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RETHINKING TEACHING AND LEARNING LANGUAGE IN THE NEW ERA: LESSONS FROM THE COVID-19 PANDEMIC IN TANZANIA

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Abstract
This study examines the language teaching and learning experiences in Tanzania that were prompted in response to the impact of COVID-19 pandemic-related school closures. Crucial to the study was determining how students' and teachers' coped with language teaching and learning and determining technological resources and their usefulness in language teaching and learning. A total of 127 students (74 female, 53 male) and 33 teachers participated in the study. The study revealed that the reception of educational broadcasting was low among the participants while reliance on mobile learning increased, the participants faced challenges when they attempted to cope with the shift to technology-based formats for language teaching and learning, and students were not fully able to develop the autonomy of learning on their own partly due to the unpreparedness for the shift to technology-based learning. Overall, the results confirm that web resources, SNS, and applications are rapidly becoming a resource for native speaker input for students learning English in foreign language learning contexts.

Keywords: Language teaching; Language Learning; COVID-19; Tanzania; Technology

Introduction
According to UNESCO (2020a), the COVID-19 pandemic has caused the largest disruption of education in history where it is estimated that over 94% of learners worldwide were affected by the pandemic representing over 1.58 billion children and youth from pre-primary to higher education in 200 countries (McCarthy, 2020). In Sub-Saharan Africa, where the pandemic hit relatively later in comparison to other parts of the world, the education system is often described as fragile. The interruption of the school year is expected to have a disproportionately negative impact on students for whom conditions of ensuring continuity of learning at home are limited. In many areas, vulnerabilities identified are not limited to lack of a stimulating and enriching educational environment out of school but also low levels of digitalization that would have enabled a continuity in teaching and learning. Even more so are the widespread disparities in learning opportunities available for students in terms of access to digital platforms, digital instructional tools, and other technology-assisted formats. Regardless, ensuring continuity during the time of national closures

became a priority for governments, many of which required teachers to use online delivery of lessons (UNESCO, 2020a).

The outbreak of COVID-19 ushered in a new era for teaching and learning in general for all countries worldwide. For countries that had already set up advanced technology systems for supporting out-of-classroom instruction, the shift was an amicable choice unlike the case of unprepared developing countries that had to grapple with challenges. There were widespread reports of challenges in the management of teaching and learning across the globe indicating a shared challenge due to the unforeseen nature of the pandemic and the crises that followed (Klein, 2020;). There was an unprecedented push to online and remote teaching platforms. The rush to continue teaching lead to the use of commercial digital learning platform providers in a haste to maintain the academic calendar. Challenges reported included problems with remote teaching, teacher-parents relationships, technological problems, internet connection (Klein, 2020). More importantly, COVID-19 has highlighted inequity in the education technology space (Todd, 2020).

Because of major and sudden closures across the globe, countries involuntarily sought immediate measures on digital learning platforms (Jandrić, 2020). The decision to move from face-to-face classroom instruction to online teaching resulted in more profound questions related to national educational policies, theoretical grounds, and premises (Teräs, Suoranta, Teräs & Curcher, 2020). Most African countries' response to the effects of the pandemic on the education system was slow due to the much later occurrence of the disease on the continent. Major concerns on how educational systems across the continent would cope with the situation were widespread. Efforts to explain and educate masses on the spread and measures needed not to contract the disease were plastered on all forms of mass communication. Country-wide lockdowns affected students, parents, guardians, administrators, educationalists, and policymakers and the realization that the education system would suffer tremendously in terms of delivery and timing was imminent. The fastest action was to seek out ways of transferring learning content to digital platforms and remote teaching platforms almost overnight. Also, UNICEF (2020) informs that many countries developed broadcast curricula (television- and radio-based) for primary and lower secondary students. It argued that TV-based remote learning had the potential to reach the highest proportion of students (estimated 930 million worldwide) and that it plays a significant role in delivering education despite the fact it does not offer a convenient way to transmit materials. Teräs, Suoranta, Teräs & Curcher (2020) and Strong (1990) suggest that despite actions taken by countries to maintain continuity of learning and teaching, the transition to the selected platforms revealed gaps and shortcomings on how online learning has and has not been adopted in educational institutions. Of particular interest to this study is how continuity through technology-assisted formats has made an impact in the teaching and learning of language.

Educational Broadcasting and Language teaching and learning in the New Era

Educational broadcasting has a dynamic history in both developed and developing countries. While educational broadcasting is claimed to have commenced in the 1920s for developed countries such as France, Great Britain,

and Russia (Fedorov, 2008), it was not until the 1950s-1960s when the same was recorded in the African continent (Coldevin, 1979; Welsh, 1968). Most of the early educational broadcasts were made through radio. Although radio broadcasts in Sub-Saharan Africa began as early as 1927 (Kenya), 1933 (Mozambique), and 1939 (Senegal), the programming was made for expatriates but gradually the programming changed to address the needs of the people (BBC, n.d.; Sturmer, 1998).

Gowon (2009) suggests that television and radio broadcasts are not just mechanical devices for creating worlds of illusions, but are avenues of creating a new language with new powers of expressions. These powers of expression influence English Language usage in the educational sector through the use and misuse of the language. Regardless of the audience of educational broadcasting and educational programming, television broadcast supports language learning for independent adult learners and language development in infants. It provides L2 spoken input which also contributes to language development (Fallakhair, Masthoff & Pemberton, 2004; Fisher, 1984; Webb, 2015). On the other hand, it has been proven that radio broadcast can supplement classroom instruction as it provides mastery of listening skills (Lalima, 2013). Radio broadcasting is credited as a useful tool for teaching and learning languages like English, French, and Swahili at all levels of education. It helps improve mastery of vocabulary and pronunciation (Odera, 2006, 2008, 2011). Moreover, television and radio present natural situations within which language occurs with no forced information patterns or contrived actions. (Gowon, 2009).

Other forms of educational technology such as the internet and web resources are increasingly contributing to foreign language teaching. The landscape of language learning has been rapidly and largely changed with the normalization of technologies in people's daily communication (Zhou & Wei, 2018). Currently, the integration of new media into language learning is a necessary step ensuring the acquisition of the kind of language skills and competencies needed for living and working in the knowledge society (Ruschoff, 2003). New forms of learning such as mobile learning (m-learning) are emerging across the world. M-learning is considered a predecessor to electronic learning (e-learning) and computer-assisted language learning (CALL). Regardless of the stage in which *m-learning* is employed, mobile devices show a wide range of learning possibilities that can integrate the use of older and newer technologies for developing certain language skills in second/foreign language learning. (Brazuelo Grund & Gallego Gil, 2011; Kolb, 2008; Miangah & Nezarat, 2012). Specifically, mobile devices may promote vocabulary learning, listening comprehension, grammar learning, pronunciation, and reading comprehension, although writing and speaking can also be integrated (Luque-Agulló & Martos-Vallejo, 2015). Primarily, when all these educational technology resources are taken into consideration with the learning process, it becomes distinctively clear that all these resources entail a constructivist framework that involves the construction of knowledge and the development of problem-solving techniques, strategies, and skills through the use of portable devices (Brazuelo Grund & Gallego Gil, 2011; Luque-Agulló & Martos-Vallejo, 2015) and the use of broadcasting resources (Odera, 2006, 2008, 2011).

