Original Research Article

Management of E-Learning Technologies in Era of Emergency in Secondary Schools in Rivers State

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Abstract: The study investigated management of e-learning technologies in era of emergency in secondary schools in Rivers State. Two research questions and two hypotheses tested at 0.05 level of significance guided the study. The study adopted descriptive design. The population of the study comprised all the 276 public senior secondary schools in Rivers State. A sample of 206 principals was drawn using simple random sampling technique. The instrument for data collection was titled 'Management of E-Learning Technologies in Era of Emergency in Secondary Schools in Rivers State Questionnaire' (METEESSRSQ). The instrument was validated by an expert in Educational Management and two other experts in Measurement and Evaluation for internal consistency. Cronbach Alpha method was used to establish reliability index of the instrument at 0.82. Data collected was collated and analyzed using mean and standard deviation. The findings of the study showed that principals responded positively that the use of smartphone and radio can be applied in the management of secondary schools in the era of emergency. Furthermore, the study showed that no significant difference exists between the mean scores of male and female respondents on the ways the use of smartphones can be applied in the management of secondary schools in the era of emergency. It was concluded that e-learning technologies can be used in the management of secondary schools in the era of emergency in Rivers State. Recommendations were made included that government and Ministry of Education should train educators on the digital skills as part of preparing principals and teachers on how to conduct educational activities through e-learning technologies during emergency.
Keywords: (METEESSRSQ), E-Learning Technologies, Education.

INTRODUCTION

The outbreak of Covid-19 pandemic in latter part of 2019 caused global disruption and cessation of economic activities, including in-person educational activities. Covid-19 is a new strain of Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2). The new strain of SARS attacks respiratory system, causing fever, sever cough, fatigue, headaches, diarrhoea, itchy nose, pneumonia and breathing problems that lead to demise of the infected (Adhikari et al, 2020). The emergence of the disease has necessitated the introduction of safety and health measures in educational setting, and the provision of and utilization of e-learning resources in the school to ensure the continuation of education delivery through e-learning technologies.

School management during emergency of Covid-19 magnitude is serious business that requires knowledge, skills and material resources such as technologies. Emergency as any situation which poses an immediate risk and which requires urgent attention (British Dictionary, 2021). Such situations may be referred to as sudden or unexpected appearance; an unforeseen occurrence. The outbreak of Covid-19 is not expected, and thus represents a significant health emergency. E-learning technologies are crucial to quality education management and delivery in times of emergency. The essence of managing e-learning technologies is to enable educators to present educational contents properly so as to enhance students' learning outcomes in terms of acquiring useful knowledge, valuable skills and abilities required to succeed in life.

Gibson et al as cited in Peretomode (2014) stated that management refers to a set of activities which has come to be classified as planning, organizing, leading (i.e. coordinating and directing) and controlling in order to use available resources to achieve a desired outcome in the most efficient way. Hissom (2009) stated that management may be seen as the process of making strategic plans, setting organizational objectives, managing resources and deploying people and finances to achieve set objectives and measure results. Quality management in a school affects to a large extent, the success or failure of that school. The success achieved by leaders or heads of schools in achieving organizational goals is more or less a factor of the managerial style and skills adopted by them. Ejionueme (as cited in Osaat, 2020) stated that management is all about solving problems that confront humans as key proponents in the organization, with the quest to achieve its goals and objectives. Furthermore, when limited resources are effectively utilized, combined with the right input, to achieve a set objective or goal, management is said to be in place. This may not be far from reality, when it is seen as the process of mobilizing and utilizing the available human and material resources for the purpose of achieving the desired objectives in an efficient and effective manner (Mangal & Mangal, 2016).

E-learning is umbrella term used to describe learning process in which ICTs such as computers, smart-devices, internet, television, radio and other multimedia devices are used often in combination to facilitate teaching and learning process (Kassa & Baiungwa as cited in Okpechi *et al*., 2018). E-learning technologies can be defined as all electronic facilities that can be used to digitize, adapt, store and exchange educational information and contents between geographically separated learners and their instructors (Usman & Igbozuruike, 2019; Ikyumen & Fiase, 2010). Some of the e-learning technologies that school principals can use to manage the school include laptops, smartphone, computers, Ipad, tablet, terrestrial and cable television and radio broadcast, etc (Eze *et al*., 2018).

