



Research Paper

Knowledge of Luganda Language Educators in Using Emerging Technologies at the School of Education, Makerere University

¹Rashid Lukwago; ²Betty Akullu Ezati; ³Anthony Mugagga Muwagga

*East African School of Higher Education Studies and Development,
College of Education and External Studies, Makerere University*

Abstract

The study explored knowledge of Luganda language educators in using emerging technologies at the School of Education, Makerere University. The study paradigm was interpretivism with a case design. The study participants were Luganda language teacher educators and students specializing in Luganda Language as one of the teaching subjects. Purposive and convenience random sampling were adopted for Luganda language educators and Luganda teacher trainees respectively. Data were collected using interview guide, focused group discussion guide and observation check list. Data collected were analyzed using thematic content data analysis technique. Findings revealed that thematic Luganda language educators had relevant knowledge of using emerging technologies, such as Zoom and Google meet apps for academic lectures, MUELE platform, mails, Telegrams, WhatsApp, laptops, smart phones as well as computers, among others. The study concluded that many Luganda language educators do have the knowledge of using emerging technologies in Luganda teacher Education. From the study findings, it was recommended that to boost the use of emerging technologies among Luganda language educators at school of education Makerere University, the University Council and relevant policy organs, as well as the school leadership should do the following: Ensure that the policy of regular training of academic staff in knowledge of emerging technologies should be enforced; There should be increased sensitization and awareness of academic staff about the benefits accruing from use of emerging technologies; Luganda language educators should adopt, apply and maintain excellent practices with use of the emerging technologies.

Key words: Knowledge, Emerging Technologies, Language Educators

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I. Introduction

The Covid-19 pandemic brought many changes in education and this resulted into closure of educational institutions at all levels including tertiary education sector. Emerging Technologies (ETs) were hence considered essential in sustaining teaching and learning. This study explored the knowledge of Luganda language educators in using emerging technologies at the School of Education, Makerere University.

II. Background

Language online teaching platforms owe much to technology development in the last half of the last century. For instance, Graciun (2019) noted that over the past half-century, transformation of language learning resulted in a new domain of language instruction known as Computer Assisted Language Learning (CALL) which is an umbrella term for a multitude of processes and activities that use ICT for teaching and learning of languages. The first period was 1960-1970 involving technologies that require repetitive exercises, drills, and practices, mainly designed to learn grammar rules and develop vocabulary. The second period was termed as communicative CALL (1970-2000) which was characterized or based on the premise that students could effectively learn with the help of technology, using the language in various situations, watching videos, with native speakers. The current period is the integrative (CALL) which is based on the development of the internet and hypermedia in which one develops speaking, listening, reading, and writing skills, through video and audio streaming interactive graphical content, virtual reality (VR), and augmented reality (AR) technologies.

Likewise, Thousesny and Bradley (2011) revealed that since the 1970's, computer-assisted language learning has expanded and evolved at a remarkable rate. It is synonymously termed computer-assisted instruction (CAI), technology-enhanced language learning (TELL). Computer-assisted language learning promotes language learning as it assesses learners' language and allows the collection of data for all kinds of instruction in the language. Mayoka and Kyeyune (2012) showed that since 2000, many universities in Uganda had tried to adopt online learning. However, it was Makerere University - the biggest and oldest University in the country which was the first to start e-learning using the blackboard platform.

Makerere University ICT policy calls for promoting ubiquitous and equitable access to ICT resources for students and staff to the network through the establishment of network infrastructure in work areas of students, staff, and administrators (Makerere University ICT Policy, 2010). Arising from this, Makerere University has integrated ICTS in all its major areas of teaching, learning administration, and research (Makerere University, 2020) which later evolved into the new system called MUELE (Makerere University Electronic Learning Environment) based on the moodle platform. Other universities such as Nkozi and Makerere University Business School followed suit. This advent to online learning was pioneered by Nettel Africa which introduced the knowledge environment for web-based learning (KEWL) system which targeted students pursuing a postgraduate program in ICT policy and regulation.

Luganda language education was introduced in 1976 and was taught in different units intended to offer knowledge and skills to students who wanted to pursue different academic levels such as diplomas and degrees (SoL, 2017). According to Ssentanda, Huddleston, and Southwood (2016), ever since the introduction of formal education, different trials have been made to develop mother tongue languages in the teaching and learning avenues. Looking at the contemporary changes to day, Luganda teacher educators need to help Luganda language trainees to embrace the journey of emerging technologies.

The study was premised mainly on the KAP model developed in 1950's by Cleland (Rav-marathe, Wan & Marathe, 2016). This model is based on three aspects that is, knowledge, attitude and practice. Knowledge in the model is referred to as the acquisition, retention and use of information skills. Basing on the three tenets of this model, this current study assumes that through knowledge acquisition of emerging technologies, Luganda teacher trainees would be trained better using these emerging techniques. However, this theory is applied more in the health sector differing from what is prevailing in teacher education. Further it does not directly deal with technological components. This gap was filled by integrating TPACK Model developed by Shulman (1986).

