Learning Design Experiences of the Namibian Teachers during the COVID-19 Pandemic: an Ethnographic Perspective

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Abstract

This study presents an ethnographic account of the learning design experiences of six Namibian teachers during school closures caused by the COVID-19 pandemic. The study explores the emotions, perspectives and actions of these teachers and also reveals the influence of personal, institutional and national culture on their learning design decisions, processes and outcomes. This exploration is important because it surfaces and highlights teacher experiences with learning design that can be used to influence practice and policy in future emergency situations. Data were collected using a variety of educational ethnographic techniques including artefacts, formal and informal interviews, and stimulated recall from video presentations. Five knowledge criteria were identified around the learning design and innovative processes of emergency remote teaching. These knowledge criterion include the Professional and School Context, Emotions of the participants at the time; Perspectives and actions to meet the Challenge; Process and Preparations for Remote teaching; Learning Design Context-based Decisions (including the processes used; the outcomes, and teaching artefacts). Results indicate that the school situation and context influenced the appropriate learning design materials. Furthermore, results showed that lack of infrastructure, access and connectivity as well as teacher ICT confidence and competency affected the decision making in learning design. Most of all, fear of being infected by SARS CoV-2 and fear for one's life gripped teachers such that they were unable to fully engage in problem-solving for designing appropriate learning materials for learners.

Keywords Emergency remote teaching in Namibia · Learning design · Access and equity · Policy implementation · Self-directed-learning · Teacher preparedness · COVID19 fears and emotions of teachers

Introduction

In this study learning design is focussed around the shifting of the teacher to thinking about learners first — mostly how to continue the learning experience amidst a crisis. The particular focus of learning design is the instruction design of learning through materials printed or presented electronically and the experiences, processes and context that influences the decision of the particular learning design product. The methodological approach of this research study

was situated in an educational ethnographic approach with the authors understanding the socio-cultural context and resources of the schools being nationals of Namibia and being part of the schooling system growing up. Moreover, the author is in teacher education and regularly works and visits schools during teaching practice evaluations and is familiar with the ICT setting and skillsets of the teachers. Of particular importance is that the authors understand the context of Namibian ICT in Education policy and the Tech/Na! implementation plan roll-out to the schools. The participants involved in this study have been part of the engagement of the authors for a year as part of the graduate students in the Masters in Educational technology program at the University of Namibia, and engagement through coursework and professionally.

There is a clear link between the socio-economic location of the schools and the ICT resources available at the schools based on the e-readiness profile. Schools with no electricity despite physical buildings cannot accommodate

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technology per se. There have been experimental situations of schools having solar setup, but that is rare and not the norm in Namibian schools.

Background of the Study

As it was around the world, the COVID pandemic forced educational institutions to close down in Namibia. In order to address schooling during the lockdown period, the Namibian government established the National Emergency Response to Education Committee. This committee, chaired by the Permanent Secretary of Education who is the chief administrative officer in the ministry, mandated schools and higher education institutions adopt e-learning to address student learning needs. Unfortunately, the mandate did not fully consider the reality of the varying contexts in which Namibian schools, teachers, and students operate. Namibia is lauded with having well developed internet coverage as reflected in 100% mobile penetration (Nengomasha & Shuumbili, 2020) which would mean that theoretically everyone should have access to the internet. However, as the Namibia Internet Governance Forum (2017) notes, the conundrum is that only 13% of Namibians were online. Put differently, while urban schools had broad access to the internet, rural schools did not. While more middle to high-income socio-economic homes had access to personal computing resources at home, the majority of families did not. While some teachers had experience with technology integration strategies fundamental to e-learning, the majority of them did not. Namibia is continually plagued with seasonal floods and has an emergency education plan in place for floods (National Planning commission, 2009, Niipare, Jordaan, & Siyambango, 2020). Despite having a plan and guidelines, there is a low level of awareness of flood hazards in the high-risk areas (villages and informal settlements) in comparison with the low risk areas (towns) in the Northern region (Niipare, Jordaan, & Siyambango, 2020). Furthermore, low levels of preparedness are evident despite the regularity of the events (Mabuku et al., 2016). The extreme settings in which the majority of Namibian children exist impacts the overall educational outcomes and the future outcomes. For the Namibian child, “chronic forms of social disruption, such as disaster, illness, poverty, injustice, exclusion or conflict, impact the well-being of children, and undermine the ability of significant adults in a child’s family or community to safeguard their physical, emotional or social well-being” (Skovdal & Campbell, 2015). This paper does not deal with floods, however this context is meant to show that disaster and emergency management is not foreign to the Namibian context. The SARS-CoV-2 was biological in its nature and not comparable to seasonal floods and drought, however, the Namibian government were unable to set in motion an appropriate plan