Smartphone for instance is useful technology for real-time communication that school managers can use to coordinate school activities. Smartphone is as a mobile phone with combination of computer functions, cell-phone features and other capabilities, including operating system, internet accessibility functionalities, and application software for performance of different tasks in various endeavours (Provazza, 2019). Alzougool and Almansour (2017) defined smartphone as an advanced mobile device furnished with comparable computer functions such as perfect operating system (like Android and Apple's IOS), fashioned with standardized interactive interface and capable of accepting third-party applications such as Zoom, Skype and WhatsApp.

Frankenfield (2020) opined that smartphone is a handheld communication facility that helps the user to connect to mobile network, thereby allowing such a user to make voice calls, video calls, send text messages and surf the internet, etc. Frankfield further observed that the word 'smartphone' was floated by IBM in 1994 when it produced first smartphone entitled 'Simon'. Further improvement of the device and other Blackberry devices that came later also had sophisticated features, thereby marking the beginning of the continuing replacement of outmoded cell-phone models. Smartphone technologies are one of the compelling development opportunities that have really helped the business world.

Some of the interesting features of smartphone that has remarkably altered and enhanced the role of telecommunication sector in fostering socio-economic and cultural development of the world are the revolutionary features such as touch screen capabilities, Wi-Fi connectivity, email interface, in-built applications (such as calculator and clock), third-party applications such as internet browser, Microsoft Office Suite, Portable Document Format (PDF), readers and video players. Other compelling features of smartphone include third to fifth generation wireless telecommunication technologies that enhance high-speed internet connectivity for quality voice and video calls. Ismail et al. (2013) observed that some smartphone have cutting-edge features, including high performance capability functions such as sensory functions, GPS functionalities, digital compass and acceleration functions that can help savvy school administrators

to carry out high-tech tasks beneficial to schools. This agrees with Campbell and Choudhury (nd) who observes that some smartphone applications are built with sophisticated algorithms that can detect and forecast weather, psychological and health parameters.

Today, smartphones have become integral part of people's lives as most people now have this inspiring and productive technology known as smartphone. Their capability to enhance work execution in all spheres of human endeavours and from remote places is quite awesome. Provazza (2019) remarked that educators and students also use their smartphones to connect their colleagues and classmates respectively, through text messages, voice and video calls. Smartphone can also be used to play High Definition (HD) videos and music. Third-party applications such as Facebook and Instagram are useful applications that permit users to chat with friends in social media platforms such researchgate.com and twitter.

The impact of smartphone in education sector is doubtlessly noticeable is diverse areas it is transforming instructional and managerial activities (Tagoe & Abakah, 2014). In the developed world, smartphone has become a vital tool in conduction of managerial activities in all sectors of the economy, including education sector (Alfawareh & Jusoh, 2017). In developing countries like Nigeria, simple observation has shown that smartphone is amazingly doing many things a regular computer can do, in addition to other handy features that has shown its versatility and flexibility for work performance efficiency (Darko-Adjei, 2019). The fact that most teachers and principals have smartphone (Bae & Kim,2014); this has no doubt increased the popularity using smartphones to manage affairs in many respect since the device is somewhat a miniaturized handheld computer. Kibona and Mgaya (2015) observed that smartphones have made it possible for school principals to coordinate the schools' activities remotely using internet-enabled smartphones. The scholar continued that principals can create social media handle or platform and encourage school staff to sign up so that school related information can be passed on to all school employees instantaneously. Tagoe and Abakah (2014) also observed that most school managers have integrated utilization of smartphone in their day-to-day school management strategy because of its apparent usefulness, flexibility and cost-efficient advantages relative to school administration. This could be more advantageous especially during emergency or pandemic that requires social distancing.

