

## HEALTH PANDEMIC EXIGENCIES AND THE DEVELOPMENT OF INNOVATIVE TEACHING IN PUBLIC SENIOR SECONDARY SCHOOLS IN RIVERS STATE

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### ABSTRACT

*This study focused on health pandemic exigencies in connection with the development of innovative teaching in public senior secondary schools in Rivers State. The aim of the study was to carefully assess health pandemic exigencies in connection to the development of innovative teaching in public senior secondary schools in Rivers State. In line with the aim of the study. It was concluded that pandemic exigencies are having a serious impact on the education system, businesses and other sectors. It was therefore recommended among others that: Rivers State Government should dedicate substantial amount of funds to promote innovative teaching in public secondary schools for her citizens, particularly the vulnerable ones. This will no doubt improve the academic advancement of the students even in the face of any health pandemic.*

**Keywords: Health Pandemic, Corona Virus, Black Death, Innovative Teaching**

### INTRODUCTION

Recent pandemics, especially the outbreak of Coronavirus have affected world education systems including the secondary schools in Rivers State. Schools for instance, were closed to control the spread of the pandemic among other measures. School closure brings difficulties for students, teachers, and parents. In view of this, distance learning was considered a solution to continue the education system. However, digital divide, the lack of network infrastructures, computers and internet access constitute a problem for distance learning in the State.

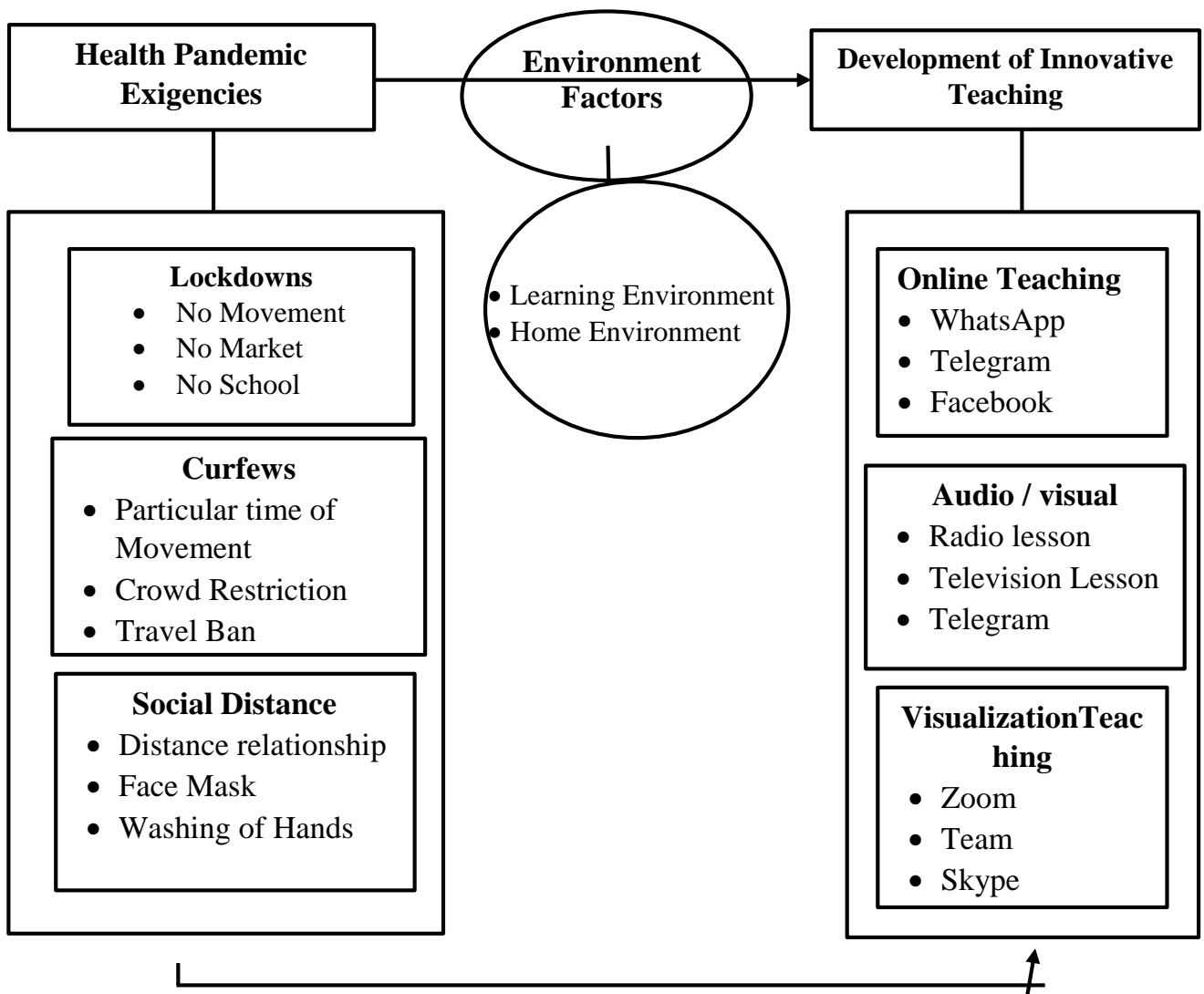
The 2020/2021 academic session was unlike any other academic session in Rivers State. After nationwide school closures in 2020, schools reopened applying combinations of in-person, hybrid, and remote learning models. Teachers and students at the secondary schools had to adapt to unexpected conditions, teaching in unprecedented ways, using synchronous and asynchronous instructions while also being challenged to establish connections with students, families and colleagues. Health concerns added to the mix as some teachers went back to in-person education during the height of the pandemic. Consequently, teachers' levels of stress and burnout have been high throughout these unusual pandemic times, raising concerns about a potential drop in teacher performance and future teacher shortages.

