Exploring Learning Cultures of Digital Immigrants in Technologically mediated Postgraduate distance learning mode at the University of Zambia

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Abstract - **In this study, we interrogate the Learning Cultures of Peace Leadership and Conflict Resolution Postgraduate learners in their quest for higher education within the University of Zambia using the Learning Management System. The thrust of the study is on learning cultures of digital immigrants in technologically mediated postgraduate distance learning mode to inform the development of learner responsive services. The study rides on Hermeneutics Phenomenology approach to elicit lived experiences of seventeen (17) purposively selected year two students. The study approach is well suited as it empowers Digital immigrants to voice out their lived realities while following the digital mediated Masters of Science in Peace Leadership and Conflict Resolution Programme to forge best ways of harnessing their learning opportunities. The findings reveal that whereas learners have migrated to the Learning Management System, their learning culture is profoundly still in the print age as they keep on requesting for print based educational resources. Secondly, there is limited interactivity among learners and between learners and their learning facilitators, negating the very essence upon which the Learning Management System has been created. This state of affairs has had a bearing on their motivation to engage effectively in the actual learning process as informed by Moore's theory of Interactivity and Siemens' theory of Connectivism. To this end, the study recommends that learners are effectively oriented in the use of digital resources to empower them as they exploit the available educational opportunities. Additionally, there is need to strengthen capacity building mechanisms in order to bridge the gap between the learners and the learning facilitators.**

Keywords: Learning Cultures; Digital immigrants; Learning Management System; University of Zambia.

I. INTRODUCTION

This research focused on Learning Cultures of the Master of Science Peace Leadership and Conflict Resolution (MSc. PLCR) Postgraduate learners at the University of Zambia. The University is situated within a lowly resourced community, [1]. In addition, the University of Zambia introduced the Virtual Learning Environment (VLE) in the name of Astria platform in 2016 and students were still learning to use the new learning environment. In other words, most of the students seemed to lack some Civic Education on the usage of VLE. [2] Muleya (2019), notes that Civic Education prepares citizens with vital knowledge, skills and values which enable them to contribute effectively to society's welfare. Additionally, there is also a strong argument that Civic Education has the potential to contribute to the formation and transformation of democratic citizens and societies [3]. This view is also supported by [4] who in their study noted that social sciences subjects were important as they impact social knowledge in the learners. Though not mentioning of Civic Education but through such knowledge, learners are obviously equipped with information needed to help them function and participate effectively in the community. As a matter of fact, [5], asserts that Civic Education as a subject reflect a transition from traditional models to new modern models that considerably reflect participation Similarly this participation could be on the usage of Virtual Learning Environment which requires that the learners are able to interface with the Astria Learning platform which in essence is a form of participation. Prior to the introduction of the VLE, the university was synonymous with print media as medium of instruction for distance education learners for a period of more than fifty (50)

years, [6] and [7]. However, in recent years, we have seen higher education institutions embracing innovations in their line of operations to meet the demands of a global society. As noted by [8], that there is need to re-engineer the governance processes of the university to adapt to the late demands of modern society. These demands include among others the new Learning Management System (LMS). While implementing the new Learning Management System (LMS), anecdotal evidence suggested that a number of postgraduate students were not comfortable with the Astria platform. Thus, a segmented study was conducted to explore the learning cultures of the seemingly 'digital immigrants' in technologically mediated postgraduate distance learning mode to inform the development of learner responsive services. This study documents the seventeen (17) MSc. PLCR postgraduate learners who volunteered to share their lived experiences about their learning cultures in technologically mediated learning environment.

Lived experiences in this phenomenological study describes participants' lived reality that lead to the essence of the experience" [9] and [10]. In phenomenological research, lived experience refers to a representation of the experiences and choices of a given person, and the knowledge that they gain from these experiences and choices[11], [12] and [13]. By learning cultures in the context of this research we refer to the types of learning whose culture is predominant in the print age and not in the soft age. Being a qualitative research, [14] notes that researchers need to appreciate that participants bring their own perspectives, experiences, and belief sets to the project or research study. Therefore, this research paper draws from a hermeneutics phenomenology study that was conducted with postgraduate students in peace leadership and conflict resolution.