Some third-party social media applications offer both group and private end-to-end chatting interfaces that can enable the school administrator or teachers alike to connect and relay private school management information or issues concerning students or other academic matters. Such bidirectional and group meeting platforms are efficient information sharing and document exchange channels that can help the school management to quickly generate ideas and solutions through virtual group discussions to solve a given problem (Alzougool & Almansour, 2017). Zoom application, for instance, can be used to organize meeting to ensure that social distancing requirements of COVID-19 emergency are observed. Ismail et al. (2013) again observed that such a real-time interaction and feedbacks via smartphone help management decision making during emergencies. Apart from quick dissemination of management information, smartphone also helps to save transportation cost, logistical cost associated with school management meetings, etc. These benefits can be harnessed by school managers during emergence era when schooling activities are mostly carried out remotely, thereby requiring school principals and teachers to work mainly from home, while students receive instructions from their homes using computing devices such as smartphone and tablets. Hence, the principal can use his/her smart device to post class timetable so that all students, respective teachers and ancillary staff can be properly informed about the schedules of school programmes such as each lesson, staff meeting and so on.

Mangal and Mangal (2016) remarked that smartphone helps educational managers to exercise their professional obligations and responsibilities in new and appropriate ways. The scholar continued that high technological features of smartphone help school leaders to get informed about new development in education and educational management, thereby motivating them to innovate, modify the curriculum teaching strategies and adapt to effective ways of delivery instructions to distant students during emergencies. This suggests that principals can telework with smartphone from anywhere broadband or Wi-Fi services are available. This further implies that principals can stay at the comfort of their homes to examine and correct teachers' lesson notes before they can use it to deliver instructions to remote students, through high-quality camera smartphones. In other words, principals can also use smartphone to converse with school bursar and accountant through video-call or chats, to be abreast with school financial matters and performance of school budget.

School leaders can also use smartphone to track students' details pertaining to subject registrations, payments of examinations levies, students counselling and support services online or in-person. During free time, school principal can also access students' online forum to observe and interact with them to obtain first-hand information about their views concerning teaching and learning activities while the pandemic endures. Such downward information will help the school management to identify areas of challenge in order to make improvement to ensure that instructors administer instruction effectively, resulting in improved learning experiences for both teachers and students (Masiu & Chukwuere, 2018). School leaders can also save school files and in their smartphone storage, since most smartphones are equipped with highly advance storage capacities, in addition to removable storage card. Educational contents can also be downloaded from and uploaded to e-libraries, school websites, and social media platforms. Tuncay (2016) stated that smartphone can help school managers to manage their personal life and school affairs. The scholar further observed that smartphone offers robust interfaces and facilities that enable school managers to separate and organize personal and school information for easy data management and information processing. Facilities such as calendar, clock, events reminders and digital diaries are some of the features of smartphone that principals can use to schedule tasks and meetings, to enhance personal effectiveness and work performance efficiency.

Radio as an e-learning technology is regarded as one of the earliest medium of communication in the world. Radio is an audio device of passing messages to a large audience. Radio involves the process by which messages are sent through electrical waves. In other words, the sound could be sent and received through these waves (Sambe, 2008). According to Apuke (2014) radio is one of the most important means of communication to large number of people. Through radio, people send spoken words, music, and other communication signals through the air to any part of the world. Radio broadcasts now feature music, news, discussion, interviews, description of sports events and advertising. People drive to their working places listening to car radios and spend leisure hours hearing their favourite programmes on radio. Radio involves the process by which messages are sent through electrical waves.

Oberiri (2017) saw radio as an interactive instructional package used for the development of children in grades one through four; utilizing the radio as teacher, and requiring no textbook. The interactive nature of radio is because of the dialogue it creates between the radio characters and the students in the classroom. Students are kept actively involved in the lessons, and every response is reinforced by the radio. That other important aspect of it is that, lesson segments are kept to two or three minutes each, and there are physical exercises and children's songs interspersed to maintain the children's interest throughout the half-hour lessons. In a research carried out, according to a model developed in Nicaragua, proved quite successful in raising student achievement scores in Mathematics viz-a-viz control group students in traditional classrooms, and was later applied to developing English language instruction in Kenya, Spanish and Mathematics lessons in the Dominican Republic, with similar gains in test scores. Significant results were gotten resulting from the application of the use of radio in administering both English and Mathematics tests across the following states. Therefore, interactive radio instruction is being used or developed in Thailand, Papua New Guinea, Lesotho, Bolivia, Honduras, Ecuador and the Dominican Republic (Ogbole, 2019).