Constructivism and Language Learning

Constructivism has emerged in recent years as a dominant paradigm in education and has had a major intellectual impact on the development of pedagogy, rooted in the cognitive-developmental theory of Piaget and the sociocultural theory of Vygotsky, constructivist notions have had an impact on the development and application of technologically enhanced micro worlds and the linguistic investigation into literacy and narrative development, constructivist learning has developed as a substantial approach to teaching (Aljohami, 2017). Feng (1995) categorized constructivism into 3 types: 1) *radical constructivism* – understanding is tracked by experience, the teacher provides cognitive experiences to students who construct their understanding of realities; 2) *moderate constructivism* – the mind is instrumental and essential in interpretation, teachers construct a learning environment dependent on student's ability to create own interpretations, and; 3) *rational constructivism* – students are viewed as active learners in achieving own knowledge, interpreting and organizing it into meaningful patterns.

The application of constructivism to language teaching requires that teachers serve the role of guides, monitors, coaches, tutors, and facilitators. As they assign activities to the students they have to ensure that activities, opportunities, tools, and environments are provided to encourage metacognition, self-analysis, self-regulation, self-reflection, and self-awareness (Murphy, 1997; Nominian, 2002). While the students play a fundamental role in mediating and controlling learning, the learning situations, environments, skills, content, and tasks have to remain relevant, realistic, authentic, and represent the natural complexities of the "real world" to the learners themselves. Knowledge construction and not reproduction are crucial and this construction takes place in individual contexts and through social negotiation, collaboration, and experience. Previous knowledge constructions, beliefs, and attitudes possessed by the learner before a session are considered in the knowledge construction process. If at all students commit errors, the errors are considered as opportunities for insight into students' previous knowledge constructions. Students are encouraged to explore to seek knowledge independently and to manage the pursuit of their goals (Murphy, 1997; Nominian, 2002). Moreover, Murphy (1997) suggests that researchers and educators are linking constructivism, technology, and learning. She argues further that computer-based learning environments provide strong support for constructivism through the use of MUDs (Multi-User Domains), E-mail, Usenet groups, and of the World Wide Web, in general, provide environments, contexts, and an authentic 'world' which students can experience and explore (Nominian, 2002). From this discussion, it is evident that constructivist learning supports competence development rather than the intake of a set of facts. Moreover, learners construct or create structures of meaning and it is expected that new information shall be linked to what a learner already knows or has understood. Constructivist learning is not only a highly individualized process and it has a dimension of collective learning. Learners must share their ideas through interaction and communication with each other and with their teachers.

The Tanzanian context

The Tanzanian government, like most governments in the world, enforced national closures of educational institutions in an attempt to contain the spread of the COVID-19 pandemic. These closures impacted pre-primary up to higher learning institutions (HLIs). While schools were closing at a global level by 16th February 2020, Tanzania schools were still fully open until 14th March 2020 when national closure of lower education institutions was announced and then later on 18th March 2020 when also higher education institutions were closed as well. Complete national closures of the education system are dated as 19th March 2020 with a partial opening that followed on 1st June 2020 for HLIs and on 29th June 2020, the whole education system in Tanzania was fully opened. The closures had a considerable impact on over 14,832,344 students from pre-primary education, primary education, secondary education, and HLIs (the number does not include students enrolled in technical colleges and polytechnics whose data was not readily available). To ensure continuity, the Ministry of Education, Science and Technology, the President's Office- Regional Administration and Local Government, and the Tanzania Institute of Education prepared a plan for instruction delivery through the use of televised instruction and radio programs. Weekly schedules were set up and lessons were recorded and aired according to the prescribed schedule. Other technologies were not prescribed by the government. On the one hand, remote learning in the HLIs did not commence due to concerns of limited potential reach. As for pre-primary education up to secondary education, the Government chose television and radio broadcasting for remote learning. This choice for maintaining continuity after national closures depended on its economic feasibility and wide broadcasting coverage that television and radio offered.

Educational broadcasting has a long history in Tanzania and can be traced back to 1962 with the establishment of adult education programs on the radio (Sturmer, 1998). Some of the earliest educational programmings were English and Swahili language courses. Towards the 1970s, the National Radio services provided educational programming to support and improve instruction of English and Swahili among other subjects. The programming spanned 12 weeks and each subject comprised 12 lessons of 25 minutes, however due to limited financial support the programming ended in 1993 (Sturmer, 1998). With the advent of remote learning and urgency for continuity measures, the Government restored educational programming as earlier mentioned using the available public television and radio broadcasting services. Structures of the lessons broadcasted followed traditional classroom lesson plans aimed at developing required competencies. Web resources, social networking sites (SNS), and smartphone applications were not considered as resources since the potential reach was limited however, the probability of being considered complementary resources could not be ignored.

The present study

This study draws on the theoretical underpinnings of a constructivist model of learning. To describe language learning in the new era as prompted by the COVID-19 pandemic, the study shall focus on the use of technological resources in Tanzania for remote learning during the period of national closures. Firstly, it

seeks to investigate the language teaching and learning experiences in Tanzania that were prompted in response to the impact of COVID-19. It also seeks to check how students responded to the use of technology. Secondly, the study seeks to examine the receptiveness of the use of technology in Tanzania during the pandemic and the lessons that come from it. Considering the use of technology and a range of resources available to learners, as well as the considerations of new era teaching and learning of language, the following research questions were devised to guide this study.

1. How did students and teachers cope with language teaching and learning through technology following the shift to technological resources in the context of the COVID-19 pandemic?
2. What learning and teaching resources were available to teachers and learners and how useful were the resources?

