students stated that there is no opportunity for them to ask for clarifications whenever they need to, as well as a feedback channel to ascertain knowledge as acquired. One student described that he prefers television as a tool for learning to listen to educational programmes on the radio. The student stated the reason to be that the visual and auditory dimensions, such as television or sound motion pictures, are more effective in transmitting information than one, which utilizes the auditory dimension alone, such as radio.

Relatedly, teachers feel their role in guiding and imparting knowledge is unchanged, but they cannot feel the pulse of their students and get quick feedback like in a classroom. They are not aware of the environment the learner is in at the time the lesson is ongoing, and this can be a disadvantage, which can lead to distraction during the radio class.

T3 (M): I would not know if a student has been distracted as a result of his/her environment, while the class is ongoing on the radio or TV.

The students believe that not much commitment in terms of time and energy is required to adopt the remote learning method. The radio and television lessons will merely require them to wait for the scheduled time of the program and take notes, while the class is ongoing.

Management concerns

This stage of concern inquires about the respondents' views of the issues related to the efficiency and managing the scheduling of the aired educational programs. It specifically focuses on how the students manage the tasks and make the best use of information and resources, while learning through radio and television. Most of the students are not concerned about having enough to organize each day, as seen in the *S5 response*; that is, they are already aware of the schedule that they follow each day across radio and television stations.

S5 (F): I have mapped out my daily schedule... following classes on the two radio stations and TVs that interest me.

Managing all that learning through radio and television requires is not the concern of the students. Since they have access to radio and television, they follow the schedule of the lessons, targeted at their level, and learn. Most of them are, however, concerned about the time they spend listening to and watching the program. For instance, as seen in the *S10 response,* the students stated that this is so because there are too many stations to learn from, and the too many choices available get them to listen to the radio or watch TV for several hours.

S10 (M): It is tasky for me, I must say... many stations teach subjects which I like to join, which takes too much of time.

In a similar view, teachers think if the students can manage their schedule and follow up with the programs, there should not be concern about organizing each day, since a timetable, provided for lessons, has been stated as seen in **Fig.1.** Most teachers are, however, worried about students managing all that learning requires, that is, some students might during the lesson lose concentration, since there is no physical presence of the teacher to guide them. Also, the duration of the classes is a factor to be concerned about as a particular subject may be aired just once in a week.

Consequences concern

The focus of this stage is on the impact of the adopted method on students considering the relevance of the learning tools as it affects their performance and competencies. The students confirmed that the introduction of the radio and TV platforms contributes to keeping them in tune with

learning despite school closure. It, however, does not give room for assessment or formative evaluation of the instructions, given to them. From the expressions of the learners, we can deduce that the use of radio and TV for learning during pandemics is impactful. While some see the lessons as revision, some state that it puts them in learning mode, and in all, it ensures learning continues despite school closure.

S3 (M): For me, I listen to the radio mostly because of erratic epileptic power supply... the lesson sounds to me like revision

S5 (F): Listening to the radio and watching TV educational broadcasts put me into learning mode.

Similarly, the teachers also opined that learning through radio and television broadcasts during the pandemic has an impact on the students as it engages them student and creates opportunities for them to learn even at their various homes.

Collaboration concerns

This stage of concern level focuses on how learners cooperate with each other regarding the use of innovation. From the responses of both students and teachers, it shows that radio and television do not encourage collaborative activities. Though learners can come together after listening to the radio or TV or sit together to learn through educational broadcasts, it still does not translate to being a useful learning tool for collaboration. In a traditional classroom setting, students reported that after a lesson, *their teacher sometimes gives them group tasks or activities* that ensure collaborative effort. After the task, the teachers appraise them, which do not exist through radio and TV platforms.

Refocusing concerns

The last stage of the SoC focuses on exploring ways to reap more universal benefits from the adopted methods of instructing learners with the possibility of making changes to its use or adopting another alternative. When the opinion of the students was sought, they believed that another approach might work better, for example, the use of ICT tools. This can be as a result of their exposure to learning through such tools or stories they had about its use across different places. They also are not as well concerned about the affordability of such tools with the belief that their parents or guardian can make it available for them. All the students agreed they would like the radio programs revised such that they can interact with each other and with their audio teacher during each broadcast. If this is possible, then the rate, at which knowledge is impacted by learners, will be on the increase.

Relatedly, the teachers also believe that the approach of ICT tools and platforms might work better but for the challenges of access to the mobile device and internet access, among other issues that are associated with its usage. Recent studies, targeted at K-12, show that students own and use various mobile devices personally to engage themselves in educational activities and other social networking purposes [31–32]. The mobile device ownership, however, does not translate to adoption and use for learning across schools, since several factors contribute to implementation.