Idebi (2008) argued that the use of radio is by no doubt, however, the best amongst all the available means of communication, because radio has the maximum reach in most part of the world long before now, as it appears as though television is gradually overtaking in most developing countries as one of the new waves of technologies. It may not be out of place to say that, though television is rapidly expanding in urban and rural areas, access to radio networks and ownership of radios is far more widespread, as 97% of the population can access radio stations. It is important to note that why radio seems handy and easy and requires less amount of money to purchase, for application in teaching and learning, may be because all it requires is wave, which development has offered to a reasonable extent and proper tuning. Radios could operate on batteries, and compared to TV or computer maintenance, radio maintenance is far simpler and more accessible even in remote villages. Elliot and Lashley (2017) pointed the use of radio to mean the value of radio technology and recommended its use to increase and improve learner's imagination and listening skills. Basically to them, the importance of radio was a medium that relies on a single sense (hearing) and with which listening is the only method of learning. Other uses can be in the following ways: to help listeners to set up pattern of speech, phrase and sentence pattern through distance learning

Statement of the Problem

With the growing advancement in Information Communication Technologies (ICTs), there are still insufficient studies on how to utilize

electronic technologies to improve management of teaching and learning at secondary school level in Rivers State. There is no doubt that the lockdown during the peak of Covid-19 affected students' achievement negatively. With the ease of restriction and return of students to school, where they are now learning under strict supervision to ensure compliance to health rules and other inconveniences associated with staggered and shortened class durations, it is increasingly difficult for teachers to teach effectively and at same time cover unit plans and schemes within the abridged academic calendar. In addition to above challenge, all students do not learn at the same pace, and some may perform poorly in examinations if they are hurriedly taught or if some aspects of the curriculum are not covered. This study therefore investigated the application of e-learning technologies in the management of secondary schools in the era of emergency in Rivers State, with special focus on the use of smartphone and radio to manage instructional activities in schools.

Research Questions
The following research questions guided the study:
1. In what ways can the use of smartphone be applied in the management of secondary schools in the era of emergency in Rivers State?
2. What are the ways the use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State?

Hypotheses
The following null hypotheses were tested at 0.05 alpha level of significance:
1. There is no significant difference in the mean scores of principals in urban and rural area on the ways the use of smartphones can be applied in the management of secondary schools in the era of emergency in Rivers State.
2. There is no significant difference in the mean scores of male and female principals on the

ways the use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State.

METHODOLOGY
The study design of the study was descriptive. The population of the study was 276 principals (185 males and 91 females) distributed across the 23 Local Government Areas in Rivers State. The sample size was 206 principals, comprising 129 males and 77 female principals serving in public secondary schools in Rivers State. The simple random sampling technique was used to draw the sample. The instrument used to generate data was a self-structured 10-item questionnaire titled 'Management of E-Learning Technologies in Era of Emergency in Secondary Schools in Rivers State Questionnaire' (METEESSRSQ). It was divided into two sections, namely, Section A and Section B. Section A contained items seeking data on demographic variables of the respondents, while section B contained items assessing the two variables investigated in this study. Test re-test was used to establish the reliability co-efficient of the instrument at 0.80. The modified four-point Likert-type rating scale of Strongly Agree (4 points), Agree (3 points), Disagree (2 points) and Strongly Disagree (1 point) was used to code responses. Items that scored $x \geq 2.50$ criteria were accepted whereas those below the criteria were deemed rejected by the respondents. The research questions were answered using mean statistics, while the hypotheses were tested with z-test at 0.05 significance level.

RESULTS AND DISCUSSION
Research Question One: In what ways can the use of smartphone be applied in the management of secondary schools in the era of emergency in Rivers State?

Table 1: Mean ($\bar{x}$) and standard deviation of respondents on the ways the use of smartphone be applied in the management of secondary schools in the era of emergency in Rivers State

SN	Items Description	Rural (N = 126)				Urban (N = 80)			
		$\bar{X}_1$	SD_1	Rank Order	Remarks	$\bar{X}_2$	SD_2	Rank Order	Remarks
16	Smartphones facilitate communication for faster school management decision making process during emergency.	3.16	0.51	5th	Agree	3.32	0.64	5th	Agree
17	It helps to disseminate school management information to school employees.	3.27	0.60	4th	Agree	3.52	0.67	4th	Agree
18	Smartphones help school principals to coordinate school operations at reduced logistical cost during emergency.	3.30	0.49	3rd	Agree	3.60	0.88	1st	Agree
19	Smartphones help principals to connect with parents on e-learning issues affecting their children.	3.45	0.49	2nd	Agree	3.59	0.50	2nd	Agree

| 20 | Smartphones help school management to interact with teachers easily for instructional updates during emergency. | 3.58 | 0.49 | 1st | Agree | 3.58 | 0.49 | 3rd | Agree |
| | **Average Mean/Standard Deviation** | **3.39** | **0.52** | | | **3.53** | **0.62** | | |