The model assumes that effective teaching requires a special type of knowledge, pedagogical content knowledge (TPACK) that represents the blending of content and pedagogy into the understanding of how particular topics problems and issues are organized, represented, and adapted to diverse abilities of learners and represented for instruction. Similarly, Wang (2016) confirmed that TPACK Model positions teachers to be skillful and demonstrate the ability to integrate technology within the constructs of content and pedagogical domains. Another standing model called

Technology Acceptance Model (TAM) by Davis (1986) enriched the study. The theory is premised on two assumptions that are, acceptance of any technology depends on perceived ease to use and perceived usefulness of the technology which is the driving force of the one to adopt or not. According to Gong, Xu and Yu (2004), Perceived usefulness is defined as the prospective user's subjective probability that using a specific application would increase job performance within an institutional context. Perceived ease of use refers to the degree to which the prospective user expects the target system to be free of effort. So, TAM postulates that technological usage is determined by behavioural intentions which are jointly determined by a person's ease to use that technology during the journey of online instruction.

Arkurful and Abaidoo (2014) define it as the use of information and communication technologies to enable the access of online learning and teaching resources. Emerging online E-learning platform refers to software including services to assist teachers in the management of the course (Ovadoud, Chkouri, Nejari & Kadiri, 2016). In this study, emerging technologies covered the moodle system with emphasis on MUELE, and zoom as the university subscribed to these two. Digital competence is defined by McGarr and McDonagh (2021) as skills, knowledge and attitudes required for people to successfully use computer technologies.

Statement of the Problem

Luganda language teacher education is highly essential in the management of teaching and learning of Luganda language teacher instruction in Makerere University. With use of these emerging technologies, Luganda language teacher training is made more friendly especially in content selection, teaching materials and aids are appropriately used. This can be effectively implemented when there is exposure of knowledge regarding use of emerging technologies. Efforts like the institution of the national language policy which emphasizes teaching using local languages were put in place (Muzoora, Terry & Asimwe, 2014). Also, the use of local languages as other subjects in upper secondary and University level have been put in place (Ssentanda, 2015). This implies

that Luganda language teacher instruction has to be perfectly done across the different training institutions. However, Luganda language teacher educators have not fully embraced the use of emerging online technologies. Complaints like negative attitudes towards use of emerging technologies (Twinamasiko, Nuwagaba, Gwokyalya, Nakityo, Wasswa & Sserunjoji, 2021), lack of required skills to design online courses (Bwire, Bagarukayo&Muyinda, 2020), slow uptake of online teaching technologies (Bada, Aslanzu, Lagemwa, Namataba & Milburga, 2021) were reported. Further, the Visitation Report, (2017) indicated use of traditional mode of instruction in many subjects including traditional languages in teacher training institutions like school of education Makerere University. For instance, in the case of Luganda language instruction, teacher educators were reported as not having e-books in the discipline, relying on photocopied and printed materials, do not have the language acclimatized with the new technology systems. Luganda language teacher trainers are reported as using the face-to-face mode of instruction, which is at times stressful on the side of Luganda educators at this time of the 21st century. Further, Kabugo et al. (2015) showed that although scaffolding had the potential to expand teachers' knowledge of integrating emerging technologies in language instruction, it is still difficult to enact in a pedagogically sound manner. Once this problem continues the known beliefs that science and technology together with thinking abilities are promoted using one's local languages would not be fulfilled (Razaei, Darakhshen&Bagherkasemi, 2011). Also, the agenda of promoting local languages as envisaged in national policy documents would be far from reality. Further, the Makerere University ICT policy which calls for effective teacher education with use of emerging technologies would not be achieved. However, it seems there are no current studies carried out to ascertain whether emerging technologies have been integrated into the education of Luganda teacher trainees more so using, KAP Theory in a managerial perspective which this current study did in the realm of School of Education Makerere University. Further, there were no conclusive explanations to why there are failures to adapt emerging technologies in Luganda Language teacher education which this current study did in a theoretical realm.

Objective

To establish the knowledge of Luganda language educators in using emerging technologies at the School of Education, Makerere University.

III. Related Literature

Knowledge of Luganda language educators in using emerging technologies.

Kabugo, Muyinda, Masagazi and Mugagga (2015) studied tracking students' eye movements when reading learning objects on mobile phones and with the use of qualitative approaches revealed that Tobii-T120 was highly applied to study students' eye movements when reading learning objects. Thus, this technology was highly important in language teaching. Whereas Deneme (2020) studied teacher trainees' opinions regarding video-recorded microteaching sessions and established that video-recorded microteaching sessions worked well in language teacher education programs. However, this study did not indicate whether it applied technological content theory as the guiding theory for the teaching of language as this study did. Panagiotidis, Krystalli and Arvantis, (2018) showed that the advent of web 2.0 and the great variety of tools that are numerous and easier to access and handle seem to have given language teaching and learning an accelerating effect. Technological means such as digital games, mobile applications, and communication tools have greatly enhanced language teaching and learning. This current study ascertained how this is true for the Luganda language since these earlier studies dealt with foreign languages.

