

Sustaining Learning during COVID-19 Seismic Shift: The Need to Develop Flexible Pedagogy

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Abstract: This study examines the impact of COVID-19 pandemic on educational system; investigates how meaningful learning is promoted and continued despite the unprecedented global challenges; and investigates if the channels through which learning is promoted cater for students' learning styles. Two hundred and one secondary school students selected from Ekiti State, Nigeria, participated in the descriptive research study. A validated questionnaire was used to gather data from the respondents. The study found out that the learning channels mostly employed during the pandemic were television stations, school on-air via radio programme, virtual learning, and private teaching. The findings revealed that respondents had no preference for specific perceptual learning styles but embraced different learning channels employed. They modified their learning styles and developed flexibility in learning. A recommendation was provided that new viable policies that

promote diverse learning opportunities and alternative learning strategies capable of mitigating the present and future academic obstructions should be made and diligently implemented. This paper concludes that during future emergencies, diverse learning platforms, channels, and digital media employed for learning should cater to students' learning styles: visual, auditory, tactile, kinesthetic, group, and individual. It is noteworthy that learners would learn better if they are exposed to varieties of teaching/learning media.

Keywords: COVID-19 pandemic, emergencies, pedagogy, learning styles, connectivism.

1. Introduction

Several diseases have pervaded the globe in the time past, but Coronavirus disease is one of the worst-hit pandemic ever witnessed globally. COVID-19, an acronym for Coronavirus Disease 2019, is a deadly contagious disease that surfaced in Wuhan, China, in 2019. Despite the novelty of the Coronavirus pandemic, its encroachment has insidious effects on the human race. Although several measures were proffered to ease the spread of this virus, but as at the time of this write-up, no curative drug or vaccine has been found for the treatment of this monster, Covid-19. Some governments foisted vast numbers of people to observe 'lock down', 'social distancing' or 'stay at home' order so as contain the virus. All the activities of humans such as economy, health, businesses, education, sports, worship, politics and social life were not spared but abruptly altered and disrupted. Of all these human activities, one of the most affected sectors is education. In a bid to contain the disease, many countries ordered a total closure of all categories of schools (Onyema *et al.*, 2020).

There are studies on COVID-19: virtual learning during the COVID-19 pandemic (Almarzooq, Lopes & Kochar, 2020; Mugizi, Rwothumio, & Amwin, 2021); rural online learning in the context of COVID-19 (Dube, 2020; Omodan, 2020b); guidance on active learning at home during educational disruption: promoting student's self-regulation skills during COVID-19 outbreak (Huang *et al.*, 2020); and pivoting to leveraging lessons from the COVID-19 crisis for learners with disabilities (Inclusive Education Initiative, 2020). However, the main objectives of this present study focused on the children's learning during COVID-19 pandemic; how learning was sustained during the pandemic; if the learning channels employed catered for children's learning styles and; mitigation strategies as contingency plans for continued learning during and after COVID-19 pandemic. To achieve this aim, this study answered the following research questions:

- What are the learning channels learners utilised during COVID-19 pandemic?
- What are the distributions of perceptual learning styles employed by students during COVID-19 pandemic?

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- What are the problems encountered in learning from home during COVID-19 pandemic?

2. Theoretical Framework of the Study

The theoretical framework that underpins this study is Siemens' theory of connectivism. **Connectivism** is a theory which "characterises knowledge as a flow through a network of humans and non-humans (artifacts). A network comprises connections between entities (nodes), where the nodes can be individuals, groups, systems, fields, ideas, resources or communities (Bell, 2009). Connectivism advocates that learning is not limited to individual basis but could also be achieved through group or peer-to-peer interaction that explore and create new learning opportunities through the internet. Connectivism help eases the stress of space and time challenges in traditional classrooms as learners could work at their own time and pace, independently or collaboratively. Teachers, either present or remote, guide the learners while the network supports learners' learning.

There is a synergy between this theory and this present study. The theory of connectivism is applicable to this work because it relates to the changing times occasioned by COVID-19, where the traditional classroom is put on hold to accommodate the present scenario of information shift in the society where learning is no longer an internal or individualistic activity. This explains that during emergencies, learning is not restricted to a particular person, the physical classroom or to the virtual classroom but could occur in diversity of opinions and connected specialised nodes. Learning may reside in non-human appliances and up-to-date knowledge is the intent of all connectivists' learning activities (Siemens, 2004).