for continuance of education and it was a left to respective school and their administration and staff to fill-in the gap (Bozkurt et al., 2020).

Namibian Educational Context

Namibia, located in Sub-Saharan Africa (see Fig. 1), has a population of approximately 2.5 million people. The Ministry of Education, Arts and Culture (MoEAC) has governing educational authority over the educational districts or regions consisting of 14 regional directorate offices.

Each region has its own 5–10 circuits and 5–7 clusters per circuit. These circuits and clusters were created to share resources and provide educational support to the schools in the circuit or cluster.

The Basic education system is divided into four phases: Junior Primary [Pre-primary and Grades 1–3]; Senior Primary [Grades 4–7]; Junior Secondary [Grades 8–9]; Senior Secondary [Grades 10–12]. This same division exists in Public and Private school education across the country. Within MoEAC, the National Institute for Educational Development (NIED) is responsible for a central curriculum development in consultation with regions and stakeholders in both public and private spheres. They develop the assessment policy and associated guidelines for each subject and offer training and support to teachers.

MoEAC’s Response to Pandemic Lockdown

During the first lockdown of the pandemic in March of 2020, all schools were closed and the Ministry of Education, Arts and Culture made the decision that teachers need to engage in e-Learning. The idea of the government was to use the

Fig. 1 Location of Namibia with 14 educational regions

e-learning content created by one of their independent state-owned organizations that addresses distance education at grade 12 level. An initiative from the NAMCOL (Namibian College of Open Learning), called NotesMaster, a Learning Management System platform was developed a few years ago with grades 0–12 national curriculum content. NAMCOL is a State Owned Educational institution created by an Act of Parliament (Act 1 of 1997) to provide learning opportunities for adults and out-of-school youth. The ministry thought that they could use the existing older content to assist in the online delivery. The unfortunate situation is that despite the directive from the ministry, the reality of the situation was that the majority of the Namibian schools were unable to follow this directive due to no ICTs at the schools and for some a lack of electricity. After the teachers Union voiced much concern to the e-learning directive, the MoEAC then offered to develop a survey to assess where schools are in terms of infrastructure and access. Falling to implement the e-learning initiative, the MoEAC gave directives for each school to create their own learning design solution of Emergency Response Teaching (ERT).

The MoEAC conducted a survey to be completed by the community/parents to find out which content and learning activities to be sent to the learners. Additional questions in the survey allows the emergency response committee (ERC) to make further recommendations. However, it was discovered that out of 804,000 pupils in the country only 2% were able to access the Internet.

Methodology

Participants

Six teachers participated in the study. The six teachers were master's students in an educational technology program at the University of Namibia (UNAM). At the time of the lockdown, the teachers were enrolled in an instructional design course. Three teachers were from rural areas in Namibia and three were from urban areas. They included both primary and secondary grades as well as STEM and non-STEM content areas. All participant names and school

names were changed to fictional names for both teacher and school Table 1.