Freeman (2020) investigated knowledge-base in language teacher Education, from 1998-2018. Results revealed that 1998, a work driven frame work was used in English language teaching. However, the knowledge base has now changed. Taking into Account the New Technological Trends, technological positionality of the teacher into account. This suggested that English Language Teachers Instructors have to acquire technological competence in the instruction of learners. However, this study was done in Michigan USA while this current study was done in Makerere University school of Education in Uganda. Moorhouse, Li and Waslsh (2021), e-classroom interaction competences with emphasis on mediating and assisting language learning during synchronous online lessons. Results revealed that instructors required three competences in language teaching. These included technological competences online environment management competences and online interactional competences. However, these were not discussed in line with Luganda language teacher Educators as was the case with the current study.

Baro, Oboro and Aduba (2019) in an assessment of digital literacy skills and knowledge-based competences among librarians working in University libraries in Africa. Using online data from different librarians, findings showed that librarians working in University libraries in Africa rated their data base search skills, uploading documents to online platforms, skills in using social media, sending, receiving emails, digital library training as high. Further results from this study revealed that the ability to create files in different formats and software as also high. Alternatively, meta data development skills and library website development was

rated low. However, this study was not specifically on language teacher educators' competences in use of emerging technologies. Bice and Chiu (2015) studied composing with the new technology, reflecting on learning using digital video and results revealed that teachers were not knowledgeable enough in using new technologies. This finding may be applicable with Luganda teacher trainees since these are new technologies but had not been empirically established as was the case with this study.

Theoretically, Hazarika (2017) showed that among the tools of online English language learning include websites, electronic dictionaries, computer-assisted language learning programs, presentation software, various chatting, and email messaging programs, listening CD players, numerous youtube, video clips, virtual conferences, language enhancing 3D virtual world programs, course management software web CT, mobile-assisted language learning (MALL) and so on. Multimedia technology and its application to English language teaching have provided another powerful and effective tool for language and learning. Slightly differing from the earlier studies, Moreira, Henriques, Goulao, and Barros (2017) suggested that online language instruction may occur better using moodle 2.0 platform, whereas Baker, Wang, Ma, Renmin, and Zheng (2018) studied the effectiveness of an online language learning platform in China and revealed that the adaptive platform to language teaching was found to lead to better and faster language learning than the non-adaptive platform. The adaptive platform caters to or offers the premise of adaptation to individual learner differences better and efficient language learning.

Mumford and Dkilitas (2020) studied preservice teachers' reflection development through online interaction in hybrid learning course and revealed that teachers' technological knowledge competences negatively predict their technological use and stress during instruction. Meanwhile Mumford and Dkilitas's (2020) study was quantitatively done while this current study was qualitatively done. Hamalainen et al. (2020) studied understanding teaching professionals' digital competences. Results revealed that older professionals often showed weak skills but also revealed that they need professional development in using digital technologies. However, these skills were not analyzed in line with language teacher instructions as was the case with this current study. Hamalainen et al. (2016) revealed that revealed fewer variations in attitudes regarding use of technologies among teaching faculty. However, this study was not specifically on Luganda language teacher Educators and trainees.

Taimalu and Luik (2018) studied the impact of beliefs and knowledge on infection of technology among teacher educators. Using qualitative methods, their results revealed that knowledge of technology had a direct positive effect on technology integration. However, this study was not qualitatively done as was the case with this current study. Arroaqaray and Rodriguez-Lopez (2019) in a literature review study about blended and distance language learning modes revealed that technology competences, pedagogical competences were core elements of instruction using emerging technologies. Besides, this was a literature review analysis while the current study was empirically done. Petek and Bedir (2018) used statistical inferential data in a study about an adaptive teacher education framework for critical thinking in language teaching and the results revealed that self-perceived confidence in digital competence had an impact in digital technologies use during teaching and learning. Differing from this earlier reviewed study, this current review study was qualitatively done. Scherer et al. (2019) in an analysis about Technology. Acceptance Model in explaining educators' adoption of digital technology in education. Findings revealed that the higher perceived competence to use ICT for learning process the greater the possibility that these instructors were able to integrate them in instruction. However, this current study had altitudes and technological practices as key aspects under investigation.

Bernacki et al. (2019) measured the role of mobile technology in education and with use of descriptive results frequencies and means. Findings revealed that beliefs and pedagogical competences about the value of technology influenced technology integration indirectly. This finding was statistically arrived at while this current study was qualitatively done. Verz, Volman and Mariskekral (2018) investigated teacher educators' competences in fostering student teachers proficiency in teaching and learning with technology. Following a desktop review of Literature, results revealed that teacher educators had competences in using technology during teaching. However, there were a few with limited competences regarding effective use of these emerging technologies.

IV. Methodology

The study participants were Luganda language teacher educators and students specializing in Luganda Language as one the teaching subject. Purposive and Convenience random sampling were adopted for Luganda language educators and students doing Luganda respectively. Data were collected using interview guide, focused group discussion guide and observation check list. Data were analyzed using thematic content data analysis technique.

V. Results

Establishing knowledge of Luganda language educators' in using emerging technologies at the School of Education, Makerere University. On this objective, a number of questions were asked. The first question on this concerned the use of emerging technologies in the teaching learning process.