A. Statement of the Problem

Keeping with the new trends in Open and Distance Education, institutions of higher learning (University of Zambia included), are riding on the VLE to maximise on economy of scale and mitigate the challenge of learner solitude. Whereas the University of Zambia has been implementing its VLE since 2016, there is limited research documenting learning cultures of the seemingly 'digital immigrants' in technologically mediated postgraduate distance learning mode especially among the students in peace leadership and conflict resolution. Without such an initiative, learners' emergent learning needs stemming from the introduction of the VLE would remain un- noticed consequently impacting negatively on not only the learners but also the institution in the long run. This research paper contributes to narrow this gap.

B. Purpose of Study

Central to this study was to explore the learning cultures in existence of the seemingly digital immigrants in technologically mediated postgraduate distance learning mode to inform the development of learner responsive services.

C. Specific Objectives

This the following specific objectives directed the study:
   i. Explore the learning cultures of postgraduate learners in a VLE

   ii. Describe the challenges learners faced with within VLE.
   iii. Suggest measures that could help learners and the University successfully benefit from the VLE.

D. Research Questions
   i. What learning cultures exist among postgraduate learners in a VLE?
   ii. What challenges do learners face within the VLE?
   iii. What measures could help learners and the University successfully benefit from the VLE?

E. Significance of the Study

Given that the study is situated in a lowly resourced community where digital immigrants exist, the findings of this study might help in establishing mitigatory measures to the challenges faced by postgraduate in a technologically mediated learning environment. Consequently, the study could contribute to the attainment of the Sustainable Development Goal number four (4) on education.

F. Theoretical Underpinnings

Michael Moore's (1989) theory of interaction [15] and George Siemens' (2004) theory of Connectivism [16] proved a theoretical roadmap to the current study. According to Moore's theory, three interactions exist in distance education as depicted below:
   i) Students and their lecturer are interlocked in a two-way communication.
   ii) Students communicate with their fellow students by means of group discussions and group project work among others; and
   iii) Students interact with the content by way of instructional materials.

In addition to [17] and [18], the current study adapted Simui, Mwewa, Kakana, Mundende, Lukali, Ndhlovu and Namangala's earlier study on the use of social media for academic purposes [19]. [20] postulates that 'learning' is too complex to be understood using behaviour and cognitive theories. Instead, there is need for the use of a theory of Connectivism. This entails the need for a network of people and technology to store, access, and retrieve knowledge and its application [21]. See figure 1 below.
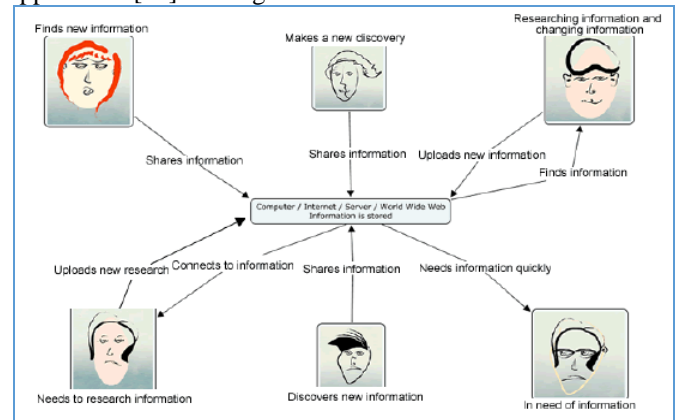

Fig. 1. Diagram of Connectivism

[22] argues that Connectivism is a learning theory within the Digital learning space. In Connectivism, learning is a process that occurs based upon a multiplicity of constantly shifting

elements. The starting point of learning is the individual who shares information within a network, which feeds information back to individuals who in turn feed information back within the network as part of a cycle [23].

II. REVIEW OF RELATED LITERATURE

To illuminate understanding, various studies related to the current study across the globe were reviewed. One such a study was by [24] whose thrust was centred on the concept of Digital Natives & Digital Immigrants in Context of India. The study amplified the concept of "Digital Natives and Digital Immigrants" from Marc Prensky and explored it further in the Indian context in public and private sector. Their findings indicated that, unlike western nations, India embraced the digital technology two decades ago and had accelerate its growth via the technological changes. Whereas [25] was based on secondary data sources, the current study is informed by primary sources in Zambia within the Sub-Saharan Africa.