The three teachers from the capital had a diverse range of school cultures and physical infrastructure and settings. One teacher taught at a school in a “low” income socio-economic community, in what is called “informal settlements”; another teacher's school was in a middle-income community with parents, school staff able to afford technology and connectivity access. Yet, another teacher was in a low-income socio community elevated above that of those from informal settlements. The fourth teacher was teaching in a coastal town at a school with a heritage from before independence (40 years old) and learners' attending from a range of socio-economic levels. The fifth teacher was teaching in a small town 370 km (approximately 290 miles) North of Windhoek. The sixth teachers' school was in the centre of the capital servicing a mixed socio-economic level of students.

Data Collection

This ethnographic study uses teacher interviews, reflections, teaching artefacts, and virtual participant observations to capture and understand the teachers' learning design experiences during the pandemic. Data were collected using a variety of ethnographic techniques including artefact, formal and informal interviews and stimulated recall from video presentations. Teaching artefacts included virtual lessons and physical workbooks. Given that the study was undertaken during the lockdown period, all study activities were conducted virtually, making participant observations a challenge.

informal, semi-formal Interview protocols were used to explore the experiences, the emotional situation, and the resources and socio-economic location of the school as it influences the learning design decisions and products to the learners.

Data Analysis

Data collection took 14 months. Concurrently collecting and analyzing data allowed for the development of data summary and themes. The themes were checked against the recurring

Table 1 An overview of the participants, schools and subject areas

Teacher	School	Socio_Eco- nomic level	Subject area
Thimo	Queen Elizabeth II Primary School	LOW	Computer Studies, English
Herta	Khomasdal High School	LOW	Biology, Pre-vocational hospitality
Manga	Omukwara High School	LOW	Biology
Sam	Blue Waters High School	MIDDLE	Physics, Chemistry, Mathematics
Heleni	Nyama Combined School	MIDDLE	Mathematics and Science
Emelda	Sossusvlei high school	MIDDLE	Computer Science

field activities. The use of follow-up interviews to check consistency of responses were important as well as member checks to strengthen the credibility of the information provided. Photo evidence to support the location, infrastructure, and learning design material provided additional credibility and valuable insights as to the context or setting of each teacher's school operation, capacity, and decision-making. Data analysis involves summarizing data into themes and categories using procedures recommended by Miles et al. (2014).

Findings

The findings relate to the personal experiences of the teachers, while the learning design findings relate to the processes, challenges, and learning design products produced to meet learning needs during the lockdown. The account explores the Professional and School context, emotions, perspectives and actions of these teachers to meet the challenge and processes and preparations for remote teaching on their learning design decisions, processes and outcomes. This exploration is important because it surfaces and highlights teacher experiences with learning design that can be used to influence practice and policy in future emergency situations.

Namibian Educational Context of the Teachers

According to the Tech/Na! implementation plan, Namibian schools are to be at a minimum of ICT development level 2. This means that each school should have at least one room with 20 computers, a few projectors and audio-visual materials. At least internet access at the school mostly at the administration buildings. Furthermore, all teachers would have to undergo ICT Literacy training or Foundation level ICT Literacy and the school should timetable ICT training for learners at least at one class per week. Despite many efforts to build infrastructure in the schools and at universities, connectivity is accessible in more than 80% of the country, but the inequity of technology infrastructure remains an issue for the MoEAC to address (Wilder, 2012).

Additionally, the socio-economic context influences the ICT readiness infrastructure in terms of whether the school would have electricity, whether the classrooms and the school were secure, whether there were sufficient storage cabinets and whether the desks were adequate to carry the PC. Moreover, the types of access to Internet connectivity was important in order to deliver the possible training or other deployment of devices. Moreover, connectivity and access in the community is an issue. It would be important for the teachers to consider whether the learners and their parents had electricity at home, technological devices connectivity etc.

Qualified teachers received ICT literacy skills at University and teacher preparation colleges. There has been continual professional development in ICT to teachers through the years and especially the training of the International Computer Drivers License (ICDL) certificate. Despite many of these ICT literacy skill development to teachers, it cannot be assumed that even if teachers are proficient in technology literacy that they have the pedagogical skills to integrate technology into the classroom (Kacelo et al., 2019) or create online material if not trained to do so (Boer, 2020). Evaluation of e-readiness in influencing integration practices is an important factor in the rapid diffusion of adoption throughout developing countries (Ndung'u, Maweu & Mwenja, 2017).

