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# Challenges in Remote Teaching/Learning in the Wake of COVID 19 in Chirumanzu District for Students at Polytechnics and Teachers' Colleges in Masvingo Province

**Shepherd Gama***

DPhil in Philosophy of Education (ZOU)

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**Abstract:** Due the outbreak of Coronavirus pandemic in February 2020, most governments in their attempts to comply with World Health Organisations regulation for protecting people from being affected by Coronavirus, instructed all learning institutions to close indefinitely. This resulted in the unanticipated stoppage of the learning/teaching in schools, colleges and universities. It is against this backdrop, that the study sought to explore challenges in remote teaching/learning in the selected rural district of Chirumanzu, Charandura communal area – Zimbabwe. The research guided by Borje Holinberg's theory. The research population composed of two polytechnic learners, two teachers' college learners and two lecturers from Masvingo Urban purposively sampled from one teachers' college and one polytechnic. Data collection was necessitated through the use of in depth semi-structured telephone interviews, after which later content analysis was used to analyse data. The major finding is remote learning/teaching is expensive and unaffordable for learners at both teachers' college and polytechnics. The reflection therefore recommends the Ministry of Higher and Tertiary Education to come out with plans for resuming and effecting the remote teaching/learning in colleges as a way of adapting to the coronavirus eventuality and mitigate challenges in remote teaching/learning.

**Keywords:** Remote learning/teaching, Coronavirus, teachers' college learners, polytechnic learners and college lecturers.



## INTRODUCTION AND BACKGROUND

The untimely and unexpected outbreak of Covid-19 disturbed the social and economic aspects of life internationally, nationally and locally. Thus, the outbreak of Covid-19 pandemic adversely impacted on the socio-economic, political, religious and cultural aspects of life (Min of Health, 2020). The coronavirus yielded spill-over effects on the education sector of the country as proved by the unexpected indefinite closure of learning institutions. The closure of schools impacted negatively on the traditional conventional learning/teaching in schools. The Zimbabwe Government through the Ministry of Higher and Tertiary Education called for distance/remote learning for protecting college learners and college lecturers from being affected by coronavirus by complying with the World Health Organization's regulations for minimizing the spreading of coronavirus. College learners who reside in Chirumanzu District are highly affected by challenges in remote learning/teaching arising from their social, economic and geographical backgrounds. The prizes of data bundles and electronic devices are persistently rising and erratic network failure in Chirumanzu District, Charandura communal area, cause learners fail to study effectively using remote learning. Therefore this study seeks to recommend the possible measures for mitigating the problems of network failure and exorbitant prizes of internet data bundles affecting college learners and polytechnic learners when using remote learning/teaching.

Mesut et al (2014) cited Garrison (1985) who classified technological evolution under three generations; correspondence, telecommunication and computer. Likewise Anderson and Dron (2011) made a similar categorization; Mass media conferencing and web 2.0. …the role of active and passive participation plays an important role. Gunawardena and McIsaac (2003) state while analyzing today's and future distance learning technologies, it is crucial to consider the integrated telecommunication systems rather than simply video versus audio, versus data systems. Such a standpoint confirms that remote learning requires a reliable integrated telecommunication system. Today and future distance learning technologies are vital media for remote learning/teaching in teachers' college and polytechnics. Learners face challenges in meeting the costs for buying electronic devices and purchasing internet data bundles for remote learning. Lecturers experience difficulties in contacting all learners due internet faults in remote Chirumanzu rural community. It is against this backdrop that this research seeks to unpack challenges faced by learners and lecturers in using remote learning/teaching and recommend possible measures for mitigating such challenges.

***Corresponding Author:** Shepherd Gama

Anderson and Dron (2011, cited in Mesut et al. 2014, p.8) say: **"**The historical background of Open Distance Learning can be categorized under pedagogy, technology and theory". According to Anderson and Dron (2011), historically Open Distance Learning has gone through three pedagogical approaches; cognitive, behaviorism, social-constructivism and connectives. They state that Cognitive-Behaviorist (CB) models defined the first generation of individualized distance education. Besides enabling large numbers of learners to get education at lower costs than traditional education, it also provided a maximum access and student freedom (Daniel as cited in Anderson and Dron 2011).

Cognitive-behaviorism and social constructivism theories claim that social constructivist, which hold that learning is usually enacted process that promote the principality of the individual in learning. Constructivist approach focuses on the learning process as well as what has been learnt.