In this study, I use an adapted framework for constructivist learning that outlines the role of the teacher in enhancing constructive learning among students as they interact with technology. Although the model clarifies the roles of the teacher, it indicates that there is a limit to the teacher's perception of how the learner uses technology to learn. In this adaptation, the teacher can only make suggestions on the media, set tasks, select topics, and provide input to the learner. Based on this model and the context of the study, the following predictions are made: 1) due to lapses in educational programming in Tanzania, remote learning through television and radio broadcasting shall not receive high reception among students in comparison to other educational technology, and; 2) due to advancement in technology and increase in smartphone usage, students shall complement educational broadcasting.

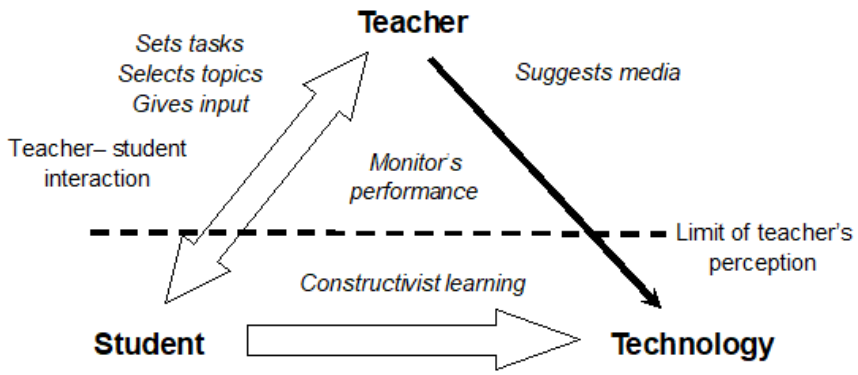


Figure 1. Framework for constructivist learning using technology

Method

Sample

A total of 127 students (74 female, 53 male) and 33 teachers, both groups from 3 public school settings participated in the study. All teachers were purposely selected and had to fit the criteria of being language teachers for either English or Swahili subjects. The students who participated in the study were in the last year of high school i.e. Form 4. Their selection was specific because this level

of students was expected to sit for the final national examinations before proceeding to advanced high school. The potential for complementing educational broadcasting was higher in this group than for students who were not expecting to sit for national examinations. The assumption being that this particular group of students would be highly engaged in using technology as a means to substitute learning as they prepare for their final examinations.

Table 1. Characteristics of the study sample

Description	**N**	***%***
Gender		
Teachers	*33*	*100*
Male	8	*24.2*
Female	25	*75.8*
Students	*127*	*100*
Male	53	*41.7*
Female	74	*58.3*
Age		
Teachers		
20-25 years	7	*21.2*
26-30 years	8	*24.2*
31-35 years	7	*21.2*
Above 35 years	11	*33.3*
Students		
12-15 years	2	*1.6*
16-19 years	117	*92.1*
20-22 years	8	*6.3*
Teachers per subject		
English	20	*60.6*
Swahili	13	*39.4*
Teacher Qualifications		
Diploma	6	*18.2*
Bachelor's degree	24	*72.7*
Masters degree	3	*9.1*

Research Instruments

The study made use of self-reported questionnaires and interviews for both samples. Each participant was required to fill in the questionnaire that aimed at collecting two sets of information. First, general and observed information that included details of their personal use of technology before the COVID-19 pandemic. Second, details of their use of technology during the pandemic, attitudes towards the use of technology-assisted learning as well as any other comments on the same. This information would assist in providing data for comparison and quantitative analysis. The questionnaire responses were coded for quantitative analysis. The interviews aimed at confirmation of the details provided by the participants to ensure the reliability of the data and also probe into their general view of language learning and teaching before and after the pandemic.

Procedures

Copies of the questionnaire were handed over to the participants and directions were provided orally on how to complete the questionnaire. As for the interviews, a few participants were recruited the following day to discuss their learning and teaching experiences. The interview questions reflected on the participant experiences before and after national closures of schools and the shift to technology for learning purposes.

Analysis

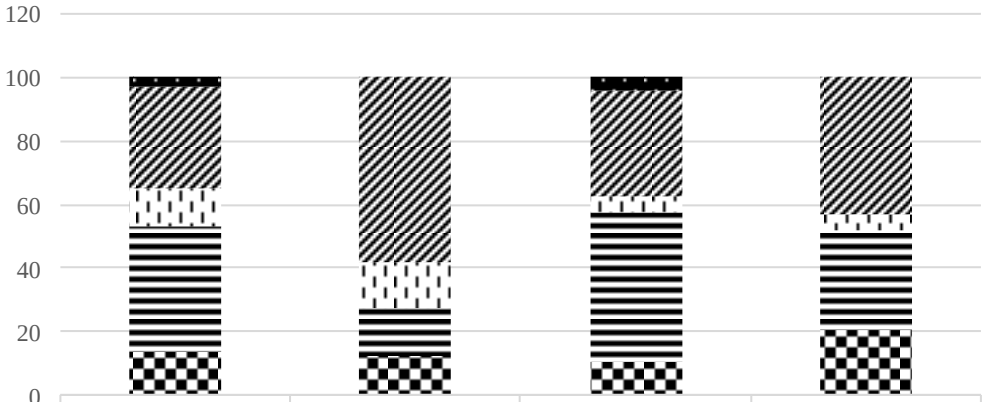
The data was analyzed using IBM® SPSS® Statistics version 23. Since the questionnaires included items that would only be answered by students and teachers, 2 separate databases were set up for the analysis of the data. The student questionnaire included 45 items that resulted in a total of 205 variables for analysis whereas the teacher questionnaire had 42 items with a total of 202 variables. Among these items, 10 categories used a 5-point Likert scale for computing means and standard deviations. The results are displayed graphically indicating comparisons between teachers and students. Moreover, research questions were interpreted into tasks to ease the presentation of the study results as well as to aid with the interpretation and discussion that ensued. The research questions and tasks are presented as follows:

1. How did students and teachers cope with language teaching and learning through technology following the shift to technological resources in the context of the COVID-19 pandemic?
   - **Task 1.1:** *Identify personal use of technology before and during the COVID-19 pandemic*
   - **Task 1.2:** *Identify common resources used during the COVID-19 pandemic*
   - **Task 1.3**: *Determine challenges associated with the use of the resources*
2. What learning and teaching resources were available to teachers and learners and how useful were the resources?
   - **Task 2.1:** *Determine the accessibility of teaching and learning resources and their usefulness to the language teaching and learning process*
   - **Task 2.2:** *Establish prospects for use of technology in language teaching and learning*

Findings and Discussion

Personal use of technology before and during the COVID-19 pandemic

Figure 2 below presents the use of technology before and during the pandemic. The results indicate an unstable pattern of use of the technology types.