Limited technological resources, inequality in digital access of Namibian learners and perhaps lack of appropriate technology training, defines the background of the teachers' learning design experiences and decisions.

Professional and School Context

Thimo has a Bachelor of Education honors and has been teaching for 4 years now at Queen Elizabeth II Primary School. QEII is located in an urban school in the capital of the country, in the heart of a previously apartheid neighborhood. The school has electricity and a Computer Lab with 20 PCs without internet. The school has WiFi in the staffroom and the principal's office; The school recently purchased 8 laptops for use in every department. A second Computer training lab is under construction. Moreover, the school has multimedia projectors which are utilized upon request from the management of the school. [T1].

Herta, too, has a Bachelor's of Education (honors) and has been teaching for 2 years 6 months at the only secondary school in the small town, so it is an urban school. Herta teaches at Khomasdal Secondary School is a combination of mainstream subjects and vocational subjects.

The school has electricity and wifi at the administration block. The high school does not have a computer lab, but there is a library with 5 desktop computers and 2 printers. Herta mentioned that their classroom infrastructures are in good condition. [T2].

Manga has a Bachelor of Education (Honours) from the University of Namibia and has been teaching Biology for 6 years at Omakwara primary school, located in an informal settlement community on the outskirts of the capital. Despite the location, the school has electricity, running water, well-ventilated classrooms with enough tables and chairs. Figure 2 below is a typical depiction of the concept of an informal settlement in Namibia.

Omakwara Primary school has seven computers that are used by teachers only and on request. The school does not have any Internet connectivity and neither does the library

Fig. 2 A depiction of informal settlements (taken by Manga)

and/or computer lab. The community that the school serves is low income and as such nearly all the learners have no access to computers or technological devices at home. [T3].

Sam is a mathematics, physics, and chemistry teacher for 4 years at a high school in a coastal town. The Blue Waters high school is a combined school with grades 0–12 with a total number of 1200 learners and 50 staff members including the institutional workers. There are water and electricity amenities. The school has one computer lab with about 5 computers that are in working condition. Wi-Fi is only limited within the staffroom and the computer lab. [T4].

Heleni has been teaching for 2 years and 6 months in the Capital, at Nyama Combined school. Nyama Combined school is in a middle-income socioeconomic neighborhood. The school has a library with few books and only the Junior Primary classes are equipped with televisions (TVs). [T5].

Emelda has been teaching for 4 years and is currently teaching at a Sossusvlei high school in the center of the capital. The school has the required services such as electricity, running water. The Internet is limited to the administration block (with 8 working computers, each department has a computer). There are two (2) computer labs with 35 computers with no internet connection but have a server that is not working and a smart board in each lab. A library with 3 computers and Internet is available to learners. [T6].

Emotions

When Thimo heard about the new SARS CoV2 virus, it was on the news and he watched with concern in January of 2020. When the first cases of COVID19 were recorded in Namibia in March of 2020, Thimo, like so many, feared for his life. He met the lockdown with mixed emotions. He was confused and scared at the uncertainty of the situation. The

feelings of being scared turned to frustration when Thimo received the instruction from the principal that as a school, they were to offer teaching and learning to an online environment (as per MoEAC directives). [T1].

Herta was particularly scared of the contagion factor of the new SARS CoV2 virus. Hearing that it can stay alive on surfaces for hours and days was of major concern. Despite her personal fear, the focus on her learner's academic continuance she had to set the fears aside. [T2].

"Many teachers felt fear including myself", said Manga. The majority of the staff had negative attitudes towards the learning and school environments. [T3].