3. Literature Review

3.1. Impact of Coronavirus Pandemic on Education and Society

Education and society are mutually complementary institutions; education being a vital social system, cannot operate in detachment from the social milieu in which it exists. During emergencies, the society and all its activities; cultural, sport, religious, scientific, social, and political events, including education are not spared. Education which is set out to help actualise the goals, needs, aspirations and expectations of society at this time, is stymied (Verma & Prakash, 2020). Frail country, that has not planned her educational system to accommodate alternative learning programmes and as well confronted by deficiencies highlighted Onyema *et al* (2020) such as lack of reliable local power supply; unskilled technological know-how of teachers, students and parents; poor digital literacy culture; lack of digital technologies; and lack/poor internet connectivity, may find it uneasy to continue with learning from home or key into digital literacy drive of schools and teachers creating platforms to reach students remotely, distance learning and unrestricted educational applications.

3.2 Promoting Learning during COVID-19 Pandemic and Future Emergencies

The top priority for some concerned governments during school closures is continuity in learning regardless of means of learning. The seismic shift in this challenging time has brought about a rethinking on how to transform teaching/learning situation into technology-support mode; resuscitate accessible activities; utilise materials and technological devices that are less leading-edge, less sophisticated and less advanced to students in destitute environments. Some of the learning channels ideal for children's learning irrespective of different categories of teachers and students are employed. Omodan (2020a) notes that there are some learning channels that could be employed by learners from low-income class living in rural/urban areas are face-to-face private lessons, interactive radio instruction, educational television programme, resources for parents, and resources for peer-to-peer learning.

Huang *et al.* (2020) explain that some learners engage in active and self-regulated learning using alternate resources. Learners from the middle class living in the urban areas who have access to technology combine the aforementioned means of learning with less

cutting-edge, while the privileged learn with high-tech. With these, learners are enabled to direct their actions, monitor their progress, evaluate their performance and reflect on the feedback. These learners engage in activities, which required a shift from face-to-face teaching to online teaching and learning, focusing on writing, talking, problem-solving, or reflecting, which is in contrast to traditional modes of instruction in which learners are passive recipients of knowledge from an expert.

Another probable media are e-learning, virtual learning, online learning and distance learning. Ming-Hung, Huang-Cheng and Kuang-Sheng (2017) explain that the application of digital media such as network-based learning, computer-based learning, virtual classrooms, and digital cooperation to learning is termed e-learning. Element of e-learning are pre-recorded or live lecture contents, video, simulations, games, and other interactive elements. Although technology is an indispensable ally during the crisis, yet it is not a replacement for "the face-to-face educational relationship, but are an increasingly enriching tool to support the teaching-learning process" (Diez-Gutierrez & Gajardo-Espinoza, 2020:102); digital learning is appropriate for contents with flexibility while traditional teaching suits practical-oriented topics (Ming-Hung, Huang-Cheng & Kuang-Sheng, 2017)

3.3 Indispensable Considerations for Continuity of Teaching and Learning during School Disruptions

United States Department of Education, Readiness and Emergency Management for Schools Technical Assistance Center (2020, p. 1-5) advocates that the following germane roles be played for continuity for teaching and learning in emergencies:

- Provision of a viable and flexible programmed distance learning options prepared for *short-and long-term school closures or absences and varying circumstances*.
- Constitute emergency teams involving various education stakeholders to deliberate what works best for their schools considering the likely span of shutdown, availability of resources, accessibility, and class level using knowledge gathered *from people, curricula, programs, and resources*.
- Integration of accessible assessment modalities appropriate for age groups and class levels into all lessons for proper monitoring and achievement of stated learning objectives.
- Programmes to be used should have multiple instructional methodologies that would incorporate learners of different categories and age, students with disabilities and special needs, the haves and the have-nots who have unhindered, limited or no access to technological tools.
- Organise regular training and retraining during non-exigency times for students, teachers, staff and concerned stakeholders on the use of systems that will support continuity of teaching and learning during any academic breakdown.