Equally, [26] did a study on Digital technology and the culture of teaching and learning in higher education Kwok-Wing Lai University of Otago. The study explored the changing needs of the learners and the overall impact of digital technologies on teaching and learning. Emergent form [27] study, it was recommended that digital technologies needed to be accorded a more active and flexible learning experience by adopting a participatory pedagogical style.

In relation to [28] and [29], Yong, Gates and Harrison's [30] study whose thrust sought to provide evidence on Digital Native Students. Their study explored first year university students' experience in using digital technology and to assess whether they might reasonably be classified as Digital Natives. Data was collected via an online survey. Findings indicated that learners spent more time on-line on entertainment than on academic pursuits. Equally, smartphones and mobile computers were the two most popular electronic devices among the students and they spent more than six hours per day surfing the Internet, calling and messaging. Further, female students were observed to have had exhibited more digital native characteristics compared to their male counterparts. Further, female students spent more time on entertainment. Thus, their study found first year university students in Malaysia to 'being' digital natives because they were born after 1980 and actively engaged in digital native activities [31].

In addition, [32] examined the switching behavior of purported digital immigrants' and digital natives. The participants were categorized by their year of birth. Findings showed that Commitment was a strong factor in both groups, but slightly stronger among digital immigrants. At the same time economic factors were a significant push factor for the digital natives. For digital immigrants the lack of trust was a push factor when digital natives did not perceive similar effects [33].

[34] did a study on Digital Natives, Digital Immigrants, Digital Learners at the American College of Education based on document review. The thrust of the review was focused on the definition of who a digital learner was. The findings showed a diversity of definitions for "digital natives" and "digital immigrants." In addition, strong evidence pointed toward little connection between a student's age and digital skills and increased learning. Much of the research suggested that students' digital competence were much lower than their "digital professors" were.

Similar to [35] is [36] whose study focused on Adult Educators and Learners as 'Digital Immigrants.' This study was a based on secondary sources. The key argument advanced was that despite being digitally challenged, adults of different ages brought critical knowledge and skills to the virtual learning environment that enabled them to attain academic excellence.

Related to [37] and [38], [39] study examined how the notions of digital natives and digital immigrants were epitomized in the literature. Their study was guided by qualitative research methodology. Data generation was done through literature review. Findings showed the importance of new technology and the usage of technology in education settings, and also how the digital natives learnt within this age. It was proven that being a digital native and being a digital immigrant were two different things in an education setting. In current studies nevertheless, issues such as being a digital native and being a digital immigrant were seen as novelties. Thus, learning platforms and techniques were continuously adapted to technological changes. At the same time, students kept adapting their learning styles as their means of learning kept changing.

Within the Zambian context, [40] study documented the application of "WhatsApp" as a means for learner support on the distance learning mode at the University of Zambia. The study via "WhatsApp", trailed students where they were located without distracting their privacy. Their findings established that WhatsApp served as a catalyst that enhanced quality interaction among learners in real time across geographical divide. Learner discussions on WhatsApp were active 24/7. Consequently, contributed to learners' academic performance positively. In addition, WhatsApp tool demonstrated attributes of accessibility, closeness, friendliness, usefulness as could be attested throughout the life of their study among learners. To that extent, given the recurrent problem of poor learner support traditionally linked to distance education, institutions of higher learning were admonished to adopt 'WhatsApp' as an essential learner support tool [41].

Whereas the studies reviewed above were situated in Asia, Europe and America with well-developed information technology infrastructure, the current study is crafted within a lowly technologically resourced Zambia, Sub-Saharan Africa. Hence, the need to pursue the study and explore the learning cultures of digital immigrants.

III. METHODOLOGY

The study was guided by a Qualitative Methodology particularly, Hermeneutics Phenomenology approach to elicit lived experiences of seventeen (17) purposively selected year two students. According to [42], Hermeneutic phenomenology is focuses on human experience as it is lived. The emphasis is on illuminating the seemingly trivial aspects within experience

that may be taken for granted, with a goal of reconstructing meaning and achieving a sense of understanding [43]. The study approach is well suited as it empowers Digital immigrants to voice out their lived realities while following the digital mediated Masters of Science in Peace Leadership and Conflict Resolution programme to forge best ways of harnessing their learning opportunities.