The community and school environment of Blue waters high school have mixed emotions. Learners' did not fully grasp the severity of the pandemic and considered it a break or holiday from having to attend school, said Sam. Parents were confused and thought their children would never attend school again and the teachers were gripped in panic as to what to do next, especially that they were very aware of their lack of technology literacy skills. [T4].

Heleni noted how sacred she was when she passed by the guesthouse of the first COVID cases in Namibia. She saw yellow tape around the house and before that she was simply thinking it was something that was far away from their reality. [T5].

Emelda says the teachers at her school felt confused and had no guidelines as to how to do what they were instructed to do. Fear gripped the teachers to the extent where they were unable to make any learning design decisions. [T6].

Perspectives and Actions to Meet the Challenge

Thimo has a keen interest in all things technology and recently enrolled in a Masters in Educational Technology at the University of Namibia. He was in the first semester of the program and at the time of the lockdown and had not covered much in the curriculum of the subjects offered. Despite this Thimo felt he had some things to offer and decided to be proactive. He asked his colleagues if they would participate in a workshop in which he tried to show them how to do. Due to being a master's in educational technology student, the participant wanted to be proactive. The Participant has been engaged in longtime tech support to teachers to the school and received particular support from school leadership [T1]. Thimo organized three (3) days of technology workshops. He themed it "effective implementation of e-learning teaching and learning".

On day one of the training, Thimo offered Zoom meeting training, Day two, he did Google Docs tutorials, and Day Three, how to develop a Google classroom. Sadly, Thimo felt disappointed at his attempts to assist his fellow colleagues' and deemed the training sessions ineffective. A few teachers participated but were unable to create materials

online for their subject area in the short amount of time and their stress levels concerning infection, health and co-morbidities affected them such, they could not concentrate.

Herta created Edmodo classrooms for her grade 10 and 12 learners. She created an Edmodo because she felt it was important to keep her learners occupied with academic work during the lockdown and most importantly, they would still be in touch with her most of the time in the chat and forum section. Herta noted that despite using Edmodo as an online learning platform, there were some challenges. She soon realized that most learners did not have smartphones, laptops, or even internet connectivity. Those learners who had phones, might not have had data to get excess to Internet connectivity. Herta said that out of her 79 grade 12 learners, only 14 manage to log in to Edmodo. [T2].

From the onset, it was clear that this school was unable to implement any e-learning or any technology communication Manga said. The socioeconomic level within which the school was situated made it extremely difficult. [T3].

At Blue Waters High school, a committee was created named the Learning-From-Home (LFH) committee. The LFH committee decided to create booklets for learners accessed through WhatsApp groups or printed material collected from school by the parents on a given date. [T4].

Heleni noted that “After we received the Ministry’s directive, we conducted a survey to determine the kind of learning resources we can create for all the learners.” The survey resulted in the creation of WhatsApp groups per grade. The group settings were limited to teachers to post their subject lessons. [T5] Lessons were posted on the WhatsApp groups per grade. Learning materials were sent in PDF as per the request of parents. Additionally, the teachers also created school booklets from grades 0–7. Furthermore, “We were told to send revisions of what we have covered already. All the material was only sent to keep learners busy.” says Heleni. Heleni also attempted to do google classroom quizzes which were not too successful due to low participation. [T5].

Emelda created Google classrooms and conducted zoom sessions with WhatsApp support. However, not all learners had access to connectivity and as such this was a difficult exercise as not all her learners were reached. [T6].

Process and Preparations for Remote Teaching

Thimo’s school decided that they would use the social media platform “WHATSAPP”. The school decided that it was important to maintain communication between learners, parents, and teachers, WhatsApp groups were created and cellphone numbers were exchanged between stakeholders of the school.

Thimo tried to do three (3) days of workshop with his colleagues. He themed the workshops “Effective

implementation of e-learning teaching and learning”. In the days to follow, he offered Zoom meeting training, Google Doc tutorials, and how to develop a Google classroom. Thimo felt so discouraged because the Google Docs tutorials and the development of a Google classroom were ineffective. A few teachers participated but were unable to create materials online for their subject area in a short amount of time, and stress levels concerning infection, health, and co-morbidities affected their perceptions. Additionally, not all the teachers had Internet connectivity access at their homes. Teachers had a negative view of technology for future use in education with a political commentary saying that “it would be impossible in such a corrupt government”.