3.4. Learning Style

Alternative learning opportunities and resources as coping mechanisms could negatively impact students if not appropriately chosen and harnessed. This could be disadvantageous because learners with a particular learning style might not have access to resources that best suit their learning styles but have access to the ones that do not suit their learning styles. Mehrdad and Ahghar (2013) explain that some students will learn more effectively than their counterparts even if exposed to the same instruction, method or environment due to their individual learning styles, abilities and backgrounds.

A learning style is a way a person prefers to learn (Grasha, 1996). One of the dominant factors that affect students' academic success and stand as an individual's innate preference as to how information is acquired, processed, retained, and retrieved in the process of teaching and learning is termed learning style. Learners learn in diverse ways through *seeing and hearing; reflecting and acting; reasoning logically and intuitively; memorising and visualising etc.* (Karthigeyan & Nirmala, 2013:134). Daud, Kashif and Chaudhry (2014) affirm that learners who exhibit only one learning style preference are termed unimodal,

while those who prefer diverse styles are referred to as multimodal. Multimodal learners are capable of being bi, tri and quadra modal learners because they prefer to use two, three, or four styles, respectively. Literature has revealed various individual learning style models. One of such is Reid's (1995) six perceptual learning styles; visual, auditory, tactile, kinesthetic, group, and individual.

Visual students like to read and obtain information from visual representations that are basically verbal, such as diagrams, powerpoint presentations, videos, pictures, imageries, sketches and spatial perceptions. Auditory learners are comfortable with oral-aural learning channel. They learn best when they listen to information such as unembellished lectures, discussions, music and oral directions and interpret them through the means of pitch, emphasis, and speed without visual input or written information. Haptic learners (tactile and kinesthetic) are comfortable learning with bodily movements such as using hands, body and movement. Tactile learners prefer to manipulate resources of hands-on-work by drawing, building, writing, or carrying out lab experiment, while kinesthetic learners learn best through experiential learning and exploration, that is, active participation and interaction with a learning situation by dramatising, field trip and interviewing. Group learners enjoy interpersonal relationship and solve problems more effectively by learning in groups or with other people through group work, teamwork and group assignment. Individual learners are at their best when they are left to work alone, and they enjoy intrapersonal relationship (Reid, 1995; Kinsella, 1995; Kho, 2018; Banas, 2018; Rezaeinejad, Azizifar & Gowhary, 2015).

3.5. Modification of Students' Learning Styles during School Disruptions

Different free online tools could be harnessed at any critical time to enhance online teaching in ways that appeal to different learning styles. For the visual learners, mind mapping and screencasting; auditory learners, voki and audacity; and kinesthetic learners, zooming presentations and quizlet (Pinchot & Poullet, 2014). Lizote *et al.* (2019) explain that tools to identify learning styles are usually based on representing dimensions of different ways of perceiving and processing information and how to make decisions and organise one's own life, providing good structures for teaching planning. Awareness and knowledge of education stakeholders that children are of different learning styles could help them realise that an approach to teaching employed for a certain child might not work for others. Therefore, it is imperative to consider students' learning styles while preparing to use digital instructional media, radio/television school on-air programme, and other support to mitigate the effect of school disruptions. School Drug Education and Road Aware (2013) note that it does not translate to given instruction to students on a one-to-one basis or individualised work when addressing learners' individual differences. Catering for individual differences could be through the use of teaching and learning techniques of a range of activities to harmonise various learning rates, abilities, skills, and styles that allow every learner to participate and achieve better learning outcomes.

However, McCarthy (1987) negates the idea of distinguishing learners' learning style and then teaching to that style rather, students should be exposed to all major learning styles. Understanding that attending to learning styles means much more than individualising education; individualised teaching and learning is reflected in classroom organisation, curriculum and instruction (School Drug Education and Road Aware, 2013). Irrespective of the various learning styles models, it is to be noted that learning styles are not fixed. Learners are to be encouraged to develop flexibility in thinking and behaviour, noting that receiving information and constructing meaning through one of the learning styles would not suffice but learning how to combine all these styles will be unique and beneficial to learning (Melese, 2018). Ellis (1989) posits that learning styles are relatively stable but can be modified. Modifications and extensions of student learning styles may occur with changes in the academic environment and experience (Reid, 1987). Zhou (2011) posits that incorporating all of the learning styles presented in various means than using only a single mode would make learners learn in a way that suits them best; using aural-visual means to transmit learning appeal to multiple learning styles. Nevertheless, with diligence,

pedagogical expertise and caution, students can be encouraged to adjust to a different learning style, but this process should not be foisted on the learners at an early age.