	%	%	%	%
No Access	3	0	4	0
Smartphone	32	58	34	43
Computer	12	15	5	5
Television	40	15	47	31
Radio	13	13	10	21

Figure 2. Use of technology before and during COVID-19 pandemic closures

An increase in technology usage for students was noted in the use of smartphones and television whereas for teachers an increase was noted in the use of radio and television with a slight decrease in the use of smartphones. In a follow-up interview to confirm the usage patterns, the teachers and students agreed that the spike in television usage followed the directive from the Office of the President, Local Government, and Administration on shifting instruction to television and radio programs. However, when asked what motivated teachers to watch the programs that were meant for students, the teachers indicate that they watched the programs to make sure that the content posted online matches how they would have taught during the face-to-face instructions and to also check on whether there are areas in which they would require emphasis when closures ended. For students whose access to technology declined, they indicated that the access they have to technology of any form was outside their homes and when they go to school. With the closures, access was limited and for many neither did they watch the programs on television nor did they listen in to the radio. They depended on other students to inform them of what was going on online. From the data, it was discovered that the use of technology followed this path *smartphones>television>radio>computer* in order of the most commonly used form of technology.

Common resources used before and during the COVID-19 pandemic

One aspect of understanding the depth of technology used for language teaching and learning is to gain insight into the common resources that were adopted by the students and teachers in the wake of the pandemic. From the responses, it was noted the most likely resources used were based on previously

social communication resources. Table 2 presents a list of common resources that were listed by students and teachers as part of the personal use in addition to the television and radio programming prescribed by the government.

Table 2. Common technological resources used before and during the COVID-19 pandemic closures

Resources	**Before COVID-19**				**During COVID-19**			
	Students		**Teachers**		**Students**		**Teachers**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
WhatsApp	51	*19*	33	*41*	62	*25*	33	*46*
Email	6	*2*	3	*4*	4	*2*	1	*1*
Google	47	*18*	19	*24*	45	*18*	11	*15*
Word Games	8	*3*	3	*4*	4	*2*	0	*0*
Television	71	*27*	7	*9*	83	*33*	18	*25*
Radio	17	*6*	4	*5*	11	*4*	7	*10*
Other SNS apps	51	*19*	11	*14*	33	*13*	1	*1*
No Access	12	*5*	0	*0*	11	*4*	0	*0*
Total	***263***	***100***	***80***	***100***	***253***	***100***	***71***	***100***

Due to the identification of social communication resources as tools to learn 'new vocabulary', the study engaged the participants to check the extent of usage. Although before the pandemic, only 5% of the students claimed to have no access to the resources, there was no significant change during the pandemic closures. The use of the resources during the closure was also unstable as was in the case of the forms of technology presented in Figure 2. It was noted that 2 key resources gained popularity during the COVID-19 pandemic for the students. The students indicated that they used the tools for networking and communicating with other students but also as a means for them to listen to native speaker speech and as an opportunity for them to learn new vocabulary. Common resources such as WhatsApp where students indicated that they relied on heavily for communication experienced a slight increase during the pandemic although most of them maintained that it was accessed to download materials that were sent to them instead they relied on Google® as a resource to complement the learning materials that they were required to study in preparation for the exams. Some students indicated that other novel resources that they found entertaining but enriching. They noted that the initial use of the applications was for amusement but as they continued using them, they discovered that their ability to comprehend narrative clips increase.

Challenges associated with the use of technology during the pandemic

Figure 3 presents the challenges of using technology for language teaching and learning that were faced during the pandemic. The teachers and their students had differences in what they termed as the challenges that affected the teaching and learning processes.

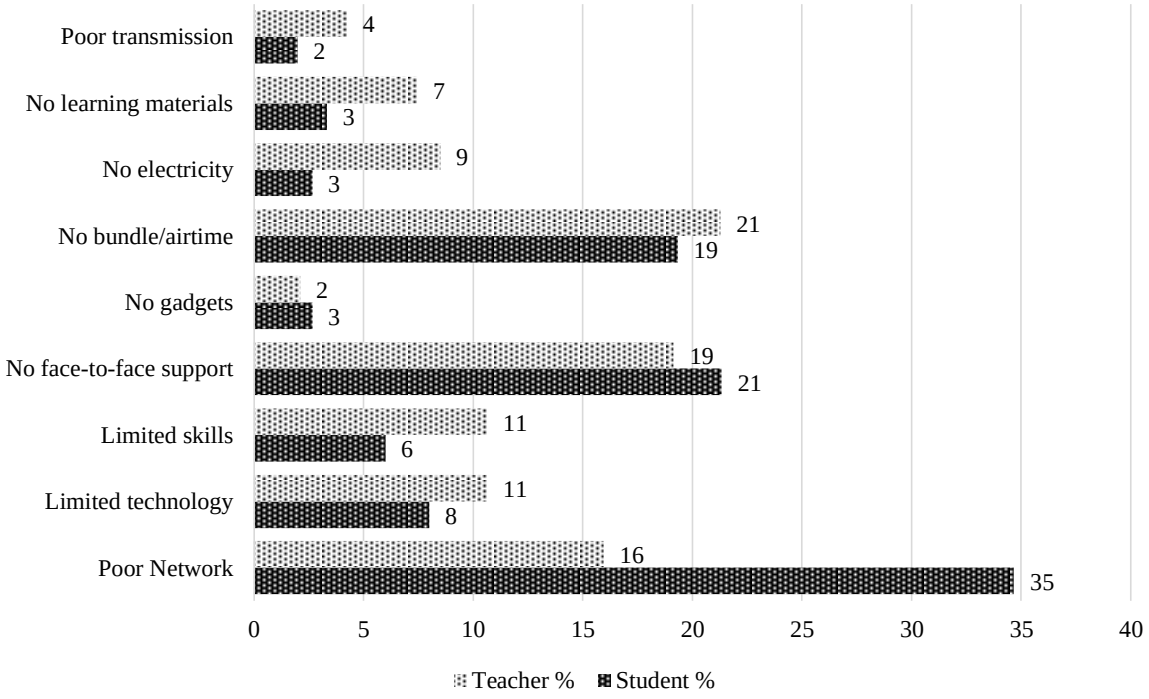
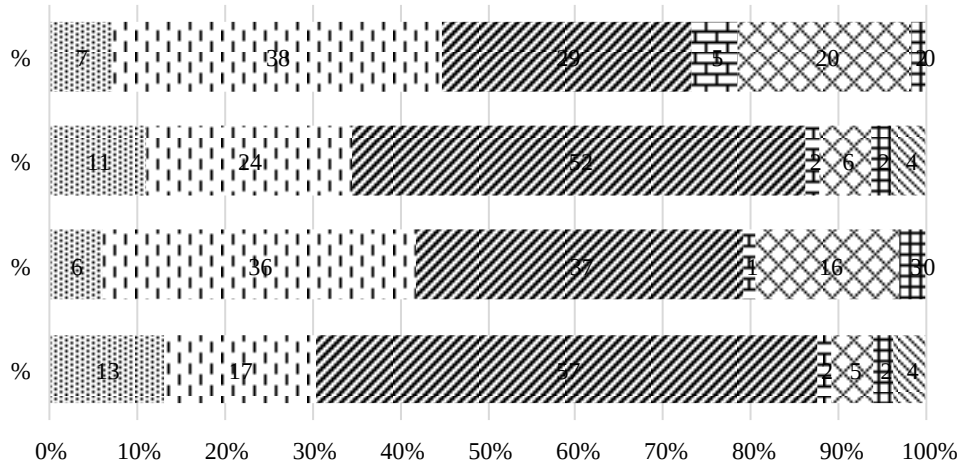