The Khomasdal Secondary school staff agreed to create WhatsApp groups for each grade, and all the teachers that are teaching a particular grade are to be in groups. This would make sending notes and communication to the learners easier. Even Though we created WhatsApp groups, they were not successful, Herta states because most learners don’t have smartphones, and/ or the internet.

Herta further noted that after evaluating the WhatsApp failed attempt, all staff agreed it would be best to come up with printed handouts with notes and worksheets for learners.

Each teacher made copies of the notes and worksheet of his or her respective subject and the principal then had to announce on the radio when the parents had to collect the notes and worksheets.

Manga noted that the principal of Omukwara Primary School directed teachers to create print-based learning materials for the learners. The principal communicated to the parents via radio for the collection of materials at the school at a particular time. Manga explained that the procedures on how to collect materials and when to drop them back were clearly explained to parents. Additional information and measures on how to prevent the spread of Covid-19 were put in place at the school. Manga said that as a teacher and with the knowledge of her school’s unique situation, she made additional effort to have enough time to create quality learning material for the learners in her subject area. Manga furthermore made several attempts to reach some parents via phone calls and WhatsApp (to those that had WhatsApp). She recorded some voice notes explaining certain topics to the learners that their parents have smartphones. The expectation was that parents would share or play the explanations, teaching to the learners. [T3].

The LFH committee at Sam’s school instructed teachers to also create WhatsApp class groups per subject and per grade. Below is a depiction of a screenshot of a WhatsApp group [T4] Fig. 3.

In the survey results done at the Nyama combined school, Heleni noted that 60% of their parents responded that WhatsApp was the most convenient way of being reached. Heleni

Fig. 3 Screenshot of WhatsApp Grade and subject. (Screenshot from Sam)

commented that parents were active in terms of being willing to be contacted and showed responsibility to ensure that the children received the learning materials. The parents ensured that worksheets and exercises were done by their children and would be marked by them. The teachers ensured that they created well-detailed notes and activities and attended to parents' queries. Heleni noted that they found a few parents doing their children's work. "A parent asked me and said he can't find the answer for number 9 in his child's workbook and I proposed that he could give the work to the learner as I believe the child can find (the answer to) it." [T5].

Emelda reports that similarly, the ERT interventions were the school creating WhatsApp groups per grade and developed subject notes and tasks. Emelda said that teachers were overwhelmed by fear and did not want to create WhatsApp groups for their learners having a very fatalistic attitude that all is for naught. [T6].

Teaching Artefacts

The inability to go online as directed by the Ministry of Education, Arts and Culture (MoEAC), the majority of teachers worked together to create booklets containing

learning activities. Parents collected the booklets from class teachers. Parents returned the completed assignments and tasks back to school for assessment.

A few schools offered teaching on the social media platform WhatsApp through creating groups by grade and subject and posted Electronic lessons, pictures and voice/audio messages. A few of the teachers attempted Edmodo, YouTube videos, audio recordings, zoom and Google classroom lessons with minimal success.

Context-Based Decisions

A handful of students were able to log in to GoogleClassroom he created and receive learning materials, but Thimo soon realized that his approach remained marginalized due to lack of access for most learners. Creating Google forms for assessments was even worse, Thimo said. "Only a few were able to participate, but the ones that did participate were open to online engagement and appreciated the new medium of learning design and delivery. They would continually ask when new material would be uploaded". [T1].

Herta says she felt as if the teachers mostly worked together to come up with solutions. When the first attempts of WhatsApp failed, the second attempt of a paper-based booklet seemed better. [T2].