Anderson and Dron (2011) argue that in social-constructivist pedagogy of Open distance learning, there exist a link between two way communication technologies and social constructivist. The pedagogy heavily focuses on interaction in between and among participants rather than transmitting information.

Social relations and collaborative learning heavily relies on networks whereas in social constructivist learning theory, actualization of learning is fulfilled. An individual comprehension in a social manner in connectivist theory, it is fulfilled through recognition and interaction of the structures distributed within the technologically advanced network. Remote learning therefore relies on use of technologies and networks. Network failure result in learners failing to conduct their studies effectively.

**Conceptual framework**

The conceptualization of the subject dealt with in this reflection is centred on remote teaching/learning. This is grounded in the instructional design process and principles, where the design of instructional is conducted with the end in mind. Technology is carefully chosen to effectively deliver the context by enhancing learner learning outcomes. Instructional strategies are another layer of the design where the designer and instructor will create lessons using effective strategies for the content and the audience (i.e. inquiry-based learning), then technology is carefully chosen to effectively deliver the content by enhancing the learner learning outcomes. All design is done using a user-centered design (Simon et al. 1999). The participants are in the heart of any design and their needs background, learning style, etc. and drive the instruction delivery (Simon et al., 1999). In this document, the challenges in remote teaching/learning are pronounced. Remote teaching/learning was launched in institutions of higher learning for addressing the unanticipated interruption of conventional teaching and learning in educational institutions in Zimbabwe.

# THEORETICAL FRAMEWORK

Mesut et al (2014, p.10) categorized theoretical background into three groups namely;

**Theory of independence and autonomy**

Simon et al. (2009) who proposes the theory of independence and autonomy highlights that the core of Open Distance Learning is learner independence. Emphasizing the characteristics of independent study systems such as separation and time, the earlier definition of Open Distance Learning can be said to be built on this theory. As Gunawardena and McIsaac (2001) state, Wedemeyer's vision of independent study was consistent with self-directed learning and self-regulation.

**Theory of industrialization**

Mesut et al (2014, p.10) say Otto Peter view distance education as an industrialised form of teaching and learning. He compared distance education with the industrial production of goods. He also claims that before the industrial age distance education could not have existed. Peter (1988) proposed a new terminology which heavily highlights the concepts from industrialization for the analysis of distance education: rationalization, division of labour, mechanization, assembly line, mass production, preparatory work, planning, organisation, scientific control method, formalization, standardization, change of function, objectification, concentration and centralization.

**Theory of integration**

Mesut et al (2014,p.12) say Borje Holmberg's theory of distance learning, what he calls guided didactic conversation falls in the general category of communication theory (Simon et al 2009, p.43). As Simon et al (2009) justify at first Holmberg proposed seven background assumptions and in 1995 these assumptions were extended. Accordingly, the theory consist of eight part; (Simon et al. 2009, p.44)

- *Distance education services individual learners who cannot or do not want to make use face to face teaching.*
- *Distance education promotes students' freedom of choice and independence.*
- *Society benefits from distance education*
- *Distance education is an instruction for recurrent and lifelong learning and free access to learning opportunities and equity*
- *Distance education may inspire metacognitive approaches.*
- *Distance education is based on deep learning as an individual activity.*
- *Distance education is open to behaviorist, cognitive, constructivist and other models of learning.*
- *Personal relations, study pleasure and empathy between students and those supporting them are central to learning in distance education.*

***Corresponding Author:** Shepherd Gama

Finally, Holmberg (1986) highlighted that the dialogue between the learner and the teacher is the basic characteristic of distance education and states that guided conversation facilitates learning.

**Problem statement**

The problem under investigation is the challenges that adversely impact on polytechnic and teachers college learners who are studying through remote teaching/learning. The indefinite closure of learning and teaching in educational institutions prompted the Zimbabwe Government to introduce and reinforce remote teaching/learning in educational institutions. The problem rests on teachers' college and polytechnic learners who reside in Chirumanzu District failing to attain effective learning and teaching using remote teaching/learning due to challenges affecting the college system and learners' backgrounds. College learners are failing to afford to purchase enough internet data bundles and electronic gadgets needed for instituting remote learning/teaching.