4. Methodology

4.1 Research Design and Ethical Considerations

The study employed the descriptive research design of the survey type which is to describe and explore how learning was promoted during the COVID-19 pandemic. This design was chosen because it is concerned with the collection of data for the purpose of describing and interpreting existing on-going conditions in real-life situations orchestrated by COVID-19 in the world. Research ethics were duly followed after ethical clearance was obtained from the Office of Research and Development, Ekiti State University, Nigeria, before the commencement of the empirical study. Consent to participate in the research was sought and obtained from the respondents. The consent of the parents/guardians of the under-age respondents was sought for their children/wards' participation. Participants were not forced to participate in the study but voluntary. Respondents' confidentiality and anonymity were ensured because possible means that may link participants' identity to specific information were not disclosed.

4.2 Research Population and Sample

In this study, the population was all secondary school students in Ekiti State, Nigeria. The sample in this study were 201 respondents sampled from two local governments areas of Ekiti State, Nigeria; one rural and one urban. Ninety-five secondary school students were selected from the rural area, and one hundred and six secondary school students were selected from the urban area. In this study, urban areas are the local government area headquarters of the State, while rural areas are not the State's local government area headquarters. Interested respondents volunteered to participate in the study so that their opinions would be heard. Purposive and convenience sampling techniques were employed. This was so because, at the time of the study, movements were restricted; hence respondents who were readily and easily accessible were chosen. Research assistants who reside in the respondents' selected locations were recruited to fast track the distribution of the questionnaire under strict compliance with COVID-19 guidelines.

4.3 Instrumentation and Data Analysis

A self-constructed questionnaire was the instrument used for data collection. The questionnaire elicited information on means of learning during COVID-19 and students' preferred learning styles. The questionnaire was measured using a five-point-Likert-type scale (Strongly Agree (SA), Agree (A), Strongly Disagree (D), Strongly Disagree (SD), and Neutral (N)). Reid's (1995) Perceptual Learning Style Preference Model of learning styles was adapted in this present study. Experts in the field of education appropriately ensured face and content validity. The instrument's reliability was determined through Cronbach's Alpha, and a reliability coefficient of 0.89 was obtained. The retrieved questionnaires were analysed using percentage counts and bar charts.

5. Presentation of Results

The results of the study were presented below based on the data collected using the formulated research questions. Each research questions was answered below;

Table 1: The learning channels used during COVID-19 pandemic

S / N	What are the learning channels you have been using since this pandemic?	Strongly Agree	Agree	Disagree	Strongly Disagree	Neutral
1	Learning via Television Stations	42.3%	27.4%	11.9%	6.5%	11.9%
2	Virtual learning channeled through Zoom	13.9%	30.4%	27.4%		14.9%
3	Private teaching outlets/programs	25.9%	28.9%	23.3%	7.0%	14.9%
4	School on Air via Radio	35.3%	32.8%	18.4%	4.5%	9.0%
5	Google class	24.4%	22.4%	26.4%	15.4%	11.4%
6	Self-study	9.0%	10.4%	2.5%	2.0%	76.1%
7	Whatsapp Online classes	32.8%	26.4%	16.9%	10.5%	13.4%
8	None	10.4%	12.4%	15.5%	29.9%	31.8%