Research Design

A Hermeneutics Phenomenology research approach was used to study the lived experiences of 'Digital Immigrants.' According to one of the proponents of Hermeneutics Phenomenology, Martin Heidegger further expanded upon by [44] four areas are of interest as follows: (i) lived space; (ii) lived body; (iii) lived time; and (iv) lived human relation [45].

Sample Size & Selection Criteria

A purposively selected sample Size of seventeen participants was used. To choose research participants purposively, an inclusion/exclusion criteria was adapted from [46]. To be included as a participant, students needed to have:

    i. Lived with digital challenges in the target university and Born before 1980.
    ii. Lived with digital challenges and a second year MSc PLCR student.
    iii. Lived with digital challenges in the target university; and
    iv. Lived with digital challenges while studying with others in a university.

For details on the sampled participants, see table 1 below.

Pseudonym	Year of Birth	Sex	Employment Status
1. AM01	1978	F	Teacher
2. BN02	1970	M	Accountant
3. CV03	1975	M	Teacher
4. DU04	1981	F	Police Officer
5. EK05	1977	M	Teacher
6. FH06	1979	M	Un employed
7. GY07	1980	M	Civil society
8. HO08	1969	F	Civil society
9. IK09	1979	M	Teacher
10. JT10	1978	M	Self employed
11. KB11	1976	M	Teacher
12. LG12	1983	F	Teacher
13. MB13	1966	M	Self employed
14. NB14	1984	F	Teacher
15. OL15	1980	F	House wife
16. PM16	1976	M	Police Officer
17. QK17	1985	F	Teacher

Research tools

In this study, the researcher(s) used the Google Forms platform to generate evidence through a Structured Interviews schedule as well as a Reflective Journal and an observation guide. Use of multiple tools strengthened the trustworthiness of the study findings as evidence was collaborated and triangulated from different viewpoints.

Data generation procedure

Data generation procedure assumed a four steps approach as follows:

    i. Step 1, Research problem identification of the digital immigrant syndrome.
    ii. Step 2, selection of research participants with digital challenges within the university.
    iii. Step 3, choice of research design, tools and development of a Google Form platform.
    iv. Step 4, actual data generation using a Google Form platform and WhatsApp fora month.

Analysis and Interpretation

The analysis of data in this study was concomitantly done throughout the data generation process using Inductive Data Technique. Emergent themes were reviewed during the data generation process. In addition, data was coded and analysed and the identified themes were double-checked by the co-researchers and for authentication purposes in line with [47].

Trustworthiness

Guba's (1981) four criteria was applied to ensure Trustworthiness accordingly: (i) credibility, (ii) transferability, (iii) dependability, and (iv) confirmability [48]. Data generation process was triangulated through the usage of multiple tools such as (i) Google Form, (ii) an observation guide and (iii) reflective journal guide. The researchers applied a reflexivity technique to decipher meaning from generated data. Further, data generation procedure and boundaries were documented to ensure transferability of the study findings to different settings. Furthermore, since the findings were documented verbatim coupled with participant checks on the research, the study meets the dependability and confirmability criteria too.

Ethical Considerations

In this study, ethical considerations were guided by [49]. For instance, pseudonyms were allocated in place of actual names of the participants, to assure confidentiality and privacy (Cohen et al. 2000).

FINDINGS AND DISCUSSION

The findings of the current study sought to provide responses to the following three research questions as highlighted earlier:

    i. What learning cultures exist among postgraduate learners in a VLE?
    ii. What challenges do learners face within the VLE?
    iii. What measures could help learners and the University successfully benefit from the VLE?

Learning Cultures in existence

Emergent from the current study is a stake reality that show distance learners as still fixated in the 'print' learning culture. As amplified by *BN02* who shared his lived learning experiences in capital letters, 'ITS EASIER TO READ HARD COPIES AS IT DOES NOT STRAIN THE EYES. YOU CAN EVEN BE HIGHLIGHTING RELEVANT POINTS AS YOU READ,' (*BN02*, 2019). This is consistent with [50] on distance students' observations regarding factors that contribute to instructional materials friendliness.

Similarly, *DU04* retorted that learners' choice of print media utilization needed to be respected by the University. He was viciously opposed to the compulsory use of soft copy as a medium of instructions. He reported his appeal in capital letters as well.