5. Discussion

Presently, radio and educational television broadcasts are the widely adopted approach for instructing K-12 learners in Nigeria. Therefore, the initial inquiry into radio and television as tools for distance learning during COVID-19 was motivated by an interest in understanding whether it was successful and the methods. In attempting to understand the success of distance learning methodologies, several factors stood out:

– the production of content in terms of quantity and quality;

– making educational content in audio-visual formats;

– monitoring and evaluation of learning through the broadcast of educational programmes.

Based on these findings, it is reasonable to assume, that the introduction of radio and television programs is effective in lessening the negative feelings surrounding learning in times of pandemic has been experienced during COVID-19. However, it can be inferred from their responses, that TV programs are preferable to radio lessons as the visual effect contributes significantly to

learning. Educational television has been discovered to have a great profound effect on speech training among young learners [33–35]. According to [34], learners mimic what they see on television and, as such, remember more of the things they watch than the ones they learn in the classroom. An earlier study found that both television and radio have a positive influence on the speaking skills of students, but no effect was indicated on their writing skills [8]. The findings were interpreted in terms of what teachers could do to use the TV and radio to promote the development of spoken and written English.

The instruction from radio and TV is a one size fits all approach whereby learners, irrespective of their level of assimilation, are taught at the same pace. The learners have no opportunity to clarify where necessary during and after the lesson, which traditional class and the online platform provides. Feedback is an essential tool to indicate that knowledge has been acquired, but questions, comments, and assessments are missing in the current form of learning available to Nigerian K-12 students. We can conclude that radio and TV lesson is best as a supplementary tool to a traditional classroom but not as a stand-alone alternative learning tool. This condition is because the programs were set up abruptly as a matter of emergency to salvage the situation. A future study is critical to ascertain the effectiveness of the radio and TV educational broadcast when school resumes. These specifics will be determined by their performance rate when schools eventually re-open.

The findings from this study provide some implications for various educational stakeholders. First, the educational programs and activities across K-12 levels should be harmonized, since all schools in a state adopt the same curriculum. This adoption will assist the learners in not being distracted in an attempt to catch up with other lessons on other stations. Second, the students should have specific stations that interest them and follow up with the lesson schedules. Having to be tuned to several channels will cause distraction and reduce the level of concentration of the students. Thirdly, the radio broadcast should be designed in such a way that feedback will be built-in as against mere classic radio education, where students sit and listen to a lecture. The parents or guardians of K-12 students should be available to support students in following up with the programs aired. The setting-up and use of radio and television as tools for distance education should not be discontinued post-COVID-19 to avoid the emergency approach to learning during future eventualities. The policymakers should ensure the production of content in quantity and quality, make available educational content in audio-visual formats, as well as ensuring the monitoring and evaluation of learning through the broadcast of educational programs.

Limitation and future research directions. The sample size though not small considering that qualitative study is more concerned with the quality and richness of information than quantity, but more samples would provide more insight and make the study generalizable. Gathering the perspective of four (two teachers and two students) participants in each state is not enough to give a complete picture of the topic of inquiry. More so, five states are covered in the study out of the thirty-six states in the country. Future studies can explore the perspective of stakeholders across all the states of the federation. Other stakeholders such as parents, school administrators, and government opinion should be sought as only teachers and students comprise the stakeholders in this study. The students, used in the study as respondents, are children of educated parents; it may be that children of illiterate parents may have a different opinion. They may find the educational program on the radio or TV more beneficial. Future studies should consider the educational and economic background of the parent and its effect on remote learning. The study does not consider primary schoolers, the language of instruction, and parent support in home-schooling through radio and television follow-up programs. This can be the focus of future research.

6. Conclusions

In conclusion, the use of radio and television as educational tools during the COVID-19 pandemic has been recognized as a valuable alternative for K-12 students. Parents, teachers, students, school administrators, and broadcasters have all played important roles in utilizing radio and television to deliver educational content and support remote learning. While there are challenges related to accessibility, engagement, and adaptability, the perspectives of K-12 stakeholders highlight the positive impact of radio and television in ensuring the continuity of education during unprecedented times. The collaboration between various stakeholders has been crucial in leveraging the potential of radio and television for K-12

education during the pandemic. As we continue to navigate the changing landscape of education, radio and television can continue to serve as important tools in supporting learning opportunities for students, complementing traditional methods of education, and promoting equitable access to educational content. Further research and efforts are needed to continuously improve the quality and effectiveness of educational programmes, delivered through radio and television, and to ensure that all students have access to these resources for inclusive and effective learning experiences.

Conflict of interest

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Data availability

Manuscript has no associated data.

Acknowledgments

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