At the apex of the national lockdown due to the influx of COVID-19 in Nigeria, there were increase in exclusion, discrimination, financial insecurity, unemployment, stress, uncertainties, xenophobia, coronaphobia, aggression at home, loss of lives and properties, spike in suicide and inequality which showed in the inability of poor people to access medical products for preventing and treatment of the pandemic. Pandemics constitute social problems because of their negative consequences on large number of people including persons with disabilities, older persons and youths including students.

Also, while countries suffered from COVID-19 infection worldwide, there were more than 1.2 billion children in 186 countries affected by school closures due to the pandemic (Ugbo, 2021). Both in Denmark and Italy, children returned to schools after many weeks of school closure. In South Korea, students responded to roll calls from their teachers online. Likewise, in Nigeria, students

were forced to attend classes online or via the radio and television. The effect of pandemics on education systems worldwide has made the development of innovative teaching very imperative in order to eliminate barriers to continual teaching and learning in schools. The study was able to highlight the existing problems with the present school system as well showing the way forward. However, it did not specify areas it can be applied and if it can be incorporated fully in schools for academic works. Also, Wordu, Okwu and Dike (2001) examined digital literacy and teachers job performance in universities in Rivers State. Their focus was mainly on teachers. Equally, Edeh, Nwafor, Obafemi, Sen, Atonye, Sharma and Alsayed (2020) investigated the impact of COVID-19 on education. Their research was however limited to COVID-19 pandemic. Present study however, differs from the above studies among others in the sense that it considers exigencies which may arise from any type of pandemic in relation to contemporary innovative teaching methods. The study is also expected to benefit both students and teachers as well as the society. The statement of problem thus, attempts to assess the connection between health pandemic exigencies and the development of innovative teaching in secondary schools in Rivers State.

### Conceptual Framework



**Fig. 1:** Researcher’s conceptualization, 2022.

### **Aim and Objectives of the Study**

The aim of the study was to carefully assess health pandemic exigencies in connection with the development of innovative teaching in public senior secondary schools in Rivers State.

### **Functionalist Theories of Education**

The functionalists view education as a social fact which is external to individual and constraining his behaviour. While examining their usefulness to society rather than individuals, social facts have to find an appropriate way to serve the general needs of social organisms. The major functions of education therefore, are to provide necessary social glue in order to maintain solidarity; to supply necessary technical knowledge and skills in accordance with the needs of work - place and changing technological conditions; to socialize people by offering the normative and cognitive frameworks they lack. Functionalist approaches have been described by applying the famous analogy between human body and society; an analogy supposing that society like a human body has particular organs with specific functions. In the body, lungs take oxygen, heart pumps blood, veins carry blood, etc. Interdependently, any kind of malfunction in one of these will affect the whole system's harmony. Similarly, education as a social institution and part of social organism, for example, is connected in various ways to the economy, the family, the political and the religious systems. It has its own functions to perform within an organized whole. In other words, working in harmony and for specific functions to perform in "perfect whole" are central to functionalist approach (Dienye, 2016; Okujagu 1993).