The participants of the study agreed that they use these emerging technologies in the teaching learning process. All the participants revealed that they do use these emerging technologies in the Luganda instruction process of teacher trainings. Further on these first question participants were asked to give reasons for their answer.

The answers from the participants indicated that the changing world has paved for use of these emerging technologies. Participant "A" indicated that,

With the emergence of covid-19, teaching and training across all subjects changed. Since the rate at which the virus spread was too high, it was imperative to find ways at which teaching could go along with Covid prevalence. Consequently, with this global change, even Luganda teacher educators had to embrace this change by adopting emerging technologies in the teaching and learning process.

This finding suggested that the coming of Covid-19 changed the teaching- learning process in all subjects including Luganda as it had to incorporate ICT emerging technologies to allow instruction to continue.

Whereas another participant revealed that,

These technologies are part of the new digital age that no one should underestimate and score. There is no way one can claim to be a good teacher without adapting these emerging technologies. These emerging technologies have greatly contributed towards efficiency and effectiveness in the teaching of Luganda language.

This finding showed that emerging technologies were highly emphasized and considered essential in Luganda language instruction.

Still on this first question, participants were asked which emerging technologies are used in Luganda language instruction?

On this question the moodle system was ranked number one in form of MUELE, conferencing, Zoom intranet, Internet, multi-media among others. Participant "F" emphatically stated that,

In Makerere we use MUELE system of instruction. This platform was recommended by Makerere University as a mode of instruction that should be used by all academic staff in the University. It is this platform that even Luganda teacher educators have been using throughout the beginning of Covid-19 pandemic.

This finding suggested that MUELE online system of instruction is highly emphasized and utilized by Luganda teacher educators in the instruction process. Whereas another participant "D" stated that the moodle system is the one which is used by Luganda teacher educators. This moodle system has allowed use of zoom during the teaching learning process. Students with smart phones and computers can effectively participate even at home and in taxis. This system has made learning easier as it is not limited by geographical scope and other limitations.

This finding implied that the use of moodle by Luganda teacher educators is highly encouraged and adopted at school of education Makerere University.

Other emerging technologies mentioned included Whatsapp, Facebook, Youtube, among others. On this, these findings were in agreement with those of teacher trainees in who almost agreed that MUELE and Zoom are the main emerging technologies used in Luganda online instruction. These emerging technologies are used as part of the moodle system of online technologies. In this focused group discussion, all participants concurred that currently with the emergence of covid-19, moodle system was preferred as a mode of instruction and all Luganda lecturers had to teach using this strategy.

Further results revealed that with use of moodle, academic staffs have to arrange zoom lectures and students have to connect either using mobile phones or computers. Lecturers have to ensure that recordings of lecturer progress are made to allow students follow the lecturer even after lectures are made. This approach was deemed very essential in the teaching and learning of Luganda.

Other emerging technologies identified in the focused group discussion included Google meet, mails, Telegrams and Whatsapp. These emerging technologies were considered as also essential in the language instruction. For instance, the use of emails allows students to forward assignments study materials, reference materials among the areas where technologies are highly utilized in the instruction process in the instruction of Luganda language.

Still on this objective, participants were asked whether Luganda teachers show competency when using emerging technologies during Luganda Education. Findings on this objective revealed that indeed some Luganda teacher trainees have competency while others do not have the required competency to use emerging technologies. One of the Luganda teacher trainee showed that,

Our lectures have the competency and skill required during the teaching and learning of Luganda language. Some can control noise while teaching, can correct accurately and above all exhibit knowledge regarding use of these new emerging technologies.

This finding indicates that Luganda Educators on the side of students do have the competences required to carry out effective online instruction of students. Whereas another student trainee C revealed that, *Our language Educators can upload work on the platform effectively; can correct students' mistakes on the platform, especially during teaching and learning. Further, some can carry out auto correct system which all play a vital role in the management of teaching learning process.*

This finding suggested that Luganda teacher educators can competently use emerging technologies in the instruction of Luganda language among Luganda language students.

Further, another student E said,

During Covid, all our lecturers were offered a chance to go for retraining in use of electronic instruction methods. This training was made at college level. After this training it was identified that this system was effective. It is of no surprise that these lecturers are the ones who took us through this mode of instruction to allow us move on the same page with them.

These findings meant that Luganda teacher trainers had the knowledge required to teach using emerging technologies among students doing Luganda language as a discipline.

Some other student participants revealed that some Luganda teacher educators are not competent enough to use these emerging technologies. Students in the focused discussion identified that,

Instead of lecturers doing the work of creating Whatsapp groups for students to receive communication from Luganda teacher educators, it is instead the students co-coordinators who do so at the end of the day many students may not take these co-coordinators serious and may not join the group early.

Further, in the focused group discussion it was noted that some lecturers open the online lectures late, the students wait and the lecturers are nowhere to be seen while others leave the Zoom lecture without accurately informing students. Hence, they remain anxiously waiting for them when they are nowhere to be seen.

Likewise, in the focused group discussion, it was revealed that after lecturers uploading the work, they leave the instruction in hands of the co-coordinators. It is of no surprise that these coordinators do their work without thorough explanation. This finding indicates that some Luganda language educators are not competent enough to teach using emerging technologies at School of Education Makerere University.