> LEAVE IT OPEN TO STUDENTS. ALLOW THEM TO CHOOSE EITHER SOFT COPIES OR HARD COPIES UNLIKE RESTRICTING STUDENTS TO SOFT COPIES. BESIDES NOT EVERYONE HAS ACCESS TO A COMPUTER, (DU04, 2019).

BN02 and *DU04's* voices reflect the general populace engaged in this study as noted in figure 2 below. The figure below shows Learners' level of utilization of the following media (i) Learning Management System (LMS), (ii) Email, (iii) Google search engine, (iv) eLibrary, (v) Friends, (vi) WhatsApp, (vii) Phone, (viii) Face Book, (ix) Hard copy and (x) Soft copy.
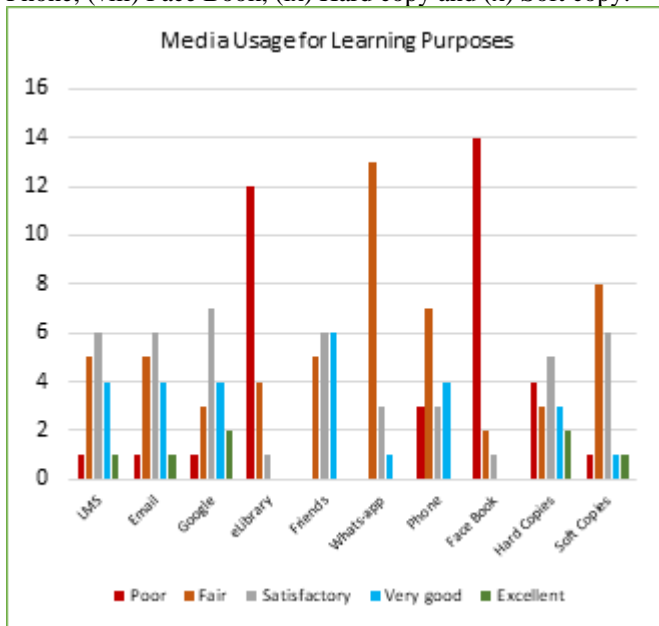

Figure 2: Media Usage for Learning Purposes

Despite all the highlighted media being available within the University, learners appear to be learning through print (hard copy) media and through friends. The latter points to the dominant oral culture exhibited by the learners as they found it easier to consult other people and not use technology. In addition, distance learners were hardly using the available electronic Library as well as Face Book for learning purposes. Comparatively, learners appeared to be much more engaged on WhatsApp ~~that~~ than Face Book for learning purposes. However, learners had relatively embraced the use of LMS, Emails, Google search engine and phones for learning purposes. Displayed characteristics among learners were consistent with digital immigrants [51].

In terms of levels of ICTs utilization for learning purposes, a significant number of students reported that tools such as Blogs, Twitter, LinkedIn, Face Book and eLibrary were never used for learning purposes despite them being available as can be seen in figure 3 below.
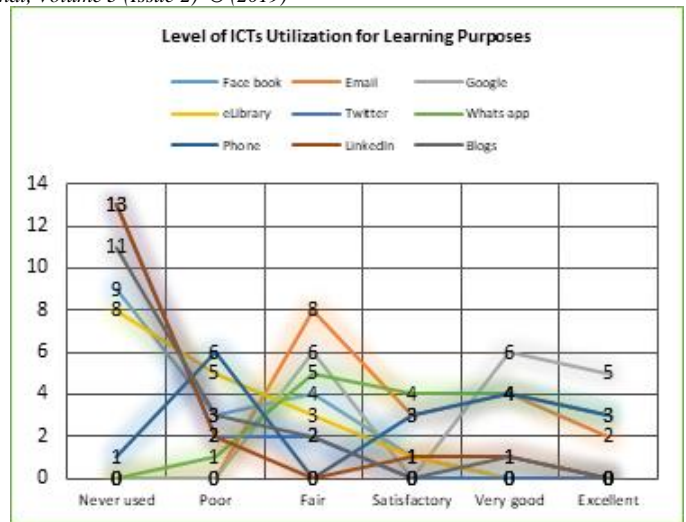