In table 1 above, all the items were agreed by the respondents, resulting in average high mean scores of 3.39 for urban and 3.53 for rural respondents, and thus establishes that all the agreed items are ways the use of smartphone can be applied in the management of secondary schools in the era of emergency. Furthermore, the average standard deviation of male (0.52) and female (0.62) principals suggest moderate dispersion of data, and thus implies that the respondents' opinions are moderately united in their views.

Research Question Two: What are the ways the use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State?

Table 2: Mean ($\overline{X}$) and standard deviation of respondents on the ways the use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State

SN	Items Description	Male (N = 129)				Female (N = 77)			
		$\overline{X}_1$	SD$_1$	Rank Order	Remarks	$\overline{X}_2$	SD$_2$	Rank Order	Remarks
11	School principals use radio to convey information to students.	3.52	0.52	3rd	Agree	3.34	0.84	3rd	Agree
12	Ministry of Education use radio to inform teachers on school management decisions during emergency.	3.58	0.49	1st	Agree	3.34	0.64	3rd	Agree
13	School managers schedule teachers for instructing students via radio broadcast.	3.56	0.63	2nd	Agree	3.53	0.50	1st	Agree
14	School principals advertise school services/programmes during emergency.	3.30	0.59	5th	Agree	3.25	0.61	2nd	Agree
15	Broadcast of educational radio programmes help principals to acquire knowledge on better ways of managing schools during emergency.	3.44	0.56	4th	Agree	3.13	0.70	4th	Agree
	Average Mean/Standard Deviation	**3.49**	**0.56**			**3.36**	**0.64**		

In table 2 above, all the items were agreed by the respondents, resulting in average high mean scores of 3.49 for male and 3.36 for female, and thus establishes that all the agreed items are ways the use of radio can be applied in the management of secondary schools in the era of emergency. Furthermore, the average standard deviation of male (0.56) and female (0.64) principals suggest moderate dispersion of data, and thus implies that the respondents' opinions are moderately concentrated.

Test of Hypotheses

Ho$_1$: There is no significant difference in the mean scores of principals in urban and rural area on the ways the use of smartphones can be applied in the management of secondary schools in the era of emergency in Rivers State.

Table 3: z-test analysis on the difference between the mean rating scores of principals in urban and rural on the ways the use of smartphones can be applied in the management of secondary schools in the era of emergency in Rivers State

Category	N	$\overline{X}$	SD	Df	z-cal	z-crit.	Remarks
Urban	80	3.39	0.52	204	1.68	±1.96	Not significant Ho$_4$, not rejected (z-cal. < z-crit.)
Rural	126	3.52	0.62				

Table 3 showed that the mean and standard deviation scores of principals in rural areas 3.39 and 0.52, while their urban counterparts have mean and standard deviation scores of 3.52 and 0.62 respectively. With 204 degrees of freedom and alpha level of 0.05, the z-calculated value was ascertained at 1.68. Since the z-calculated value of 1.68 is lower than the z-critical value of 1.96, the above stated null hypothesis is accepted. By implication, no significant difference exists between the mean scores of principals in rural and urban areas on the ways the use of smartphones can be applied in the management of secondary schools in the era of emergency.

Ho$_3$: There is no significant difference in the mean scores of male and female principals on the ways the

use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State.

Table 4: z-test analysis on the difference between the mean rating scores of male and female principals on the ways the use of radio can be applied in the management of secondary schools in the era of emergency in Rivers State

Category	N	$\bar{X}$	SD	Df	z-cal	z-crit.	Remarks
Male	129	3.49	0.56				Not significant
Female	77	3.36	0.64	204	1.48	±1.96	Ho3, not rejected (z-cal. < z-crit.)