Figure 3. Challenges faced during the pandemic

While students indicated that poor network connections and lack of face-to-face support during the pandemic affected their ability to learn, teachers indicated that not being able to purchase internet bundles or airtime surpassed the challenge of poor network connection. As teachers and students were put in this situation of using technology, both groups agree that they had limited skills in how to use technology for language teaching and learning purposes. On asking what the teachers meant as no gadgets, they referred to both self-owned computers and tablets, to support online instruction rather than relying on their smartphones alone.

Availability of teaching and learning resources and their usefulness to the language teaching and learning process

Figure 4 below presents information on the availability and usefulness of teaching and learning materials during the pandemic.



	%	%	%	%
Textbooks	13	6	11	7
Homework	17	36	24	38
Test/Past papers	57	37	52	29
Powerpoint	2	1	2	5
WhatsApp discussion	5	16	6	20
Links	2	3	2	2
No access	4	0	4	0

Figure 4. Availability and usefulness of teaching and learning materials during the COVID-19 pandemic closures

Students were encouraged to get print formats of textbooks as well as other forms of texts for study during the closures. During the study, the participants indicated textual formats that were available for self-study and revision. A statistically significant difference was observed for the usefulness of homework F (1,126) = 17.347, p=.000, r=.468 and test/past papers F (1, 126) =4.523, p= .013, r=.261. The effect size was medium to large for the usefulness of homework while for test/past papers, the effect size was small to medium (Cohen, 1988). Although at the time of the study, the Tanzania Institute of Education made available online resources for teachers and students through its newly inaugurated E-library resources. The E-library resources carry textbooks that were provided free of charge during the pandemic together with subject syllabi for all subjects. Data on the access of the e-library could not be included at the time of the study. There were school teachers who prepared e-notes for courses and distributed them online and they were made available through links to WhatsApp groups. The most salient learning material among all resources was test/past papers. These are past examination papers that are shared with students as a learning guide as they prepare themselves for examinations. It seems the students attached a high level of usefulness to the papers. PowerPoint slides and web links were the least used resources. In the follow-up interview, the students claimed they preferred pdf

formats of notes because they were easy to share and read, unlike linked documents that required a certain amount of skill of not 'losing' them on the gadgets. Figure 5 presents other useful resources for language teaching and learning that were used during the pandemic.

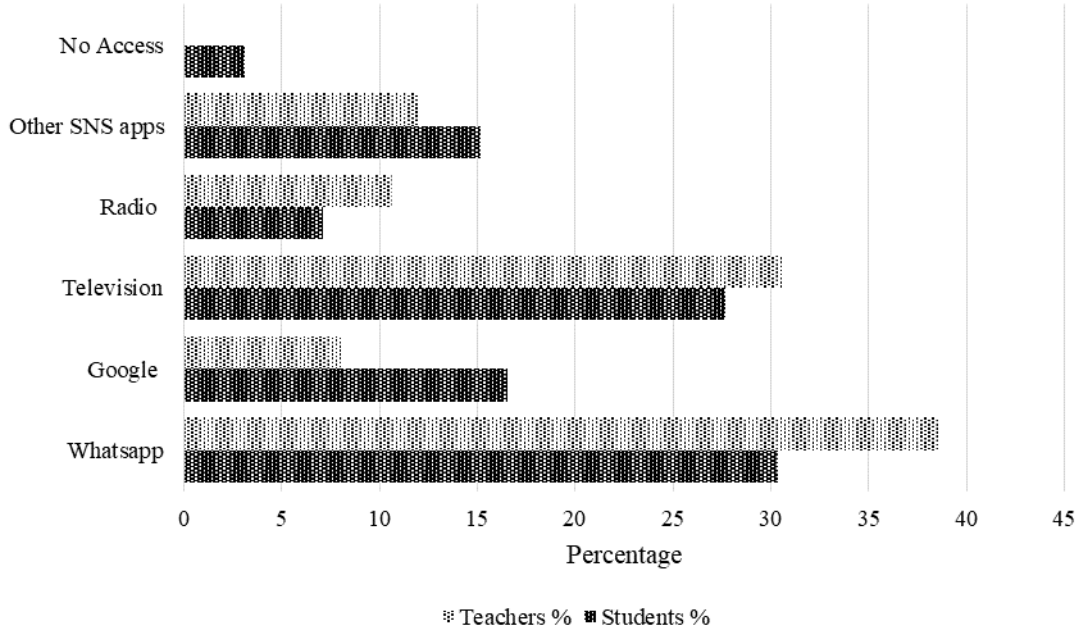


Figure 5. Teachers' and students' opinions on the usefulness of resources for teaching and learning during the COVID-19 pandemic closures

A significant difference was observed in the use of three resources, WhatsApp F (1,126) = (1,126) = 5.333, p=.006, *r*=.281, radio programming F (1,126) = 3.495, p=.033, *r*=.231 and television programming F (1, 126) =6.217, p= .013, *r*=.276. The effect size was small to medium for all three resources (Cohen, 1988). The students found WhatsApp, television educational programming, and Google to be more useful in their language learning experience in comparison to other resources. They indicated that WhatsApp provided them access to learning materials while Google played a key role in checking meanings, supplementary information on a topic, and grammar. On the other side, the teachers used WhatsApp as a resource for providing instructions on particular assignments, sending out learning materials to students, announcements, and a discussion forum with students and other instructors.