Still on objective one, study participants were asked how this Luganda teacher knowledge ability of using emerging technologies influence effective Luganda Education of teacher trainees?

Results on this question revealed that with use of emerging technologies, Luganda teacher education is effectively done without complications and rigidities as it used to be before their adoption. For instance, results from the focused group discussion guide of Luganda teacher trainees, it was identified that in Makerere University, there is a MUELE technology for teaching and learning. This MUELE allows all students to fully participate in the lectures as it is easier for staff and learners to follow. It is also revealed that many students, credit MUELE for allowing lecturers record information on the programme. This allows Luganda teacher trainees who miss lecturers to follow what was taught as firsthand information.

This finding suggested that the use of emerging technologies allows students to retrieve lecture information and be able to actually engage in the teaching learning process.

Further, finding from the Luganda teacher trainees also revealed that the use of emergency technologies allows students study regardless of geographical limitations. There are situations when Luganda teacher trainees cannot attend lecturers due to failure to access transport, or when they are sick or looking for tuition at work. In such situations with use of emerging technologies (MUELE, Zoom) students can fully participate in lectures while they are not physically present. Doing this creates effectiveness in the teaching and learning of Luganda teacher trainees.

These findings implied that the use of emerging technology has greatly helped in the effective teaching and learning of Luganda teacher trainees. These findings were in agreement with those of Luganda teacher educators. Where teacher educator B identified that use of emerging technologies has allowed use carry on with teaching and learning. During covid-19, it was the only way possible to allow us continue with the teaching and learning process. Imagine a situation of total lock down when vehicles were not moving and educational institutions closed. The only way out was use of emerging technologies as these helped lectures and students interact using online means.

Whereas another Luganda teacher educator mentioned that; "Currently we are still using the blended approach to teaching and learning of Luganda teacher trainees. Emerging technologies will be here to stay because of the enormous benefits associated with them. Even some Luganda teacher trainees confirm that emerging technologies are friendly to them and the best option to be used in their instruction as they make teaching and learning more lovely.

These results showed that Luganda instructor knowledge ability of emerging technologies use allows instruction to be more friendly and lively on the side of students as it erases away limitations some of which are geographical and weather related.

Lectures on the same question on the relevancy of emerging technologies in Luganda teacher education, also indicated that emerging technologies are highly essential in Luganda language teacher education. For example, one Lecture and showed that,

Emerging technologies help to improve the thinking skills of students and Luganda teacher instructors. This provides them with relevant knowledge in the selection of Aids, content and how to organize it better using these technologies.

Whereas Lecturer “F” indicated that,

Emerging technologies resources are well managed and create a relationship between home and lecture-room. Even if someone is in the village, Luganda teacher educators can connect with students and have teaching and learning going on. And above all, with these emerging, technologies absenteeism is highly reduced.

These finding revealed that emerging technologies have greatly helped to improve the teaching and learning of Luganda language among Luganda teacher trainees.

In addition, Lecturer “G” added that emerging technologies have allowed total collaboration in learning to the benefit of learners and instructors. It also has a multiplicity of learning benefits like voice not knowledge techniques of using social media. Further, these emerging technologies offer 21st century skills to Luganda teacher trainees. These results suggested that use of emerging technologies also offer the 21st century skills to Luganda teacher trainees.

Participants were asked what difficulties/challenges do you face in the use of the emerging technologies?

Using Luganda language, teacher H said,

Abayizi abamu balina enkola yakiguumaaza kubanga bateekako oba bayingira ekibiina ng’obalaba kyokka mu budde butono babeera badduse dda. Olwokuba abayizi bano babeera n’omukisa okulaga oba obutalaga bifaananyi byabwe bakola kye baagala. Kino nno kyabulabe kubanga okanya kubayita babeereko kye boogera nga buteerere ppaka lw’obannyuka.

In English this teacher stated that,

Some students have a tendency of pretense. They join online lectures and eventually log out without notice. Given the fact that these students have the freedom to either show their photos or not you may not easily identify their abscentia. This is dangerous and any move to request them log in again is futile.

This finding suggests that students sustainance on the online learning platforma is not reliable which makes the teaching role of the teacher very difficult.

Another teacher I revealed that,

Okukebera emirimu gy’abaana oluusi kikaluba naddala olwokuba nti abayizi abamu tebamanyi ngeri yakuwanikamu mirimu gyabwe ku mitimbagano. Abayizi bangi bamala gawanikayo mirimu kyokka ng’obubonero babwagala okusobola okusenvula abayizi bano ku madala amalala.

In English this teacher stated that,

Assessing students using emerging technologies is a difficult task because many of our Luganda teacher trainees do not know how to present organized work using these technologies. They only end up submitting what ever they do without carefull analysis just for the sake of getting marks.

This finding suggested that even assessing students using emerging technologies is not an easy task on the side of Luganda teacher educators and Luganda teacher trainees. With shoddy work provided online Luganda teacher educators can not make meaningful assessment.