The lockdown highlighted the inequalities in the community, Manga said. Many of the parents are illiterate. The parents were unable to explain to the learners how to use the booklets or carry over the messages as to what the expectations were. Some learners were sent to the respective villages their parents were from. This meant that the learners never received the workbook or printed material. [T3].

The decision by the LFH committee offered additional challenges to teachers in terms of data connectivity. Blue Waters High School agreed to provide airtime for the LFH committee members to ensure that learning material is sent and every learner receives the updated learning materials. [T4].

Nyama Combined School decided to do a general survey in order to make the appropriate decision regarding the types of learning design material that would meet the learners needs. Overall, Heleni said that teachers felt so unprepared and most felt that they lacked computer literacy. [T5].

Emelda teaches the grade 12 that are soon to graduate. She noticed the lack of self-regulated learning in her learners and knew that if they were not engaged in learning activities on a regular basis they would regress and not keep up their academic focus. It was important for Emelda to keep the learners occupied and engaged in the academic exercise. [T6].

Processes Followed

Despite Thimo's valiant efforts, he ended up following the initiative of the rest of the school and created paper-based learning materials for parents to collect and return after the learners worked through it.

Not all teachers were prepared to deal with the challenges for various reasons.

Some were scared of the virus, they did not want to come to school, they wanted to work from home as instructed by MOE, Herta says. The majority of the teachers had technology challenges. They either did not have sufficient ICT literacy skills, no Internet at home or computers at home. The fear of being infected led to the teachers not to receive learner's work back for marking.

Manga said the challenges during the process of design and distribution was mainly that not all teachers participated in the learning material creation. These teachers were unwilling as fear gripped them. So much so that some teachers did not want to come to school to distribute materials to the parents who came. Teachers who worked from home were unable to complete their booklets due to ill-discipline of working from home. Manga further noted that it was difficult to reach some parents to collect the learning materials. This meant that many learners in the class were left without learning material which meant teachers had to reteach the material when schools resumed.

Manga said a concerted effort to deal with the literacy rates of the parents in the community need to be addressed as it is crucial to have a good channel of communication with the parents of the learners e.g. WhatsApp group.

Sam explained that most school teachers worked in teams to make sure that the LFH materials were available for printing, unfortunately, the school ran out of copy papers. Few parents showed up to collect their children's learning materials.

Sadly, the high school teachers offered so many excuses not to participate. Sam noted that they said that the learners were unwilling to learn and were simply wasting their time and materials. Some teachers opted to only work through WhatsApp groups vs in person at school.

Heleni said that teachers had to use their data to send learning materials to the respective WhatsApp groups. There was a shortage of printing ink to make copies of the learning materials. Parents were doing their children's work in fear that the children might fail. Heleni said she felt that the Inclusive education component was neglected. Teachers did not have the means to support children with learning disabilities. The survey taught her that it is important to conduct research to make good decisions. Getting input from the community is vital. Heleni says she felt that parents were not motivated.

Emelda said she recognised that if learners are not continually engaged then they will simply stay quiet and not engage with the learning material, so she had to make additional efforts to reach out to the learners seeing they were to write a national standardised examination towards the end of the year.

Outcomes

The learning design efforts for Queen Elizabeth II elementary school resulted in learner printed booklets. Thimo mentioned that the printed worksheets and activities that were returned were in a very sorry state, being crumpled/wrinkled, oil, fool and water stains all-over the material. Furthermore, Thimo reckons that the parents showed little willingness to bring their best in supporting alternative teaching modes. He thinks that parental involvement is a key aspect that is not addressed during the Emergency Remote Teaching.

Herta said that the Khomasdal high school does not have enough technology tools such as Computer, internet which was an additional challenge for teachers when putting together the materials for the learners. Most teachers do not have the confidence and knowledge when it comes to technology. A serious effort need to be put into making teachers accountable to learn ICT literacy skills and even more effort in technology infused lessons to all grades.

Due to the sub-economic level of the community within which the school resides, many of the parents are illiterate, noted Manga. The parents are unable to explain to the learners (their children) how to use the booklets or carry over the messages as to the expectations. In addition many of the parents sent the learners to the villages for safety. The Namibian villages in many cases are characterized by isolation and connectivity coverage can be spotty.