The participants were also asked about specific aspects in which their language teaching and learning experience benefitted the most. The students indicated an array of areas that they felt strongly had advanced from their use of technology resources. First and foremost, examination preparation (16%), semantics (19%), and vocabulary (20%) were equally key areas of benefit for the students followed closely by practice (10%). Pronunciation, translation, spelling, and grammar in their opinion were not highly favorable areas since they felt they needed face-to-face support from instructors. The teachers in their opinion

indicated that vocabulary (17%), examination preparation (11%), pronunciation (11%), semantics (16%), and grammar (15%) would be areas of benefit for their students. Figure 6 below illustrates this discussion further.

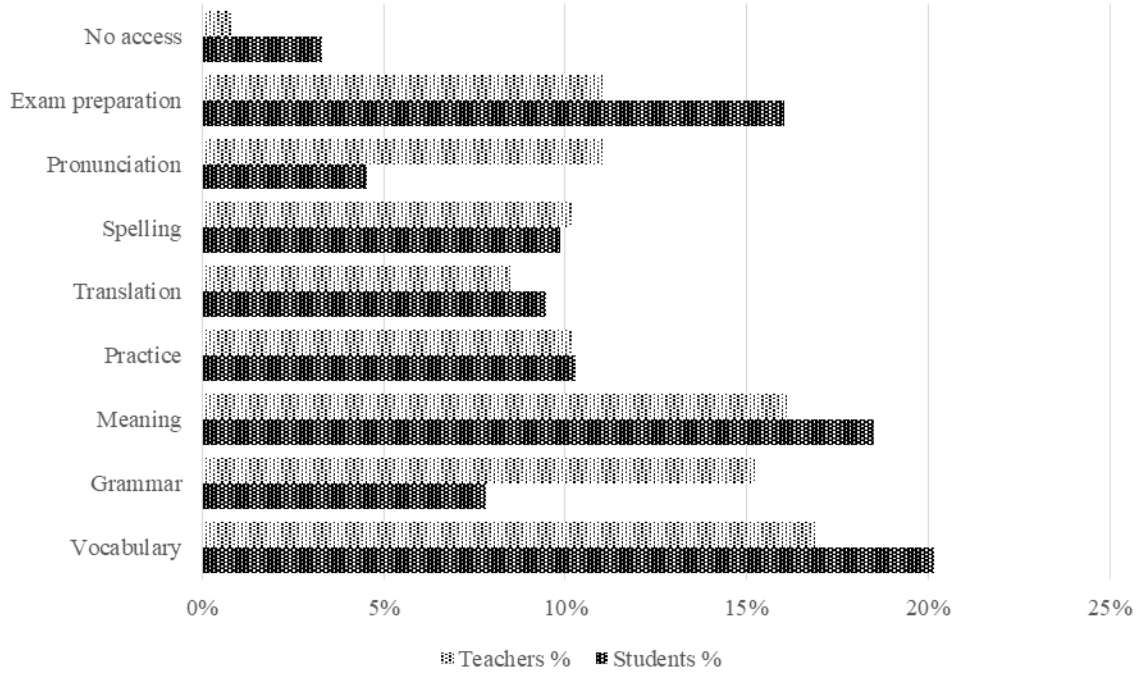


Figure 6. Observed benefits of technology use during the COVID-19 pandemic closures

Prospects for use of technology in language teaching and learning

Table 3 presents prospects for teacher-student and student-student interaction after the pandemic closures. This question aimed at determining the sustainability of the acquired skills and knowledge for improved language teaching and learning.

Table 3. Prospects for teacher-student vs. student-student interaction post-COVID-19 pandemic closures

Response	Students		Teachers	
	Frequency	**Percent**	**Frequency**	**Percent**
No	43	*33.9*	8	*24.2*
Yes	84	*66.1*	25	*75.8*
Total	**127**	***100.0***	**33**	***100.0***

The responses from students indicated that approximately 34% have not maintained interactions that were started during the pandemic closures. In the interviews that followed, the students indicated that the reason they did not

maintain the communications lines was because they started the face-to-face instruction that did not require an online presence, and access to gadgets was a challenge. However, those that maintained interaction indicated that the resources opened up avenues for them to easily exchange learning materials with students from other schools, discuss with teachers on difficult items, easily seek clarification when needed. The teachers confirmed that fewer students continue to use the resources availed through them although the pace has slowed down. A similar trend was also noted among the teachers.

The students completed a 10-category 5-point Likert scale item. The Likert item explored the benefits, challenges, and prospects of the use of technology in language teaching and learning. The results indicated that students and teachers socially and academically connected as indicated in Tables 4 and 5. Key issues to note from the data is that teachers support the expansion of the use of online resources for other subjects apart from the ones they taught (69.7%), continuity in the use of technology after the pandemic with teachers (87.9%), learning about their students (42.4%), learning from teachers from other schools (84.8%) and continuity in the use of technology after the pandemic with students (69.7%). Although the students mentioned that technology was overall beneficial to them (72.4%), they indicated that they learned a lot from the classmates (70.1%). Also, they indicated that they would continue to use resources for future communication with other students (65.4%) and their classmates (59.8%).

Table 4. Student attitudes on the use of technology in language learning

Items	N	Mean	SD	Min.	Max.	Agree. (%)
I appreciated being able to discuss my thoughts related to language learning online	127	3.45	1.252	0	5	*68.5*
I enjoyed posting to the discussion forum	127	3.22	1.618	0	5	*63.0*
I learned a lot from my classmates.	127	3.49	1.485	0	5	*70.1*
I learned a lot from students from other schools	127	3.44	1.546	0	5	*65.4*
I felt uncomfortable posting my thoughts publicly in the forum.	127	2.33	1.459	0	5	*24.4*
Technology-assisted language learning took up too much time	127	2.65	1.444	0	5	*36.2*
Overall, technology-assisted learning was beneficial to me.	127	3.62	1.339	0	5	*72.4*
I would like to use online resources in other subject classes	127	3.30	1.540	0	5	*62.2*
I will continue to use technology-assisted learning resources to communicate with other students after the COVID-19 pandemic ends	127	3.35	1.456	0	5	*65.4*
I will continue to use technology-assisted learning resources to communicate with classmates after the COVID-19 pandemic ends	127	3.20	1.610	0	5	*59.8*