Another Luganda language educator B said thus;

Data eyeetaagisa mungi nnyo okusobola okusomesa akadde akawera. Weesanga nti obeera otuuka wakati w’essomo olwo ate amaanyi nga gaggwaawo ekireetera okwenenya okusomesa. Bwekigenda bw’ekityo olwo abayizi bangi tebafuna kimala ekivirako omutindo okufa era ssaakookukyawaenkolaeno.

This Teacher Educator B noted with concern that,

A lot of data is needed for one to teach for a long time. Normally the lecture is cut short in the middle due to data deficiencies. If this situation remains the way it is students would remain getting half of what they are expected to get from the lecture. This minimizes standards and total hatrade of this approach to teaching.

This finding implies that without adequate data, students cannot fully reap from the use of emerging technologies during the teaching learning processs. This delays completion of the teaching load assigned to individual Luganda teacher educators which dilemma Luganda teacher trainees.

Another Luganda language educator D said thus;

Amasannyalaze nago gaafuuka ekizibu ekinene mu kusomesa abayizi baffe. Obeera otandise okuwaanyisiganya ebirowoozo n’abayizi ate amasannyalaze ne gavaako. Tetubeera namagezi malala kubanga enkola endala nga solar zabuseere. Abaana bwe balaba nga kiri bwekityo olwo olunaku oluddako tebaddako kweyunga ku mukutu.

Teacher D identified power related challenges. Specifically, this Luganda teacher educator said that,

Power became a big challenge when instructing learners using emerging technologies. As you open the lecture, explaining concepts and discussing key issues, then power gets off. We are even challenged and have no option since alternatives like solar power are very expensive. Students sensing that the situation is like this leads to demotivations to connect in other subsequent lectures.

This finding implied that the power shortages are among the strong impediments to use of emerging technologies. The serious load shadings and no alternatives provided a strong limit on the use of these emerging technologies applications.

VI. Discussion

The objective of the study was to establish the knowledge of Luganda language educators' in using emerging technologies at the School of Education, Makerere University. Findings on this objective revealed that most teacher educators had some knowledge of using emerging technologies. These Language Teacher Educators were identified as having acquired skills and knowledge to use emerging technologies. Many identified that they had received training on how to use MUELE. These findings were in agreement with Bada, Asianzu, Legemwa, Namataba and Muburga (2020) who established that Makerere University academic staff had acquired good e-learning pedagogical skills at the need of the course. This meant that academic staff had been availed with knowledge of using emerging technologies.

The findings of the study revealed that most Luganda teacher educators have knowledge of using emerging technologies during Luganda teacher training. This finding was in agreement with Freeman (2020) who revealed that in 1998, a work driven frame work was used in English language teaching. However, the knowledge base has now changed taking into account the new technological trends, technological positionality of the teacher into account. This suggested that English Language educators have to acquire technological competence in the instruction of learners. This could be the same situation with Luganda teacher educators who have to change and adopt these new technologies.

Results revealed that instructors required three competences in language teaching. These included technological competences, online environment management competences and online interactional competences. However, these were not discussed in line with Luganda language teacher educators as was the case with the current study. In agreement with the study findings, Alghammas (2020) revealed that using web-based tools in the group writing of essays helped learners make fewer grammatical errors and also fostered group interactions. Further, results from this study revealed that many students reacted to the web-based group writing positively.

The study findings that Luganda teacher educators had competences regarding use of emerging technologies were in agreement with Taimalu and Luik (2018) studied the impact of beliefs and knowledge on infection of technology among teacher educators. Results revealed that knowledge of technology had a direct positive effect on technology integration because the knowledge could be used to offer teaching and learning to learners using the emerging technologies, such as using Zoom and Google meet platforms, via Whatsapp, telegram, emails, reading notes from laptops and computers, ipads, as well as the popular MUELE platform. The findings also concur with Hamalainen et al. (2020) who studied understanding teaching professionals' digital competences and found that older professionals often showed weak skills but also revealed that they need professional development in using digital technologies. This suggested that with competencies acquired from different trainings Luganda teacher educators competences in their use enhance.

The study findings which revealed that Luganda teacher educators had competencies that could allow them use emerging technologies were in agreement with Arroqaray and Rodriguez-Lopez (2019) in a literature review study about blended and distance language learning modes, and who found that technology competences and pedagogical competences were core elements of instruction using emerging technologies. The study findings were in agreement with Petek and Bedir (2018) in a study about an adaptive teacher education framework for critical thinking in language teaching whose results revealed that self-perceived confidence in digital competence had an impact in digital technologies use during teaching and learning.

The findings also showed that Luganda teacher educators had skills regarding use of emerging technologies. This finding resonated well with Scherer et al. (2019) in an analysis about technology acceptance model in explaining teachers'/instructors adoption of digital technology in education. Findings revealed that the higher perceived competence to use ICT for learning process, the greater the possibility that these instructors were able to integrate them in instruction. This suggested that skills acquisition by Luganda teacher educators greatly determined their use of emerging technologies. In agreement with the study findings Bernacki et al. (2019) in their findings revealed that beliefs and pedagogical competences about the value of technology

influenced technology integration indirectly. The study finding supported Verz, Volman and Mariskekral (2018) whose results revealed that teacher educators had competences in using technology during teaching.