Figure 3: Level of ICTs Utilization for Learning Purposes

The most used ICT tools for learning purposes were Google Search engine followed by WhatsApp, Phone and Emails. To explain reasons for low usage of ICT tools for learning purposes HO08 argued that: 'I don't have a laptop or gadget that can make my study convenient,' *HO08*, 2019. Equally, *PM16* observed that: '…Eye problems and also problem with power outages' made it challenging for him to utilize the available ICTs for learning purposes, (*PM16*, 2019). Thus, *MB13* suggested that: 'modules should have enough information without referring to secondary sources,' (*MB13*, 2019). Further, *QK17* suggested that to the University that there was need to 'provide modules in hard copy at provincial centres to be available for photocopy and other reference books and tutors for consultation' (*QK17*, 2019). Whereas the current study identified the most used ICT tools for learning purposes as Google Search engine followed by WhatsApp, Phone and Emails, [52] study findings indicated that students spent more time on-line on entertainment than on academic pursuits. Smartphones and mobile computers were the two most popular electronic devices among the students.

Challenges Learners face within the VLE

Considering that the University is situated in a lowly resourced community, the ICT infrastructure is under developed consequently negatively affecting the utilization of the ICT tools for learning purposes. For instance, *NB14* observed that:

The soft copies are only good when you are located where network is good. In my case because of the geographical setup, soft copies pauses a challenge when you don't have electricity, reliable computer and just the issue of buying bundles all the time, (*NB14*, 2019).

The general student populace shared *NB14's* felt need as seen in figure 4 below. To that extent, majority preferred physical interactivity with other learners to digital interaction.
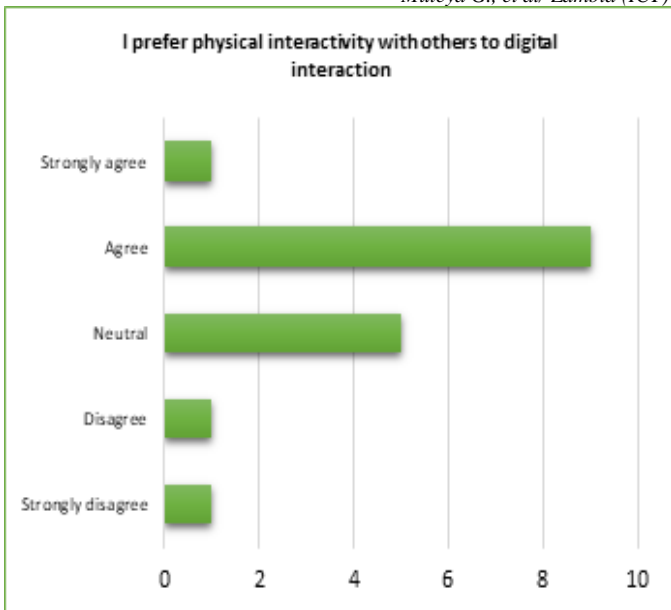
Figure 4: Physical Interactivity preferred to digital interactivity

Such a state of affairs points to digital immigrant syndrome as re-echoed by *JT10* 'Easier to study and to do group studies as well,' (*JT10*, 2019). Implied in the value of study groups is the power that lies in peer interactions as a critical ingredient to the success of a distance education learner [53. Similarly, Lai's (2011) study it was recommended that digital technologies needed to elicit a more active and flexible learning experience by adopting a participatory pedagogical approach [54].

In addition, learners completely preferred study materials in hard copies to soft copies as seen in figure 5.
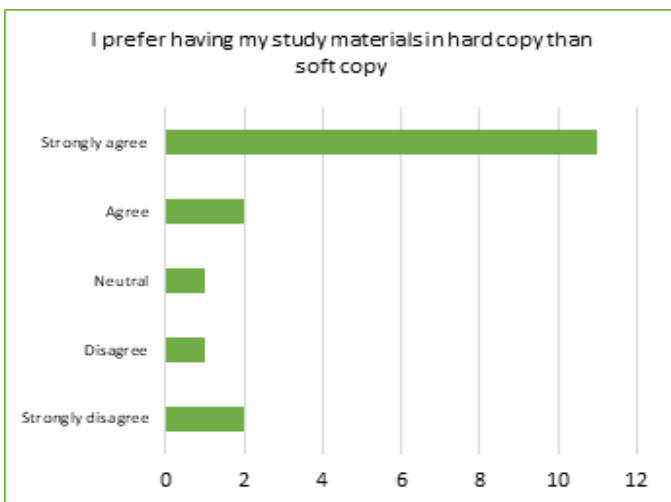