**Aims of the study**

- This study aims at alleviating the problems faced by teachers college and polytechnic learners of failing to purchase enough internet data bundles and electronic gadgets for remote learning/teaching.
- This study basically aims at assuring the quality of remote learning/teaching in polytechnics and teachers' colleges.

**Guiding research question**

What factors of the remote teaching/learning program posed challenges for polytechnic and teachers college learners Charandura rural community in Chirumanzu District?

## RESEARCH METHODOLOGY

The research was qualitative in nature seeking to understand human perceptions and experiences on challenges in remote teaching/learning. An exploratory design, the case study was used. It helped to discover and understand the challenges in remote teaching/learning affecting college learners. The research population was composed of two teachers' college learners, two polytechnic learners and two college lecturers from Masvingo Urban. Convenient sampling was applied in the identification of participants to ensure that strategic members of the community were selected for interview. It also purposively selected college students from Charandura communal area in Chirumanzu District who are currently studying using remote learning. Data was necessitated through the use of in-depth interviews. Telephone interviews were conducted using semi-structured interview questions. In-depth interviews were conducted with college learners. Latent content analysis was used to analyse data.

All the ethical research procedures were strictly followed to ensure that participants engaged voluntarily and aware of the implications thereto. University of Zimbabwe (2014:3) notice which reads;

*"…plagiarism is illegal. Always acknowledge other people's work through proper referencing techniques. Moral ethics should always be upheld throughout the data collection procedures"!*

For ensuring integrity, the researcher shall keep promises and agreements, act with sincerity and strive for consistency of thought and action, as pointed out by Mhute (2013). The researcher shall also stick to the time which he promises that he interview would take to complete.

**Non-maleficence,** which is defined by Fraenkel and Wallen (2003) as the principle of no-evil or no harm, implies the researcher must not have evil intentions to hurt or harm the research participants in any way during/or after the research process.

The researcher shall ensure beneficence. This is ensured through promising participants that this research study shall be of educational value to the nation upon which its publication (Cohen et al. 2007). Creswell (2012:221) who says that, "before starting the interview, convey to the participants the purpose of the study." in this research study, the researcher shall give an impression that the research shall be of much benefit to the participants.

The researcher shall ensure informed consent through making research participants free to choose to take part or not, after they have been supplied with relevant facts that affect their decisions. Participants should be made aware of their right such as the freedom to withdraw from the data collection process (Best & Kahn 1993). The researcher shall conscientise participants of such freedom as well. The researcher shall also obtain consent by having interviewees complete an informed consent form when they will be first contacted (Creswell 2012 and Leedy & Ormrod 2013:156).

Lastly, the researcher shall ensure **confidentiality.** Data collected shall be accessed only by the researcher and supervisor. To safeguard the identity of participants, the researcher shall remove their names from all the data collection notepads and pseudonyms shall be used.

## FINDINGS AND DISCUSSIONS

Data was presented responding to specific research question as outlined above. Participants were coded as follows: Polytechnic learners [PL], Teachers' college learners [TL] and College Lecturers [CL] for easy categorization. The discussion is also concurrently done with the presentation of data for easy of analysis.

***Corresponding Author:** Shepherd Gama

The presentation of results is done following particular themes;

**What factors of the remote teaching/learning program posed challenges for polytechnic and teachers college learners Charandura rural community in Chirumanzu District?**

All the themes that came out under this research question are listed below and each theme was then discussed with reference to the data obtained from different sources. The following themes emerged from the above research question:

- **Data bundles and technologies unaffordable**
- **Faults network connections**
- **Shortage of demonstrations and practical lessons**
- **Power failure and unavailability of electricity connections**
- **Failure to cater for special needs**
- **Minimize interaction during teaching and learning**

**Data bundles and technologies unaffordable**

Respondents were of the view that remote learning/teaching is negatively affected by exorbitant prizes of data bundles and technologies which college learners cannot afford. 100% of teachers' college learners, 100% of polytechnic learners and 100% of college lecturers confirmed their position. The above findings are supported by respondents who had the following to say:

PL1: *Data is not that affordable*
*TL1: I envisaged problems in getting the necessary bundles.*
*TL2: Bundles are very expensive, can't get access to the website of electronic learning. Financial constraints to purchase data and networks connectivity problems.*

The above responses concur that remote learning for polytechnic and teachers' college learners is associated with huge costs of internet data bundles and technologies. College learners who stay in Chirumanzu, Charandura Communal area confirmed that they cannot afford to purchase adequate data bundles, smartphones, memory stick and laptops that are needed for studying through remote learning. This is supported by Harasim (2012) who asserts that distance learning is expensive as learners need the necessary electronic gadgets and internet connections. Such a standpoint confirms that college learners find it very expensive to buy the necessary telecommunication devices and data bundles for enabling them to access internet connections when studying through remote learning. Polytechnic and teachers' college learners who cannot afford to buy such telecommunication technologies and data bundles cannot research and submit assignments before the due dates for marking to college lecturers.