These findings differed from the findings which revealed that some academic staff did not have the skills required to use emerging technologies. For instance; Taghizadeh and Ejtehadi (2021) results revealed that teachers lacked adequate technical knowledge of using online interaction tools. The finding of the study which indicated that majority of the Luganda teacher educators were not highly competent in use of emerging technologies during Luganda Instruction differed from Emelogi et al. (2021) who revealed that there were significant differences between male and female English language lecturer's proficiency level in the use of emerging technologies for teaching in the post covid era.

The study findings were opposed to Alimyar and Lakshmi (2021) who revealed that teacher at various levels of Education in Afghanistan had not acquired relevant technology training to match with the current paradigm shift especially during covid-19. This left many of the University educators failing to fully utilize these technologies in their training. The findings which showed that Luganda language teacher educators were knowledgeable in use on emerging technologies differed from Bice and Chiu (2015) who studied composing with the new technology, reflecting on learning using digital video results revealed that teachers were not knowledgeable enough in using new technologies. The study findings differed from Hamalainen et al. (2020) who studied understanding teaching professionals' digital competences. Results revealed that older professionals often showed weak skills but also revealed that they need professional development in using digital technologies.

The study findings that that teachers had competences that allowed use of emerging technologies differed from Mumford and Dkilitas (2020) who studied preservice teachers' reflection development through online interaction in hybrid learning course and revealed that teachers' technological knowledge competences negatively predict their technological use and stress during instruction. The findings of the study showed that Luganda teacher educators had competence in using emerging technologies like internet, moodle and MUELE. This finding differed from Dowing and Dymont (2013) who revealed that majority of the teacher educators reported lacking confidence and competence in technological skills requiring teaching online. Finally, from revealed that Luganda Teacher educators had relevant knowledge of using emerging technologies during Luganda teacher instruction.

VII. Conclusion

The study concluded that many Luganda teacher educators do have the knowledge of using emerging technologies in Luganda teacher Education, such as Zoom and Google meet apps for academic lectures, MUELE platform, mails, Telegrams, WhatsApp, laptops, smart phones as well as computers, among others.

VIII. Recommendation

From the study findings, it was recommended that to boost use of emerging technologies among Luganda teacher educators at school of education Makerere University, the University Council and relevant policy organs, as well as the school leadership should do the following Ensure that the policy of regular training of academic staff in knowledge of emerging technologies should be enforced; There should be increased sensitization and awareness of academic staff about the benefits accruing from use of emerging technologies; Luganda language educators should adopt, apply and maintain excellent practices with use of the emerging technologies.

References

- [1]. Arkuful, V. & Abaidoo, N. (2014). The role of e-learning, the advantages, and disadvantages of its adoption in higher education. *International Journal of Education Research*, 2(12), 397-410.
- [2]. Arrosagaray, M., Gonzalez-Pereteado, & Rodriguez-Lopez, j. b. (2019). Blended and distance language learning modes. *Computers and Education*. 134(31-40). <https://doi.org/10.1016/j.compedu.2019.01.016>.
- [3]. Baro, E. E., Obaro, O. G., & Adiba, E. D. (2019). An assessment of digital literacy skills and knowledge-based competences among libraries working in university libraries in Africa (3/4). www.emeraldinsight.com/2059-5816.htm.
- [4]. Bernacki, L., Greene, J. A & Crompton, H. (2019). Measuring the role of mobile technology in Education. *Contemporary Educational Psychology*. 60(312-320). <https://doi.org/10.1016/j.edpsych.2019.101827>.
- [5]. Bruce, D. L. & Chiu, M. M. (2015). Composing with new technology: Teacher reflections on learning digital, video. *Journal of Teacher Education*, Sage, 66(3), 272-287.
- [6]. Hazarika, Z. (2017). Exploring the impact of technology in teaching English. Tosol in the context. *European Journal of English Language and Literature Studies*, 5(10), 19-28. www.ejournals.org
- [7]. Kabugo, D., Masaazi, F. M., & Mugagga, A. M. (2015). A Discourse Analysis of Teacher-Trainees' Abstract Conceptualizations of Emerging Technologies in Teaching to Revitalise Luganda Language. *Journal of Learning for Development*, 2(3), 16-28.
- [8]. Kabugo, D., Muyinda, P. B., Masagazi, F. M., Mugagga, A. M. & Mulumba, M. B. (2015). Tracking students' eye movements when reading learning objects on mobile phones: A discourse analysis of Luganda, language teacher-trainees reflective observations. *Journal of Learning for Development – JL4D*, 3(1), 51-65.
- [9]. Makerere University (2010). ICT policy master plan 2010-2014. Kampala Uganda.