In this regard, knowledge that will be included in curriculum is justifiable and legitimate only if it is part of a common culture; that is, it must work towards solidarity and integration rather than pluralism and differentiation. Needs of the society are always paramount to those of individuals; thus, teachers as agents of this legitimate knowledge transmission as well as moral models and moral beings for next generations, should constrain themselves with teaching only for social goods. Another form of the functionalist approach has been introduced by Talcott Parsons during the 1950s as polished basic idea of Durkheim and extension of structuralism. Parsons' Structural Functionalism was a dominant sociological perspective in analyzing society until the 1960s. According to Jackson (2016), after the Second World War, and as a preemption to increasing "Soviet threat," embodied in the war of technological development and competition grounded on the belief that "technological superiority could be converted into military dominance". Structural functionalist theory came into prominence by remarking the "importance of educating potential talent and attacking traditionally entrenched conceptions of a limited pool of educability".

### **Concept of Health Pandemic Exigencies**

Many health emergencies have occurred across national and continental boundaries, affecting humankind in extra-ordinary ways. Whether it is the third (1852-1864) and sixth (1910-1911) Cholera pandemics or the Ebola epidemics (2014-2016) or the very recent and ongoing Coronavirus (COVID-19) (2019-202?), these global health emergencies have frequently come with diverse symptoms, which has necessitated various kinds of prescription with regards to how people should respond to them in order to keep alive and survive their onslaught on human lives. As will be expected, different societies have responded to such pandemics in diverse ways due to cultural norms together with levels of preparedness and awareness.

Nigeria, a major country in Africa, over the years has responded distinctly and uniquely to world pandemics including the recent COVID-19. The case is the same in Rivers State in terms of the dynamics, reactions, responses and impact of such global pandemics. This is not only as a result of its weak healthcare systems and poor infrastructure but also the perceived cultural attitudes of its people – delusional dispositions of disbelief and doubtfulness, hesitancy to heed to foreign advice, ignorance and helplessness in the face of pandemics (Akachi & Shola, 2020).

Therefore, health pandemic exigencies are measures or steps that are taken or have been outlined to help check and curtail health pandemics. A pandemic connotes an illness or a disease outbreak

that spreads across countries or continents (Robinson, 2022). It is an expansion of an epidemic since it spreads across nations and affects more people, destroying more lives in the process. Over the years, pandemics have come in different forms; some of which are The Black Death that ravaged Europe between 1347 and 1351 in which an estimated 25 million persons died; the influenza pandemic of 1918-1919 (also called the Spanish flu) which ravaged the whole world and not less than 50 million persons died; small pox that stretched for hundreds of years in different parts of the world that killed up to 300 million persons in the 20<sup>th</sup> century alone but was declared eradicated by the WHO in 1980; the Human Immunodeficiency virus (HIV) since 1981 and Acquired Immunodeficiency Syndrome (AIDS) and related illnesses which have killed not less than 32 million persons globally and the recent Coronavirus (COVID-19) pandemic which has claimed more than 2 million people in the world as at July, 2022; with over 10 million confirmed cases in 228 countries and territories including Nigeria (Worldometer, 2022; NCDC, 2022).

Due to the emergence and spread of the COVID – 19 pandemics across the world, for instance, the Rivers State government in collaboration with the federal government, came up with some measures to control the spread of the pandemic. For instance, all schools were closed in order to place downward pressure on the upward curve of the pandemic. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2021), more than 100 countries implemented nationwide closures, impacting over half of the world's student population. Among these countries were Nigeria, Ghana, Senegal, South Africa, China, USA, Italy, India, Iran, Spain, Germany Vietnam and Thailand. School closures may carry high social, educational and economic costs and the disruptions they cause touch people across communities but their impact is worse for disadvantaged persons and their families. Other measures the state government adopted include social/physical distancing and curfew.