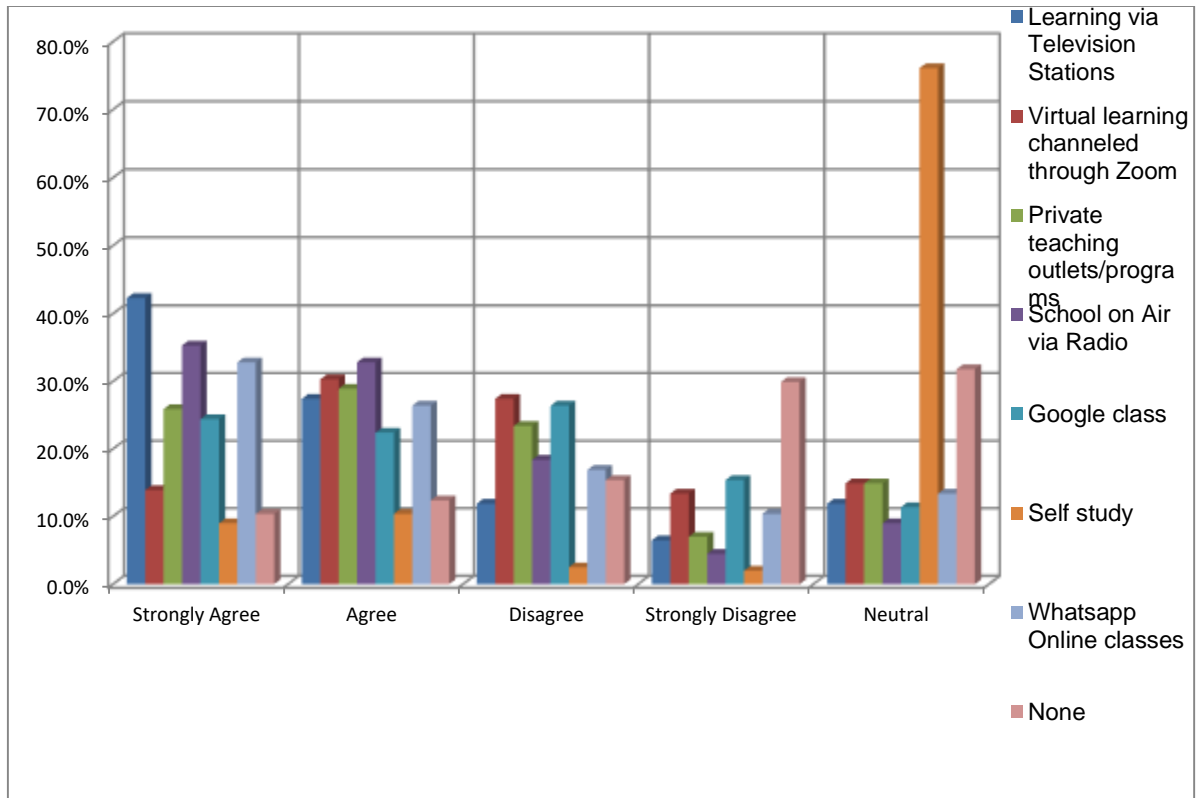


Fig 1: A bar chart showing the learning channels used during COVID-19 pandemic

The learning channels mostly used by respondents are television stations (69.7%), School on Air via radio (68.1%), WhatsApp online classes (59.2%) and private teaching outlets/programme (54.8%). Other learning channels are virtual learning channelled through Zoom (44.3%), Google class (46.8%), the largest number of the respondents (76.1%) are neutral about the use of self-study, and (45.4%) of the respondents did not use any of the channels.

Table 2. Students' learning preference during COVID-19 pandemic

S/N	Students' learning preference	Strongly Agree	Agree	Disagree	Strongly Disagree	Neutral
1	I learn best through visual representations from visual aids such as films, pictures, and imageries.	10.0%	10.0%	2.0%	1.0%	77.0%
2	I prefer to learn through listening and talking via lectures, conversations, discussions, and music.	7.0%	11.0%	5.5%	1.5%	75.0%
3	I learn best through doing, touching, acting out and moving via drawing, building, writing, drama and field trip.	9.5%	7.5%	6.5%	1.5%	75.0%
4	I learn easily when I work with friends through group work, team work and group assignment.	8.0%	11.0%	3.0%	3.0%	75.0%
5	I learn easily when I am alone through self-study and reflecting.	7.0%	6.0%	7.0%	4.0%	76.0%