**Fault network connections**

Insights from participants unanimously affirm that remote learning/teaching as barricaded by intermittent fault network connections. The finding was supported by participants who say:

*CL2: System glitches and the concomitant network challenges cause failure of remote teaching/learning.*
*PL1: Lack of internet access to get the information.*
*TL2: Here, network is poor, it is only accessed during the night of which during the night it is not safe to be at the top of the mountain alone where I can access network.*

Participants unanimously aver that internet faults is the major contributing factor for failure of remote learning/teaching in both polytechnic and teachers' colleges. College learners who reside in Chirumanzu District, Charandura communal area confirmed that network connections for the main network service providers Netone and Econet is not easily accessible. In areas where network is accessible, it is not reliable. Most of the days per week, network connections for Econet and Netone are not connected. Network failure therefore make college learners fail to receive mails from lecturers on correct time. More so, both polytechnic and teachers' college learners found it difficult to research on internet websites and send assignments to lecturers for marking on time. Rao (2010) concurs that distance electronic learning requires efficient network connections. Such a standpoint confirms that remote learning/teaching's main medium of communication is internet connections. Remote learning/teaching cannot take place in areas with no reliable internet connections.

**Lack of practical and demonstrations**

Participants were of the view that remote learning do not suit practical oriented courses in polytechnics. The main method of delivery by college lecturers is demonstration and learners learn through hands on practical in workshops. Participants supported the above finding by the following responses:

*CL1: Fashion and Textiles Design is a technical subject: The bulk of instruction is based on manipulative skills of which the most effective instruction is demonstration. Hence it become very difficult to assess comprehension of skills.*
*PL2: Some of the course require a lot of practical lessons in workshops so as polytechnic learners we cannot cope up well with remote learning.*

Participants confirmed that remote learning/teaching in polytechnics is not much applicable where learning is aided with more practical lessons done in workshops. Polytechnic learners and lecturer disapproved remote learning/teaching, they viewed it as unsuitable for practical oriented courses like Fashion and Textiles Design, Electrical Engineering, Mechanical

***Corresponding Author:** Shepherd Gama

Engineering and Construction Studies. These courses involves a lot of demonstrations and practical lessons which polytechnic learners cannot access in Charandura Communal area in Chirumanzu District. Polytechnic lecturer confirmed that demonstration lessons are difficult to conduct using remote teaching and imparting skills to polytechnic learners is difficult. Harasim (2012, p.81) shared the same view that collaborative learning is a theory focuses on the facilities of the internet to provide environment that foster collaboration and knowledge building. Such a view suggests that electronic learning should provide collaborative learning where theory and practice are blended during the teaching and learning processes in polytechnics. The main drawback of remote learning and teaching as confessed by polytechnic learners and lecturer is lack of practical lessons that must be conducted in workshop on face to face tutorials by lecturers. Polytechnic lecturers find it difficult to assess if learners in the engineering departments have grasped the necessary skills during the learning/teaching process.

**Power failure and unavailability electricity connections**

Responses from participants avow that power failure in Charandura area result in college learners fail to use their gadgets effectively when studying through remote learning. 100% of polytechnic learners, 50% of teachers' college learners and 100% of college lecturers confirmed their position. The above findings are supported by respondents who had the following to say:

*PL1: Electricity is not always available.*

*CL1: We stay where there are no electricity connections so that we cannot use our laptops for learning purpose. Our smart phones need recharging using electricity power which is not available at our rural homes.*

*CL2: Due to load shedding and other electricity faults in our area, electricity cuts are erratic such that we can spend the whole week without electricity connections. With those problems we cannot recharge our smartphone and laptops so that we can do our studies using internet.*

Participants confirmed that electricity cuts due to load shedding and unavailability of electricity connections in Charandura communal area cause failure of remote learning by college learners. Electronic gadgets that are smart phone and laptops need reliable connections of electricity for recharging them. College learners cannot research, receive mails from college lecturers and send feedback of assignments before stipulated due dates through telecommunication devices. This is supported by Brookhort and Lazarus (2017) who carried a survey and found out that some learners cannot use remote learning due to shortage of resources. Such a view supports that shortage of some resources result in failure to use remote learning/teaching by college learners and lecturers. Reliable electricity supply and connections is therefore another crucial resources that enhances usage of remote learning/teaching in teachers' college and polytechnics.