Table 5. Teacher attitudes on the use of technology in language teaching

Items	N	Mean	SD	Min.	Max.	Agree. (%)
I appreciated being able to discuss my thoughts related to language learning with my students	33	3.12	1.053	0	4	*39.4*
I enjoyed posting to the discussion forum	33	3.39	1.197	0	5	*63.6*
I learned a lot from my students.	33	3.27	.876	2	5	*42.4*
I learned a lot from teachers from other schools	33	4.15	.667	3	5	*84.8*
I felt uncomfortable posting my thoughts publicly in the forum.	33	2.70	1.262	0	5	*30.3*
Technology-assisted language learning took up too much time	33	3.09	1.378	0	5	*57.6*
Overall, technology-assisted learning was beneficial to students.	33	3.52	1.176	0	5	*51.5*
I would like to use online resources in other subject classes	33	3.70	.951	0	5	*69.7*
I will continue to use technology-assisted learning resources to communicate with students after the COVID-19 pandemic ends	33	3.79	1.023	0	5	*69.7*
I will continue to use technology-assisted learning resources to communicate with teachers after the COVID-19 pandemic ends	33	4.24	0.663	3	5	*87.9*

Finally, the questionnaire concluded with an open-ended question asking the students and teachers to indicate what they like the most or the least about using technology. The student opinions fell under two themes, a) facilitation of communication among students and their teachers and b) facilitation as a general study resource. On the side of communication, the use of technology provided the students with a semblance of social interactions they have at school with other students but also granted them an opportunity to discuss subjects. Most of them indicated the usefulness of google for study and preference of WhatsApp and Facebook. One student stated, "I like [it] when teachers teach a new topic", while another stated, "I used social networks because it used to solve different problems". Finally, a student said, "I like most to communicate with other students and google something". Whereas, there were students who reiterated that they had no access to technology. On the other side, the teachers' opinions fell under similar themes as those for the students. Most teachers emphasized the types of technology resources that they preferred the most and also indicated the most helpful methods of using technology to assist in learning. They indicated the resourcefulness of social networks in facilitating teaching, learning, and communication and building networks with teachers from other schools teaching similar subjects. Sharing of learning materials was stated by one teacher, "[I] use WhatsApp to share past papers", another teacher stated, "[I] discuss in the group with my fellow teachers and send questions to parents for students to do at home". Another teacher highlighted the challenges of technology and stated, "It was difficult to interact because many learners could not afford a [smart] phone".

Discussion

The present study examined the language teaching and learning experiences in Tanzania that were prompted in response to the impact of COVID-19. Moreover, the study aimed to gain insight into how students responded to the use of technology. In doing so, I examined the receptiveness of the use of technology in Tanzania during the pandemic and the lessons that come from it. Two research questions guided the study: 1) how did students' and teachers' cope with language teaching and learning following the shift to technological resources in the context of the COVID-19 pandemic, and; 2) what learning and teaching resources were available to teachers and learners and how useful were the resources? Using a constructivist learning model, the two predictions were made: 1) due to lapses in educational programming in Tanzania, remote learning through television and radio broadcasting shall not receive high reception among students in comparison to other educational technology, and; 2) due to advancement in technology and increase in mobile phone usage, students shall complement educational broadcasting.

The results of the study confirm that the learners used both educational broadcasting media and other available resources at their means. The learners indicated that television broadcasting was widely used in comparison to its counterpart, radio broadcasting, but not as much as mobile learning. It was not clear as to why fewer students used radio broadcasting in comparison to television broadcasting however it may imply the formats of the broadcasting could influence captivation with one over the other. The student use of these media confirms the assertion made by UNESCO (2020b) on countries developing broadcast curricula for primary and secondary students as in the case of Tanzania. Furthermore, the study implicitly confirms that TV-based remote learning had the potential to reach the highest proportion of students and that it plays a significant role in delivering education despite the fact it does not offer a convenient way to transmit materials (UNESCO, 2020b). However, the current study revealed that there are cases where students had no access to both government-prescribed media nor complementary ones. UNICEF (2020) estimated on a global scale that 463 million (31%) of school children cannot be reached by digital and broadcast remote learning programs with Eastern and Southern Africa (67 million) having the highest share of students who cannot be reached. Although, this study indicates a lower percentage of students with no access, the probability that these low numbers were a result of the study was conducted in an area that is peripheral to an urban area. UNESCO (2020b) argues that the vast majority of the unreachable school children are from rural areas and poor households. The organization outlined operational challenges that have been noted in the use of television- and radio-based broadcast. These include 1) the non-availability of educational content in audio-visual formats; 2) difficulties of countries to produce content in quantity and quality in a short time; 3) The absence of pre-existing partnerships for the design and broadcasting of the educational content; 4) the need for communication and collaboration between education specialists and the professionals of the audio-visual sector for the production of educational programs, and; 5) the lack of knowledge and expertise in monitoring and evaluation of learning. Unlike some of the challenges noted by UNESCO (2020b)

that were largely operational, the current study determined that the biggest challenge for both students and teachers that affected the language teaching and learning experience was poor transmission and electricity outages on the part of educational broadcasting. They coupled this challenge with the lack of learning materials and lack of face-to-face-support. However, when asked about the challenges experienced when using other formats such as smartphones, the study results indicate that poor network and no airtime to support communication. This raises the issue of whether equitable learning can be achieved and fostered through broadcast media. Bell, Cardoso, Giraldo, El Makkouk, Nasir, Mizunoya, and Dreesen (2020) questioned the same about broadcast media amid the COVID-19 pandemic. In their article, they argue that television and radio broadcasting have the potential to reach a majority of learners, especially the most vulnerable. They noted that due to TV and radios' lack of interactivity, parents and caregivers address this shortcoming by engaging the children to discuss the broadcasted educational content, supplemented by printed materials. They confirm that Sub-Saharan Africa household access to television is neither common nor equitably distributed. This is in agreement with this study because despite that availability of content on broadcast media opportunities to discuss and check content to ensure constructive learning is taking place were limited to those who had access to smartphones and would use WhatsApp for teacher guidance and peer teaching. Unfortunately, there was no evidence, in this study, of parents' or caregivers' discussion of educational content with the students.