Figure 5: Print media preferred to digital media

Given to account for their choice of print medium of delivery of study materials i.e. hard copies compared to soft copies above *AM01* noted that 'one can study without internet' (*AM01*, 2019). Equally, *CV03* observed that 'Hard copies are better and easier to use' *CV03*, 2019). In the same vein, EK05 argued that hard copies were 'cheap and easily accessed' while HO08 added that 'hard copies save my eyes' (*EK05*, 2019 and HO08, 2019). Further, *OL15* and *QK17* argued that print media was 'easy to ready and refer to unlike soft copies'

and 'it is easy to use hardcopy and it is cheaper' respectively (*OL15*, I2019 and *QK17*, 2019). *KB11* further still noted that 'you do not need internet and a laptop' (*KB11*, 2019). In line with the rest, MB13 advocated for the usage of the postal system as a vehicle for distributing print media study materials to learners. 'By post because soft copies are difficult to open, even now assignments were given but the soft copies are not available hence making us panic' (*MB13*, 2019). In general, the learning cultures demonstrated by most learners are consistent with the digital immigrants' phenomenon [55].

Despite the over whelming support for hard copy print learning materials by learners, a few still advocated for the soft copy materials. For instance, *LG12* argued that:

> Soft copies distribution is instantaneous via online system once payment is verified. Whereas hard copies would mean travelling to collect them or them being courier delivered, which is time wasting and expensive (LG12, 2019).

In addition, *IK09* observed that:

> It is easy to carry around, for example, I carry my iPad and whenever I have free time at work I can read my module. While hard copies maybe convenient for those students coming from places where power is a problem (*IK09*, 2019).

Majority preferred using physical library to electronic library as noted in figure 6.
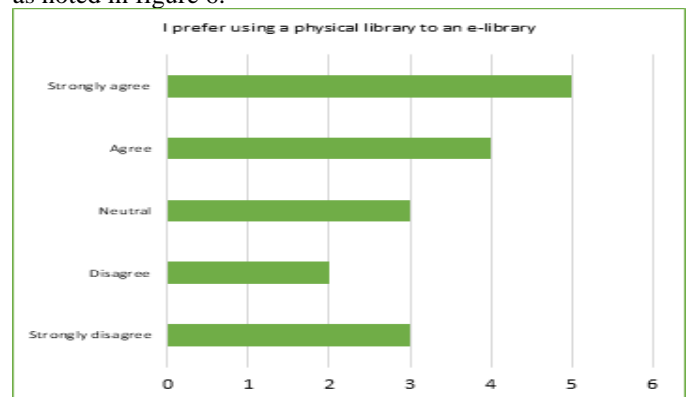

Figure 6: Physical Library preferred to digital Library

One reason advanced for preferring physical library to electronic library was the prevalent poor internet connectivity in most rural areas home to a significant number of distance education learners. For instance, *CV03* argued that:
The books on e-library take too long to load. When downloading eBooks, I need internet access throughout, meaning without bundles I cannot use the eBooks. Sometimes bundles finish while the book has not yet loaded (*CV03*, 2019).

Further, majority of the learners preferred face-to-face to 100 percent online learning as highlighted in figure 7.
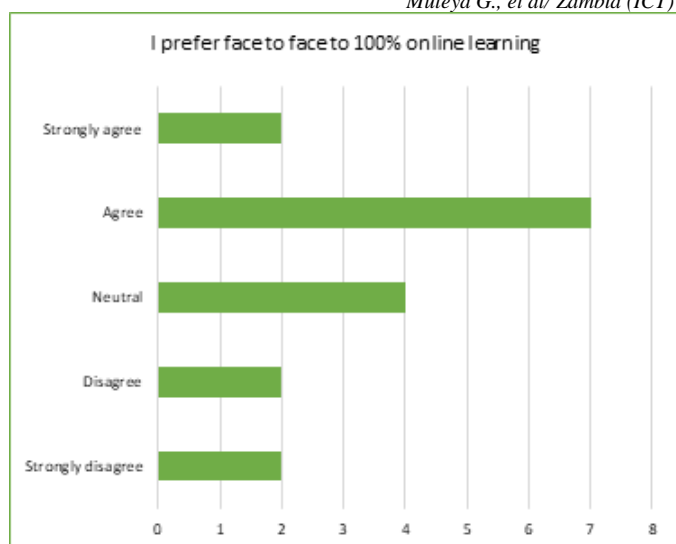
Figure 7: Face-to-Face Interaction preferred to 100% Online Interaction