Sam noted that there was some success in using both WhatsApp and printed learning materials despite the shortage of printing paper. Sam is adamant that his school should focus on improving the self-regulated learning (SRL) of learners. Moreover, he would like professional development effort for teachers to better prepare learning materials. [T4].

Despite the success of learning materials, Heleni noted that many of her colleagues were not prepared and lacked computer literacy. Heleni says that teachers found it a financial burden to use their own data to not only send materials but also do research on the topics for developing the learning materials which they would otherwise use for school computers. [T5].

Teachers created printed materials consisting of notes and worksheets; however, when the parents returned the learners' work, teachers did not mark and provide feedback in fear of getting infected, says Emelda. Furthermore, the booklet's activities were not done by the learners and it was clear

someone else did the learners' work. Furthermore, Emelda did not feel that the material development was good as it was done in a rush. She said it did not aid in the learners self-regulated learning and wanted them to study on their own.

Learning Design Support and Implications

The process and decision of each teacher within their school environment and culture gave insights into the learning design and the ultimate learning product. Nearly all communication processes were using social media (WhatsApp). It was important to find a way to maintain communication between learners, parents and teachers. WhatsApp groups were created and cellphone/mobile numbers were exchanged between stakeholders of the school. WhatsApp is a free cross-platform mobile application that allows users to make calls (voice) as well as to send messages (text). In Namibia, 65 billion Instant Messaging (IM) WhatsApp messages are sent daily with 98% of those sent through Instant Messaging (IM) done by utilising WhatsApp (CRAN report, 2019). Thus, it made sense to use a social media platform that is so widely used.

Conclusion

The study showed how the professional and school context influences the ICT resources within which teachers needed to make learning design decisions. The access to ICTs, digital tools and connectivity determined what teachers could do. The teachers in this study noted the importance of good channels of communication with the parents of the learners and as such naturally levitated to using WhatsApp.

The emotions of the participants at the time within which the study is framed contributed significantly to the motivation and effort towards creating teaching and learning materials to support continual learning of their learners. Majority of teachers noted the overwhelming fear, crippled most teachers. Many teachers hid behind commodities and concerns of contracting SARS-CoV-2 and dying as a result. This fear factor influenced the motivation and efforts made by teachers in their learning support to learners. Many teachers decided not to do anything, but instead stayed at home, while the teachers in this study stood in the gap to ensure some form of educational activity was created, so that learning could continue. The participants in this study were concerned for the future of schooling and the education of their learners despite their own fears.

Process and Preparations for Remote teaching; In reviewing their directives of online learning from MoEAC, and evaluating that they did not have the skills sets, but mostly, not the ICT resources and infrastructure to comply with the

Ministry Directive, many teachers looked at what was possible within the digital tools available.

The teachers further noted that a better preparedness in creating learning materials overall should be a focus for professional development along with ICT skills and preparing learning material on an online platform. Furthermore, teachers were concerned that despite computers present at their respective schools it was not fixed and only a few were in working condition.

Perspectives and actions to meet the Challenge; Many noted that parents need to be educated to be that supporting link between the teacher and the learner. Additionally, because many teachers recognized the learner's lack of internal motivation to learn, the focus should be placed on Improving Self-regulated learning (SRL) within learners. Dealing with learners with learning disabilities was of great concern for many teachers and as such felt that inclusive education was neglected in the development and design of the learning materials. Most importantly the teachers noted that schools need to find innovative and alternative ways and plan for future pandemics.

Despite emergency plans and focus on disasters and floods, the Namibian education ministry remains ill-prepared and vulnerable as well as seeming lacking to plan for uninterrupted education with the continuing COVID19 1 year later and with many lessons learnt (Bozkurt et al., 2020).

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Declarations

Conflict of Interest Perien Joniell Boer, declares that she has no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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