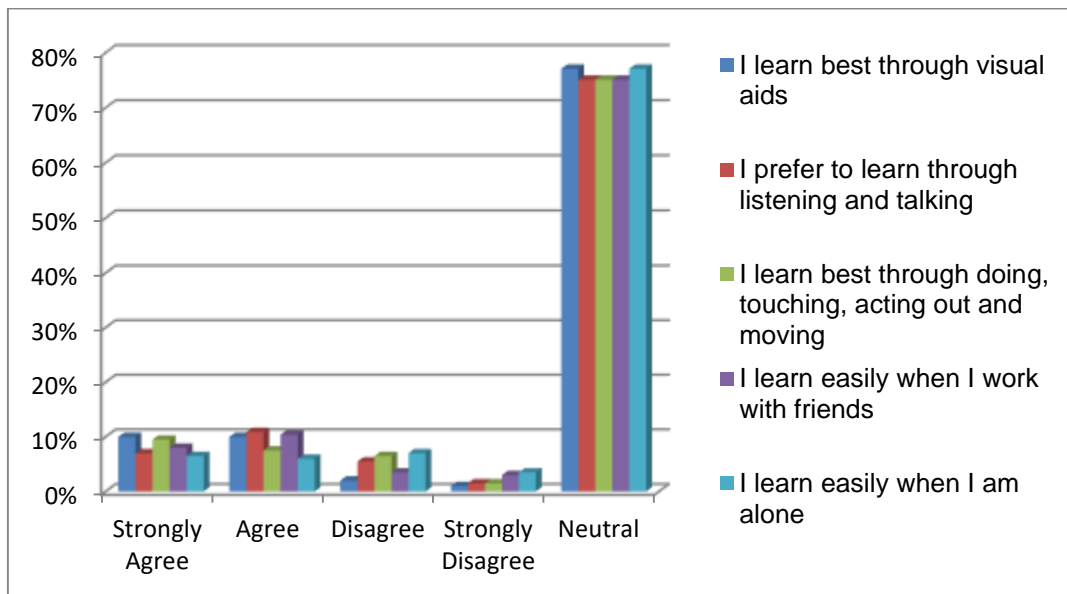


Fig. 2: A bar chart showing students' learning preference during COVID-19 pandemic

Table 2 reveals that the distributions of perceptual learning styles employed by students. The respondents, 20%, are visual learners who learn best through visual aids; 3% are not visual learners while most of the respondents, 77% neither agreed nor disagreed that they are visual learners. Respondents who opined that they are auditory learners are 18%, that is, they prefer to learn through listening and talking, while 7% disagreed that they do not learn through listening and talking, but 75% neither agreed nor disagreed that they are auditory learners. Out of the respondents, 17% are haptic learners (tactile and kinesthetic), 8% negated that they do not learn best through doing, touching, acting out and moving, while 75% are indifferent to either being haptic learners or not. Respondents that learn easily when they work with friends, group learners, are 19% of the respondents, 6% countered that they do not prefer to work with friends, while 75% are neutral. Individual

learners are 13%, 11% of the respondents disagreed that they easily learn when alone, while 76% opined that they neither agreed nor disagreed to being individual learners.

Table 3. Problems encountered in learning from home during COVID-19 pandemic

S/N	Problems encountered during COVID-19 pandemic	Strongly Agree	Agree	Disagree	Strongly Disagree	Neutral
1	Lack of awareness of the use of digital media	9.0%	6.0%	5.5%	2.0%	77.5%
2	Poor power supply	42.3%	27.4%	14.3%	8.0%	8.0%
3	No money to buy mobile data or phone airtime	36.3%	27.4%	20.3%	10.0%	6.0%
4	Lack of parental monitoring/guidance on learning	22.9%	22.4%	28.9%	19.3%	6.5%
5	Distractions from video games, television programs and play groups	25.9%	31.8%	24.7%	9.8%	7.8%
6	Poor time management leading to idleness, oversleeping and eating	22.4%	33.8%	31.3%	8.0%	4.5%
7	No smart phones/computers	7.0%	7.2%	7.3%	3.5%	75.0%
8	No time to read because of house chores/ work	25.9%	19.4%	28.9%	17.8%	8.0%