Table 4 showed that the male principals have mean and standard deviation scores of 3.49 and 0.56, while female principals have mean and standard deviation scores of 3.36 and 0.64 respectively. With 204 degrees of freedom and alpha level of 0.05, the z-calculated value was ascertained at 1.48. Since the z-calculated value of 1.48 is lower than the z-critical value of 1.96, the above stated null hypothesis is accepted. By implication, no significant difference exists between the mean scores of male and female principals on the ways the use of radio can be applied in the management of secondary schools in the era of emergency.

DISCUSSION OF FINDINGS

Use of smartphones in the management of secondary schools in the era of emergency

The findings revealed that the respondents agreed to the use of smartphone as one of the e-learning technologies in the management of secondary schools in the era of emergency in Rivers State, since it can be used to carry out administrative functions such as: facilitate communication for faster school management, disseminate information to school employees, coordinate school operations at reduced logistical cost during emergency and connect with parents on issues affecting children, and to interact with teachers easily for instructional updates during emergency. The findings highlight the fact smartphones are efficient in the dissemination of information and conduction of managerial functions. The findings from this study is in line with the study by Alzougool and Almansour (2017) which observed that smartphone is highly effective for storing and retrieving teachers' files, students' details and achievement scores, as well as other personnel cum school facility details and inventories stored in smartphone or in safer cloud-based data-bank. Being able to access information easily is an important advantage smartphone offers to school principals, especially in cases that require quick decision-making requiring instructional leadership, teaching strategies, students' performance, facility inventory and needs, etc. while arguing that having smartphone is like going about with a computer. Similarly, Alfawareh and Jusoh (2017) observed that school managers can use their equipped smartphone to send emails to teachers, send newsletters to parents and inform students about changes in school organization during emergency. In a corroborate manner, smartphone enhances the ability of the principal to coordinate teachers and technical support team for effective conduction of teaching and learning during pandemic or conflicts.

Use of radio in the management of secondary schools in the era of emergency

The findings revealed that the respondents agreed to the use of radio as one of the e-learning technologies in the management of secondary schools in the era of emergency In Rivers State, since it can be used to carry out administrative functions such as to convey information to students, to inform teachers on school management decisions, schedule teachers for instructing students via radio broadcast, advertise school service programme and help principals acquire knowledge on better ways to manage the school during emergency. The reason for these findings be connected to the fact that television helps to broadcast wireless audio signals to people's homes so that without physical contact The findings of the study was in line with the study by Idebi (2008) which stated that radio can be used as an effective and interesting tool in education, both for formal and non-formal education. Radio is a powerful mass medium used in education for disseminating information, imparting instruction and giving entertainment. It is used with equal ease in both developed and developing countries. It spreads information to a greater group of population, thereby saving time, energy, money and man-power in an effective way. Because of the aftermath of emergency that may have affected student's sight, radio serves as a blind man's means of staying informed and is meant for ears only.

Also, Odera and Kenya (2011) stated that writing on the use of school radio program in schools. He noted that radio technology is viewed by teachers as a useful tool for teaching and learning languages like English, French, German and Kiswahili at all levels of education. Radio programmes aired Language programme on radio that helped to increase the students' mastery of vocabulary and pronunciation, as students learn to

imitate the radio presenters. The use of radio lessons motivates the learners, if they are used in such a way as to stimulate learning (Bates, as cited in Odera and Kenya, 2011). It is important because children who are taught in English for the first time experience problems to understand the words, sentence structures, phrases and pronunciation of words. School radio lessons are very useful and are used to improve the quality of learning new English words and set up standard for the spoken and written English.

CONCLUSION

Based on the findings, this study concludes that application of e-learning technologies such as smartphones and radio can be used effectively in the management of secondary schools in the era of emergency in Rivers State.

RECOMMENDATIONS

Based on the conclusion of the study, the following recommendations were highlighted:

1. Government and Ministry of Education should train educators on the digital skills as part of preparing principals and teachers on how to conduct educational activities through e-learning technologies during emergency.
2. Government should provide e-learning technologies to the schools, and ensure that the ongoing innovation in education whereby instruction is staggered in phases should be extended to utilization of e-learning technologies in management and conduction of teaching and learning to ensure the continuation of teaching and learning during emergencies.

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