### **Examples of Pandemics (Past and Present) in the World**

Pandemics have performed some major and significant roles in shaping humans over the years. History reminds and informs us of pandemics that came with devastating effect until they were curtailed / eradicated. Pandemics, which have been defined by Merriam and Merriam (2022) as a national disaster occurring over a wide geographical area and affecting an exceptionally high proportion of the population, have emanated in diverse forms such as:

#### **(i) Coronavirus (COVID-19)**

Coronavirus comes from a family of viruses that cause illness such as respiratory disorder or gastrointestinal diseases (Steve, 2020). Such respiratory diseases can range from the common cold to more severe disease such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS- CoV). The ongoing Coronavirus pandemic is a new strain that has not been identified in humans previously. It is caused by a virus called SARS- CoV- 2 (Anele, 2022).

The name Coronavirus was chosen for the new pandemic from the way the virus appeared under a microscope. The virus consists of a core of genetic materials surrounded by an envelope with protein spikes. This gives it the appearance of a crown. The word Corona connotes "crown" in Latin (Adelakun, 2020). Coronavirus are suspected to be zoonotic implying that they are transmitted between animals and humans. It had been ascertained that MERS-CoV was transmitted from dromedary camels to humans and SARS – CoV from civet cats to human. The source of the SARS-CoV-2 (COVID-19) is yet to be determined but investigations are ongoing to identify the zoonotic source of the outbreak (WHO, 2020a). Typically, Coronavirus comes with respiratory symptoms. Though, some of the infected persons do not show any symptoms, those who do may have a mild to moderate but self – limiting disease; with symptoms similar to the seasonal flu. Consequently, symptoms may include cough, fever, shortness of breath, breathing difficulties, fatigue and sore throat (WHO, 2020b).

#### **(ii) 1918: The Spanish flu**

In the spring of 1918, health professionals discovered an HINI virus in United States military personnel. Thus, from January 1918 to December 1920, this virus – which appears to have moved from birds to humans- infected an estimated 500 million people (Education International News, 2020). This equates to 1 in 3 people on earth. The virus killed around 675, 000 people in the U.S alone and approximately 50 million worldwide.

This strain of influenza, like COVID – 19 was transmitted via respiratory droplets. Just like COVID -19, older adults were mostly at risk of developing severe symptoms. However, in stark contrast to COVID-19, the Spanish flu also impacted children under the age of 5 and adults aged 20 – 40 (Thelma & Adedeji, 2020). Infact, a 25 – year – old was more likely to die from the Spanish flu than a 74 – year –old person. This is unusual for flu. COVID- 19, however, generally affects children in relatively minor ways and adults aged 20 – 40 are significantly less likely to develop acute symptoms than older adults. As with swine flu, it may be that older adults at this time had a preexisting immunity to a similar pathogen. Perhaps the 1889- 1890 flu pandemic or the Russian flue, afforded some protection to those who survived it (Steve, 2020).

### **(iii) 1981- Present: HIV**

With great improvements in treatment, information, diagnostic capabilities and surveillance in Western countries, it is very easy to forget that experts still classify HIV (Human Immune Deficiency Virus) as a pandemic. Since the early 1980s, HIV has claimed the lives of more than 32 million people. At the end of 2020 around 38.2 million people were living with HIV (Education International News, 2020). Although, HIV is also caused by a virus, there are significant differences between the two current pandemics; the obvious being their means of transmission. Unlike SARS-CoV-2, which is the virus that causes COVID-19, HIV cannot transmit via coughs and sneezes (Kekic & Miladinovic, 2016). Comparatively, COVID-19 spreads through communities much more easily. Within a matter of weeks, SARS-CoV-2 made it to all the continents on earth except Antarctica.

Another important difference is that there are presently no drugs that can treat or prevent COVID-19. Although, there are no vaccines for HIV, with the help of antiretroviral medications, people who have access to care, can now live long and healthy lives.

### **(iv) 2009-2010: HINI Swine Flu**

The National Center for Disease Control and Prevention (NCDC, 2021) claimed that between April 2009 and April 2010, the swine flu pandemic affected an estimated 60.8 million people. There were also around 274, 304 hospitalizations and 12, 469 deaths. Both swine flu and the novel Coronavirus cause symptoms` such as fever, chills, acute cough and headaches.