For instance, *HO08* argued that internet connectivity was still challenging especially in rural areas. *HO08* added that 'I still face internet challenges to access my learning materials and sometime IDE has to be called because some learners fail to access relevant information, (*HO08*, 2019). This call for improved ICT infrastructure if eLearning is to become a reality as noted by IK09, 'just improve on the online system. The world is operating via electronic media today (*IK09*, 2019). While the ICT infrastructure remains under developed, leaners advocated for the use of hard copy print media. For instance, *QK17* requested that 'hard copies needed to be availed to learners alongside the soft copy (*QK17*, 2019). Equally, DU04 recommended the use of hard copy print learning materials. For instance, *DU04* endorsed, 'I would recommend having hard copies because even studying becomes easier when traveling as one does not need to open the computer, *DU04*, 2019).

Whereas some learners had earlier resisted the introduction of the Learning Management System in 2016, paradoxically, there had been remarkable improved level of adoption among distance education learners. For instance, *IK09* commended the University for implementing an electronic Learning Management System. 'I give you a credit on the online submitting of assignments because distance is now not a barrier (*IK09*, 2019). Equally, *LG12* applauded the University for introducing the LMS as follows: 'Astria is a powerful tool that need just a few improvements. I like it! It is more efficient when it comes to updating student information (*LG12*, 2019). *IK09* and *LG12's* noted transformation in their learning culture is consistent with [56] who observe that students keep adapting their learning styles as their means of learning kept changing.

In addition, *IK09* commended the University as follows:
The platform is excellent. Online discussion forums through the platform should be enhanced. Just appreciate on what the institution is doing to make our learning easy. I started studying before Astria was introduced and I have seen a lot of improvement in the way class registration, payment and communication with the lectures, assignment submissions, has greatly improved because of Astria (IK09, 2019).

Equally, *FH06* observed as follows:
This programme is good in the sense that submission of assignments can be done at anytime and anywhere as long as you have network. No need to travel long distances to submit hard copies at UNZA hence its cost saving (FH06, 2019).

IK09 and *FH06* learning experiences are consistent with [57] Connectivism learning theory for the Digital Age where ICT tools are put to good use (Siemens 2004).

Conclusion

In conclusion, the study has revealed that whereas learners have migrated to the Learning Management System, their learning culture is profoundly still in the print age as they keep on requesting for print based educational resources. Secondly, there is limited interactivity among learners and between learners and their learning facilitators, negating the very essence upon which the Learning Management System has been created. Thus, it is clear that the majority of distance education learners engaged preferred physical interaction to cyber space interaction, use hard copy to soft copy print learning materials and physical library to electronic library. While the ICT infrastructure remain under developed in most rural areas, a significant number of learners have progressively embraced electronic media as the means of learning.

Recommendations

Thus, the following are recommended:

i.. Institutions of Higher Learning should provide a blended learning approach as the exclusive use of soft copy learning materials intimidate a number of digital immigrants who were reported having withdrawn from the University on account of the introduced Virtual Learning Environment.

ii. There is need to advocate for improved ICT infrastructure in Institutions of Higher Learning. Repeatedly, learners bemoaned the poor ICT infrastructure in most rural Zambia. Therefore, if eLearning is to become a reality, there is need to lobby through relevant Government agencies to accelerate investment in ICT infrastructure Countrywide.

iii. While the ICT infrastructure is still developing, there is need to deliberately emphasize on the use of Asynchronous (different time) technology and less of Synchronous (real time) in the delivery of instructional materials.

iv. There is need to build capacity among staff and learners in the use of eLearning platforms. This is a sure way of improving interactivity among learners and staff.

v. Given the economic challenges prevailing, there is need to consider cost implications whenever new innovations were introduced without disadvantaging distance education learners.

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