- [10]. Makerere University (2020). Information and communication technology policy. Kampala Uganda
- [11]. Manyike, T. V. & Lemmer, E. M. (2014). Research in language education in South Africa: Problems and prospects. *Mediterranean Journal of Social Sciences*, 5(8), 251-257. <https://www.researchgate.net/publication/271104519>.
- [12]. Marriam, W. (2006). *Oxford Advanced Learners Dictionary*. London: Oxford University Press.
- [13]. Mayoka, K. G. & Kyeyune, R. (2012). An analysis of e-learning information system adopted in Ugandan universities: Case of Makerere University Business School. *Information Technology Research Journal*, 2(1), 1-7. <http://resjournals.com/IT/index.html>.
- [14]. Moreira, J. A., Henriques, S., Goulao, M. D. F. & Barros, D. (2017). Digital learning in higher education: A training course for teaching online. *Universidade Alberta, Portugal, Open Praxis*, 9(2), 253-262. Doi:<https://doi.org/10.5944/openpraxis.9.2.539>
- [15]. Muzoora, M., Terry, D. R. & Asiimwe, A. A. (2014). The valorisation of African languages and policies in African education systems: A case of Uganda. *Universal Journal of Educational Research*, 2(1), 42-50. <http://www.hrpub.org>.
- [16]. Ovadoud, M., Chkouri, M. Y. Nejjari, A. & Kadiri, K. E. (2018). Studying and comparing the free e-learning platforms. *Information and communication technology for education*, 281-256, 978-1-5090-0751-61161&31.00©2016IEE.
- [17]. Penagiotidis, P., Krystalli, P. & Arvanitis, P. (2018). Technology as a motivational factor in foreign language learning. *European Journal of Education*, 1(3), 43-52.
- [18]. Rav-Marathe, K., Wan, T. T. H. & Marathe, S. (2016). A systematic review on the KAP-o framework for diabetes education and research. College of Health and Public Affairs, University of Central Florida.
- [19]. Ssentanda, M. (2015). Exploring connections: Reflections on mother tongue education in post-colonial Uganda. *Research gate*, 42(281-296). <http://spilplus.journals.ac.za>.
- [20]. Ssentanda, M., Huddleston, K., & Southwood, F. (2016). The politics of mother tongue education: the case of Uganda. *Per Linguam: a Journal of Language Learning= Per Linguam: Tydskrifvir Taalaanleer*, 32(3), 60-78.
- [21]. Taimalu, P. M., & Lulk, P. (2018). The impact of beliefs and knowledge on integration of integration among teacher educators. A path analysis. *Teacher and Teacher Education*. 70(12-23). <https://doi.org/10.1016/j.tate.2018.12.012>.
- [22]. Tan, P. J. B. (2015). English e-learning in the virtual classroom and the factors that influence ESL (English as a second language): Taiwanese Citizens Acceptance and use of the Modular object-oriented dynamic learning environment. *Social Science Information*, 54(2), 211-228, Sage.
- [23]. Tapawo, K. N. M. (2018). Exploring the use of online educational platform in teaching writing among ESL students. *Journal of Language and Linguistic Studies*, 14(1), 86-101, www.jlls.org.
- [24]. Thanh, N. C., & Thanh, T. T. (2015). The interconnection between interpretivist paradigm and qualitative methods in Education. *American Journal of Educational Science*, 1(2), 24-27.
- [25]. Thouesny, S. & Bradley, L. (2011). Introduction on views of emergent researchers in L2 teaching and learning with technology. In Thouesny, S. & Bradley (Eds). *Second language teaching and learning with technology views of emergent researchers* (pp.1-8), Dublin: Research – publishing.net.
- [26]. Tilfarhoglu, F. Y. (2011). An International dimension of students attitudes towards the use of English in web 2.0 Technology. *The Turkish online Journal of Educational Technology*. 10 (3), 63-68.
- [27]. Tomte, C., Enochsson, A. B. & Asbjornkarstein, A. (2015). Educating online student teachers to master professional digital competence: The TPACK – framework goes online computers education, <https://doi.org/10.016/j.compedu.2015.01.005>.
- [28]. Tuli, F. (2011). The basis of distinction between qualitative and quantitative research in social science: reflection on ontological, epistemological and methodological perspectives. *Ethiopian Journal of Education and Sciences*, 6(1).
- [29]. Turgut, Y. (2017). Tracing pre-service English language teachers' perceived TPACK in sophomore, junior and senior levels. *Taylor and Francis*, 4(1), 1-20, <https://doi.org/10.1080/2331186x.2017.1368612>.
- [30]. Twinamasiko, N., Nuwagaba, J., Gwokyalaya, A. M., Nakityo, I., Wasswa, E., & Sserunjoji, E. (2021). Drivers affecting the acceptance and use of electronic learning among university students in Covid-19 era. A cross-sectional survey among three universities. *Sage*, (1-19), Doi:10.1177/218244029922.
- [31]. Verz, D., Volman, M., & Kral, M. (2018). Teacher educators competences in fostering student teachers proficiency in teaching and learning with technology. An over view of relevant research literature. *Teaching and Teacher Education*. 70(12-23). <https://doi.org/10.0161.tate.201711.005>.
- [32]. Visitation Committee Report (2017). Bringing the past to the present. Report of the Visitation Committee in Makerere University. Kampala Uganda.
- [33]. Wai, I. S. H., Ng, S. S. Y., Chiu, K. W., Ho, K. W., & Lo, P. (2018). Exploring undergraduate students' usage pattern of mobile apps for education. *Journal of Leadership and Information Science*, Sage, 50(1), 34-47, Doi:10.117/0961000616662699.