Like SARS- CoV-2, the (HINI) pdm 09 virus was significantly different from other strains. This means that most people did not have any natural immunity. Interestingly, some older adults did have immunity, suggesting that (HINI) pdm09 or something similar might have infected large number of people a few decades before. Due to this immunity, 80% of the fatalities occurred in people younger than 65 (Kathmandu, 2020). This is not the case with SARS-CoV-2 as all age groups seem to equally contract it; and older adults are most at risk of developing severe illness. It is possible that certain groups of people have a level of immunity against SARS-CoV- 2 but researchers have not yet identified such a group.

### **(v) Severe Acute Respiratory Syndrome (SARS)**

In 2002, Severe Acute Respiratory Syndrome (SARS) became the first pandemic of the 21<sup>st</sup> century. Like COVID -19, it emerged as a result of a Coronavirus, known as SARS-CoV. It also emanated from China. Scientists believe that SARS-CoV-2, the virus that causes COVID- 19, emanated in bats moved into pangolins, then entered humans. Similarly, SARS-CoV began in bats but it moved into civets before humans (Thelma & Adedeji, 2020).

Both SARS – CoV and the virus that produces COVID – 19 can transmit via droplets from coughs and sneezes. Globally, SARS infected an estimated 8,000 persons in 29 countries and had a mortality rate of around 10% (Taibat, 2020) which is higher than COVID -19's mortality rate by most estimates.

### **(vi)The Black Death**

No work on pandemics would be complete without mentioning the Black Death; also referred to as The Plague (Lavy, 2015). Peaking in Europe between 1347 and 1351, the Black Death was responsible for an estimated 75- 200 million deaths. In fact, it might have killed half of the entire population of Europe.

According to Taibat (2020), the pandemic was caused by a bacterium, called *Yersinia pestis*, rather than a virus. Epidemiologists also claim that the Black Death originated in Asia. Like COVID – 19, the plague transmits through respiratory droplets. However, the Black Death's march across the planet was facilitated by rodents rather than the movement of humans.

Rodents carrying bacteria- infected fleas spread this disease. Also, *Y. pestis* partially blocks the guts of fleas. As the fleas feed on a human, they attempt to clear their blocked guts by regurgitating their meal. This effort releases *Y. pestis* into the vicinity of the flea's bite wound (Thelma & Adediji, 2020). Though much rarer, plague still exists, especially in low income regions. Majority of the cases now occur in Africa. Nevertheless, with improvements in medicine and hygiene, the disease has not reached pandemic proportions since the Black Death. Also, without treatment, the case-fatality ratio can be 30-100%. In the U.S., the mortality rate of plague before antibiotics was 66%. By 1990-2010, modern medicine had reduced this figure to a level of 11%.

### **Innovative Teaching**

In view of the challenges that pandemics bring to the society, which makes government to introduce measures such as social/physical distance, lockdown, curfew and the rest, in a bid to curtail such; and which greatly affects the education of students, it has become necessary to look for innovative ways of teaching instead of the normal physical classroom (face to face) teaching. Hence, new methods of teaching include online teaching using platforms such as WhatsApp, Telegram and Facebook; audio/visual teaching using platforms such as Radio, Television and Telegram lessons; as well as visualization teaching using platforms such as Zoom, Team and Skype.

### **Online Teaching**

Online teaching is the kind of teaching that is done online and it does not have any physical border or boundaries (Anele, 2022). It helps in facilitating effective teaching and learning experience between the instructor/educator and the students/learners. Through online teaching, students have uninterrupted learning. Consequently, in the face of pandemic challenges and experiences, online teachings are being suggested in contemporary education; including societies such as Rivers State. In actualizing online teaching in schools, certain platforms such as WhatsApp, Telegram and Facebook have been canvassed. These platforms can be assessed using personal computers with internet facilities, personal phones, etc. (Bent & Brink, 2013).

### **WhatsApp**

Teachers and students can create a WhatsApp group chat for easy access and communication between teachers and students, students and students, teachers and parents, among parents and teachers and students. WhatsApp helps to facilitate the creation and sharing of video, audio and text messages among users. Furthermore, WhatsApp was launched in 2009, it is a free, multi-platform messaging app that allows users send and receive text messages, make video and voice calls, share their status and more with a Wi-Fi connection. Part of what makes this app appealing is that it works on various phone and computer operating systems, so you can continue your conversation anytime and anywhere. It can also take advantage of Wi-Fi and cellular data to make one-on-one or group calls, reducing the need for expensive calling charges (ACRL, 2018).