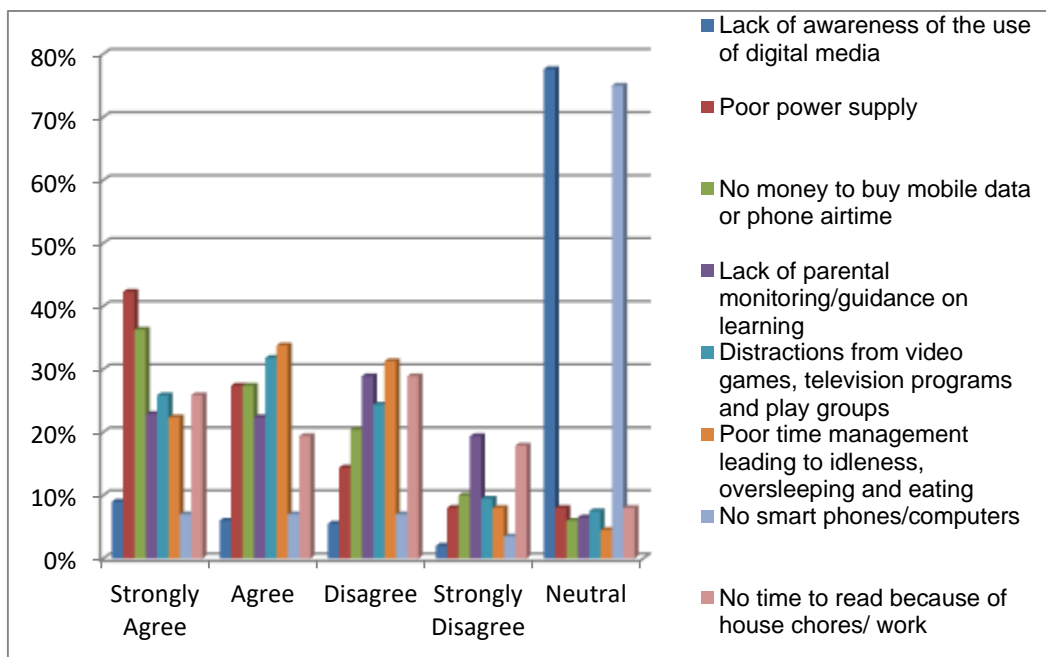


Fig. 3: A bar chart showing problems encountered in learning from home during COVID-19 pandemic

Learning problems encountered include poor power supply (69.7%); financial constraint to get mobile data or phone airtime (63.7%); lack of parental monitoring/guidance on learning (45.3%); distractions from video games, television programs and playgroups (57.7%); poor time management (56.2%); time constraint due to of house chores/ work (45.3%). The majority of the respondents were neutral on the statements that lack of awareness of digital media usage hindered learning or not (77.5%) and lack of smartphones/computers (75.0%).

6. Discussion

During school closure period, diverse learning channels employed for learning are e-learning, Zoom, WhatsApp; radio/television school on-air programme; and private teaching. It is shown that respondents are neutral about self-study. The prevalent use of radio/television school on-air programme could be attributed to its accessibility, awareness and usability. Radio/television school on-air programme is a means that both the *haves and the have-nots* can access without much constraint. The use of digital learning was also used because some of these respondents have access to these tools, possess technological know-how and have an awareness of it. Some parents organised private lessons for their children. It is also shown that some students are not engaged in learning at all. It could be assumed that the category of students who could not learn through radio/television school on-air programme, digital media and private lessons are less-advantaged students who do not have access to these learning channels, lack the facilities needed for radio/television school on-air programme and digital media, lack awareness of these learning channels, lack the technological know-how of the channels or financially incapacitated. This finding is supported by Diez-Gutierrez and Gajardo-Espinoza (2020) that the digital divide adds to and amplifies the social divide, increasing inequality in times of crisis, while United Nation (2020) affirms that the effects of the COVID-19 pandemic will be damaging on children from the poorest neighbourhoods and the disadvantaged.