**Failure to cater for special needs**

Respondents avow that remote teaching/learning do not cater for special needs of learners. In polytechnics and teachers' colleges there is inclusive education where disabled learners are trained. The responses for supporting the above finding were:

*CL2: Remote teaching/learning is not much suitable for meeting the special needs of students with disabilities like the blind and deaf and dump students.*

*TL2: It think for students with disabilities it is a challenge particularly on the issue of how to handle machines like laptops and using cell phones.*

*PL1: Students with disabilities need face to face contact for them to be assisted during the learning process.*

*PL2: Remote teaching do not cater much for slow learners.*

Participants concur that remote teaching and learning do not cater for learners with special needs. In polytechnic and teachers' colleges disabled persons. These can be blind, deaf and dump and slow learners. Such learners need special methods of delivery and assessment which cannot be addresses by remote teaching and learning. This is supported by Brookhort and Lazarus (2017) who carried a survey and found out that nearly half of the families with Individualized Education Program (IEP) (team, teacher, aide, therapist, interventionist and specialist think the children will not receive appropriate services. Such a standpoint confirms that individualized education is not provided by remote teaching and learning. Learners study at homes using electronic learning so the special needs of the disabled are neglected during the teaching and learning processes. More so, the participants also aver that the needs of slow learners are not catered for when using remote teaching and learning. These slow learners need more extra time and clarifications from college lecturers. Such needs cannot be addressed when college learners study through distance electronic learning.

**Minimized interaction during teaching and learning**

Participants affirm that remote learning/teaching have minimal interaction during teaching and learning. College learners study while they are at their homes so interaction is minimized. Participants suggested that college learners at both teachers' college and polytechnic require learner interaction and interaction with college lecturers. The responses for supporting the above finding were:

***Corresponding Author:** Shepherd Gama

*CL1: There is no interaction between learners themselves in form of group work and paper presentation during the learning time.*

*Pl2: It is not possible for lecturers to discipline learners from a distance and to closely monitor if they are complying with college regulations.*

*TL1: College learners are not in personal contact with college lecturers so that supervision of learners is not effectively done.*

Responses from participants confirm that remote teaching and learning do not enable maximum participation between learners and lecturers. Interaction during teaching and learning was confirmed by participants to be important during the learning process in both polytechnic and teachers colleges. College learners need to interact in groups as this allows cross pollution of ideas. Interaction enable learners to share their talents. Remote teaching and learning was confirmed by participants to be unsuitable for attaining maximum interaction of learners and college lecturers. Group work and paper presentation were mentioned as more helpful to learners during learning time. These teaching methods cannot be used when learners are studying through remote learning. This is supported by Picciano (2017) who avers remote learning center more on individualized learning, it does encompasses maximum interaction of learners.

## SUMMARY

The research study established the challenges in remote teaching/learning. In using remote teaching/learning, college learners face the problems of fault internet connections, costly data bundles for enabling them to access internet and purchasing relevant e-learning gadgets like computers and smart phones. In some rural areas intermittent electricity power cuts interrupt college learners' from researching for assignments and preparing for examinations. Lastly, the research established that remote teaching/learning is not much suitable for teaching practical subjects which need face to face contact between lecturers and college learners. Participation of college learners during the learning time is limited as college learners operate at their homes.

**Recommendations**

In view of the preceding, recommendations are offered that could help improve remote teaching/learning in teachers' college and polytechnics in the calamity of COVID 19.

- Teachers college and polytechnic lecturers can produce modules for minimizing the cost for data bundles, laptops and electricity charges.
- Polytechnic learners can be organized into smaller groups (small cohorts) so that social distancing can be maintained for enabling them do their practical lessons at college effectively.
- College lecturers can offer tutorials to learners in small groups that enable social distancing to be maintained for minimizing spreading of coronavirus.

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