### **Telegram**

Telegram is message that is sent by telegraph and then delivered in written or printed form. The Collins dictionary (2022) defines it as a message that is sent electronically and the printed and delivered to someone's house or office. It can be applicable in schools also. The teacher encodes a message and sends it in telegram form for students to decide through their machines. It is a great way of delivery messages.

### **Facebook**

Facebook can be the ideal social media platform to incorporate into the classroom during the era of pandemic. Instead of putting instructors and students alike through a new learning curve when dealing with a traditional online classroom dashboard, it is essential to stick to something everyone already knows. The teachers should have students follow the class's Facebook Page, and the instructor can use it to post class updates, share homework assignments and encourage discussion. Even when a student is not active on Facebook, these Pages are still accessible when signed out.

### **Audio-Visual**

Visual aids increase the interest of learners and help teachers to explain concepts easily. Ghulam et al. (2015) asserted that visual aids instructional aids which are applied in the classroom to encourage students learning process. They include the sensory objects or images which initiate, stimulate and support learning. Also, they are any device that can be used to make the learning experience more real, more accurate and more active.

Visual aids are tools that enable/explain an issue or lesson, clearer or easier for understanding; such as pictures, maps, models, charts, videos, slides and real objects. Visual aids come in different forms. Some of them use sense of vision. Examples are models, charts, actual objects, pictures, flannel board, maps, flash cards, chalkboard, bulletin board, slides, overhead projector etc. They also include radio and television which can be used for teaching and learning purposes. For teaching to be effective, the teacher/lecturer patronizes the media house(s) and is recorded either in live transmission or immediate future transmission (Heaven, 2018). Benefits of audio-visual include: wide coverage of viewers/audience, recorded message can be replayed and the teacher is visible of if it is audio-visual (Mnjama, 2010).

### **Visualization**

Visualization is described as the primary vehicle used to convert massive amounts of data into easily discernable shapes and colours, and for envisioning things that are too small or big, or that are too far away or simply out of sight (Hayhurst, 2004). It helps in giving additional meaning to words and is further considered as a picture worth a thousand words. In the design process, visualization enables for exchanging information between the different stages required to transform a concept into reality. Whether there is an interest in designing a part, learning a new surgical procedure, or simulating planetary systems, computer graphics allow us to see and understand more clearly than by any other technique (Mnjama, 2010).

### **CONCLUSION**

From the research, it was seen that pandemic exigencies are having a serious impact on the education system, businesses and other sectors. The research has identified the health exigencies of this pandemic issue of the education system and approaches of the institutions for learning through other mediums. According to the study, people are facing serious issues related to learning and looking for new approaches to learning. The leading authorities have to consider the seriousness of the issues and have to take the corrective measure for improving the situation that will help to normalize the issues in enhancing the living experience. The lack of technical understanding of students and teacher is also a big challenge for the system to offer training and

support. The proper implementation of rules for social distancing and sanitizing will also increase the operational cost of the institutions.

## RECOMMENDATIONS

From the discussion above, the following recommendations were made:

- i. Rivers State Government should dedicate substantial portion of funds to cushion the innovative teaching in secondary school for their citizens particularly the vulnerable ones. In addressing these daunting economic challenges, the current considerations to revise the budget downward is inevitable.
- ii. To maintain continuity in learning and to share the knowledge with the students, it is recommended to the institutions to adopt the technology and engage the students in learning. The implementation of smart learning tools like Padlet and Edmodo can be used for offering the learning. By offering the training to the staff members and collecting the feedback from the parents related to the online system will be useful for the educational institution to overcome the issues related to take classes and engage the students.
- iii. In addition, information and communication technology is gradually revolutionizing learning and teaching at all levels. Therefore, students in primary and secondary schools should be introduced to IT-enhanced learning approaches such as blended learning, computer-assisted learning, and technologies.
- iv. Efforts are needed by state government to reduce the gaps between urban and rural schools in learning and the provision of e-learning resources for enhanced learning. This can be ensured by providing learning materials and resources online and providing internet facilities to rural areas for learners from low economic backgrounds.

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