Findings from the study reveal that the respondents do not prefer any learning style far above other learning styles. The findings showed that all the respondents could easily learn when they are exposed to: visual representations from visual aids such as films, pictures, and imageries; listening and talking via lectures, conversations, discussions, and music; doing, touching, acting out and moving via drawing, building, writing, drama and field trip; collaborative and cooperative learning through group work, teamwork and group assignment and self-study and reflecting. This finding is corroborated by Pia (1989), who found out that there were no preferred major perceptual learning styles for any of the groups in his study. Although it is imperative learners are sensitised on how to determine the learning style that works best for them yet Renou (nd) stated that learners should be encouraged to take charge of their learning by fostering and promoting learner autonomy by surfing the Net to find exercises to help them improve deficient aspects. In a study conducted by Renou (nd), results obtained show that there is no statistically significant merit or demerit of preference of one learning style to another for the learning outcome. The use of computer-assisted language learning technology has proven beneficial to students of varying learning styles (Renou, nd). The use of mixed modality instruction is more beneficial to learners than being taught only in their preferred learning style (Ghillebaert, 1999).

Attention could be given to the use of digital learning tools that modify their learning styles; the use of diverse digital tools suit different learning styles at a time. Sarker *et al.* (2019) explain that through digital learning, the learner is not limited to learn the pedagogy fixed by trainer because various digital devices help learners modify learning style through the combination of digital content, technology and instruction. Also, Daud, Kashif and Chaudhry (2014) note that learning style diversity can be converted into appropriate teaching/learning methods, which could help students achieve better learning outcomes since respondents in their study preferred multiple varieties of information transfer.

The major problems encountered in learning from home during the pandemic are poor power supply, financial constraint to get mobile data or phone airtime, distractions from video games, television programs and playgroups and poor time management. Respondents were indifferent whether a lack of awareness of the use of digital media or lack of smartphones/computers obstructed their learning. This finding is in line with the study of some researchers who affirmed that financial implication of accessing online education, equity, availability and accessibility of technological tools and relevant infrastructure, poor power supply, and poor digital literacy and skills could pose threats to students' studying in the comfort of their respective homes (Muir, 2011; Onyema et al., 2020).

7. Conclusion and Implication for Practice

This study has revealed the effects of the COVID-19 pandemic on students' learning and how learning could be sustained in spite of the pandemic. Learners in disadvantaged areas with limited or no connectivity could employ the use of face to face private lessons; traditional distance learning modalities, often a mix of educational television and radio programming; the distribution of print materials (United Nations, 2020:12); and school-meet-learner approach, where education is brought to school-age children who are faced with socio-economic and cultural problems (Adeniran & Obiakor, 2020). On the other hand, learners in the advantaged areas from privileged homes could subscribe to low-cost adaptive learning technological solutions, high-technological alternatives and distance learning modalities such as network-based learning, computer-based learning, virtual classrooms, and digital cooperation. The use of these learning alternatives has served as mitigation strategies. This paper concludes that diverse learning platforms, channels and digital media employed for learning should cater to all the learning styles of students; visual, auditory, tactile, kinesthetic, group, and individual. It is noteworthy that learners would learn better if they are exposed to varieties of teaching/learning media. This would modify learners' learning style through the combination of digital content, technology and instruction for effective and efficient learning as a better alternative during emergencies.

This article has contributed to existing works on COVID-19 and education. The article reiterates the need why all hands must be on deck for the continuation of learning even if schooling is put on hold during school disruptions. Though the present study adds to the relevant literature base on COVID-19, the focus was on secondary school students' learning needs during emergencies and the need to modify learning styles. Future research could focus on primary and tertiary educational levels during emergencies. Based on the findings of the study, the following recommendations were made:

- To redesign the curriculum to accommodate the use of alternative learning channels for the actualisation of the stated objectives in the curriculum during disruptions.
- To formulate a viable literacy policy with an embedded digital literacy constituent across the educational levels and revise its policy on education to accommodate remote learning.
- Education stakeholders should help learners learn by modifying different learning channels with or without emergencies because mixed modality instruction is more advantageous to learners than being taught only in their preferred learning style.
- The infrastructural facilities needed to ease the use of learning different channels, remote learning, distance learning, and unrestricted educational applications should be provided.

8. Limitations of the Study

The study was conducted during the COVID-19 pandemic; hence movements were restricted. A large number of respondents could not be reached owing to school closures and lockdown. All the respondents contacted preferred hard copies to online survey questionnaires due to financial problems, lack of electricity, and unfamiliarity with online questionnaires. Also, some parents were unwilling to allow their children to participate because of the apprehension caused by the pandemic.

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