However, there are notable advantages of remote learning during the COVID-19 pandemic that have been recorded. Lee (2020) reports that remote learning has seen an increase in student's ability to retain study material. According to Li and Lalani (2020), learning retention has increased from 25% to 60% when students participate in online classrooms. Also, increased student engagement has been evidenced in students who shy away from class interaction. Teachers have found that students are more likely to raise questions and take part in class discussions and this allowed teachers to determine student's understanding of modules. Although the current study did not explicitly focus on learning retention during the closures, the study participants indicated that the nature of their social interactions was more focused on what new learning material was available to them and whether their peers understood the content or whether it would pose a challenge for them. Most of these interactions were made possible by the use of smartphones since educational broadcasting was not interactive. Barnes (2020) suggests that mobile phones can provide students with learning opportunities. These opportunities can range from access to content, curriculum, language instruction, and lesson plans to educational apps, social media, tutoring, and educational programming. African successes in mobile learning can be found in Niger where SMS has been used for numeracy and literacy instruction and in South Africa where mobile-based storybooks are made available. Teachers have also been known to utilize social media to organize discussions, push out information, and share videos. They also organize WhatsApp groups for class and share digital content and resources. Sub-Saharan Africa is also known for its long tradition of phone-based tutoring and SMS support. A host of commercial tutoring providers can be found in Nigeria, Kenya, and South Africa. They offer real-time video or SMS tutoring. As for the current study, similar trends were noted where

WhatsApp groups were set up for sharing digital content with the most common being past papers that did not require constant teacher monitoring. The content of the papers required students to do problem-solving activities more than using their experiences to construct new knowledge. In other words, language learning was only limited to topics that the students had already covered in face-to-face instruction for mobile learning. As for educational broadcasting, language learning was limited to the topics that were taught, however, there were limited means for teachers to engage students in discussion. For some of the teachers who used the platforms, the interaction was mainly one-directional with very limited response from students or acknowledgment from their parents. With the shortcomings that the teachers faced in interacting with their students, a shift towards teacher-teacher interaction increased. The teachers were able to share teaching and learning materials amongst themselves and they used the opportunity to discuss ways of improving language teaching.

Indeed, the general trend of the study results suggests that both students and teachers reacted positively to the use of technology during the pandemic. A variety of beneficial aspects linked to the use of technology were highlighted. These benefits can be categorized as social and pedagogical. Despite the challenges associated with the shift to educational broadcasting and digital platforms, the study participants integrated SNS and web applications as resources for native speaker input as learners of EFL. Although the prescribed technology was television and radio, students indicated that they were not prepared for the change in the teaching style of the select teachers, the tone of the lesson, and the language. This resulted, either, in them seeking alternatives to complement the lessons or do self-study. Most of the students indicated that after using SNS apps for native language input they would search for translations or more information on the topic. Websites that offered language translation features for both English and Swahili were useful and popular in the language learning experiences of the students. Both students and teachers indicated that they sought opportunities for translation whenever they faced difficulties comprehending the content. Although these SNS tools provided them with content, their content lacked structure as a result students were creative in their search for information or relied on information that was sent to them through WhatsApp. The students recognized these non-structured resources as new platforms for developing their skills in EFL and enjoyed doing so with their classmates and teachers. The SNS resources provided opportunities to listen to native speaker input although they did not provide opportunities for authentic and meaningful exchanges. This observation is found true by Nominian (2002) who indicates that the web has benefits of providing environments, contexts, and an authentic 'world' which students can experience and explore. Similar benefits are expressed by Karpati (2009) who argues that web 2.0 tools facilitate educators in setting up collaborative learning for students at the center of the learning experience while the teacher can function as the mentor and guide to knowledge construction and sharing. He also highlighted the fact that such tools provide authentic language education settings, which is an essential aspect in terms of achieving high communicative competence in a foreign language (Blattner and Lomicka, 2012; Karpati, 2009). Additionally, it is confirmed that educational programming has its benefits in that it provides L2 spoken input which also contributes to language development

(Fallakhair, Masthoff & Pemberton, 2004; Fisher, 1984; Webb, 2015). The same can be said for SNS support especially in the foreign language learning environments as witnessed in this study. Despite challenges noted, the students specified benefits in development in English language vocabulary and semantics through SNS.

It is suggested that using emerging tools, learners have greater autonomy and are actively involved in knowledge development since they have more control over learning itself. Rather than exclusively delivering information from textbooks, new technologies heighten the engagement of students in finding, recognizing, and analyzing resources on their own (Blattner & Lomicka, 2012; Mazer, Murphy & Simonds, 2007). Unfortunately, this study discovered that students were not fully able to develop the autonomy of learning on their own partly due to the unpreparedness for the shift to technology-assisted learning. Therefore, they limited the possibility of constructive learning on their part. This is in agreement with the observations by Teräs, Suoranta, Teräs & Curcher (2020) and Strong (1990) who suggested that despite actions taken by countries to maintain continuity of learning and teaching, the transition to the selected platforms revealed gaps and shortcomings on how online learning has and has not been adopted in educational institutions. In the current study, most of the technological resources e.g. WhatsApp were not fully utilized but rather, they functioned as message boards for students and teachers who would respond to each other's comments and observations without necessarily confirming that the other participant was online at the time of communication. This confirms a disconnection between the interlocutors and minimal creation, to almost none, for opportunities for additional learning and practice.

Conclusion

As earlier indicated in this paper, the current study examined the language teaching and learning experiences in Tanzania that were prompted in response to the impact of COVID-19. Crucial to the study was determining how students' and teachers' coped with language teaching and learning through technology, and identifying available resources and the usefulness of the resources in language teaching and learning. Early in the study, it was predicted that remote learning through television and radio broadcasting shall not receive high reception among students in comparison to other educational technology, and other technological resources would be used to complement educational broadcasting. Three key findings are revealed from this study, first, the reception of educational broadcasting was rather low among the participants while reliance on mobile learning increased even though educational broadcasting offers unique opportunities for teaching and learning because of its accessibility and cost-effectiveness. Second, both teachers and students faced challenges when they attempted to cope with the shift to technology-based formats for language teaching and learning. The overriding challenge was associated with the lack of face-to-face instruction and access to learning materials. The loss of teacher support affected learning for the students. Third, this study revealed that students were not fully able to develop the autonomy of learning on their own partly due to the unpreparedness for the shift to technology-based learning. Even where they were acquainted with the tools, the students could not creatively use the tools to

assist language learning beyond the traditional uses of messaging. Overall, the results confirm that web resources, SNS, and applications are rapidly becoming a resource for native speaker contact for students learning English in foreign language learning contexts as well as support for Swahili language teaching and learning. Although the resource activities and functions are fundamentally different from pedagogical goals that educators aim for in a traditional classroom, it has become exceedingly important for educators to seek creative spaces and opportunities for students learning a language to engage with cultural information that may enrich their learning experiences. Blattner and Fiori (2009) point out that the L2 classes must capitalize on social and academic opportunities that technology has to offer. Unfortunately, e-learning tools have not been viewed as a mainstream component of language teaching and are yet to become a fundamental element in L2 classrooms (Blattner & Lomicka, 2012). However, with the Tanzania Institute of Education's creation of an e-learning library, it is safe to say that the early steps of mainstreaming e-learning resources have commenced. This study serves as an initial step of understanding the integration of technology in language learning in environments that are not yet well prepared for e-learning but stakeholders have the resolve for progress and seek creative ways of engaging. More research is needed to further establish the reception of a structured format for technology-assisted learning in language learning and teaching in Tanzania.

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