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RESEARCH ARTICLE

Contribution of Technological Devices in Enhancing Effective Teaching and Learning in Public Secondary Schools in Nyamagana District, Tanzania

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All authors contributed equally to this research.

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ABSTRACT

The study explored the use of technological devices on enhancing teaching and learning process. The study adopted exploratory sequential design under mixed research approach. Questionnaire were used to collect data from the sample of 86 participants who sampled through simple random techniques. Interview were used to collect data from 5 heads of public secondary schools, 3 Ward Educational Officer, and 1 District Educational Officer were selected through purposive sampling technique. The quantitative data was analysed through SPSS Version 20 and presented using tables, percentage, and frequencies, while qualitative data was analysed through thematic analysis and presented in quotation and narration form. The findings of this study showed that technological devices are used to access teaching and learning materials, in the preparation of the teaching and learning activities, in ensure interactive learning, in the preparation of the teaching and learning assessment, to enhance teachers' professional development enhance teaching and learning process. The study recommends the government should ensure that appropriate teaching- learning environment with technological devices like computers, laptops, iPads and other devices which can be used during teaching and learning and implanting internet connectivity in schools.

Keywords: Technology; devices; technological devices; teaching and learning process**INTRODUCTION**

Contemporary development in educational technologies has led to positive results in the education sector. Technology in education supports both the teaching and learning processes. Through digital learning tools like computers, iPads, smartphones and smart digital whiteboards, technology has digitalized classrooms. Such tools allow teachers to design learning activities which enable today's students to learn by doing while teachers playing the role of a facilitator. This implies that teaching and learning base on learner-centred approach. Technology has

enhanced active engagement of students and motivation towards learning (Roy, 2019). The effectiveness of technology-enhanced learning hinges significantly on teachers' pedagogical skills and readiness to adapt instructional practices. However, introducing digital tools without adequate training and support may limit their impact on students' learning outcomes. Specific limitations of technology-enhanced learning include teachers' lack of familiarity with digital tools, insufficient training on integrating these tools into lessons, and inadequate technical support, which can hinder their ability to effectively engage students and

enhance learning outcomes (Johnson et al., 2016).

Historically, the use of technology in European countries can go as far back as before the 1970s (Alonso & Penalvo, 2020). By that time, computers and communication devices like telephones, radios and televisions were used in teaching and learning activities at tertiary-level education. From the mid-19th century, the use of Information Communication Technology (ICT) in schools increased rapidly with support in the curriculum, networking, teachers' profession and improvements in software (Kihzoza et al., 2016).

In the Norwegian education system, the use of ICT in teaching and learning was intensively implemented earlier than 2006 guided by the strategy which was termed as 'IT in Norwegian Education.' "IT in Norwegian Education" aimed to integrate technology into the classroom, emphasizing the need for teacher training, the development of digital learning resources, and the establishment of supportive infrastructure to enhance educational practices and student engagement. The strategy focused on integrating IT as an instrument in ordinary teaching, and the use of IT for better learning (Madsen et al., 2018). In the United Kingdom, technology has been used to support learning for centuries, beginning from the time when print was invented, with whiteboards and touchscreens. The availability of electronic gadgets in homes and places of work has become near universal, and many schools use computers, laptops and tablets for planning and preparing content, teaching and learning in the classroom, teachers' personal learning, conducting assessments and learners' independent learning (Clark & Picton, 2019).

In Australia, technology has been adopted in education over the past century with the expectation of revolutionizing teaching and learning. Technology has been adopted in education over the past century with the expectation of revolutionizing teaching and learning by providing interactive and personalized learning experiences, enhancing access to information, and facilitating collaboration among students and teachers. Proposed means include the use of digital platforms, multimedia resources, online assessments, and educational software that support differentiated instruction and real-time feedback. On the contrary, no changes have been realized. However, important improvements and developments in educational access and equity have been observed (Howard & Mozejko, 2015). The review substantiates its claims about the transformative effects of technology on teaching and

learning. However, to enrich the discussion, it would be beneficial to incorporate a broader global perspective that includes insights such as incorporating insights from developing regions like Africa reveals that initiatives such as mobile learning programs in Kenya, which leverage smartphones to provide educational resources to remote areas, and community-based teacher training in Uganda, aimed at enhancing pedagogical skills, can significantly improve access to quality education and address unique local challenges from diverse educational systems, particularly those in developing regions like Africa. This would provide a more inclusive understanding of how different socio-economic contexts influence the adoption and effectiveness of educational technologies.

East African countries started to adopt the usage of technological devices in the education arena in the late 1980s and early 1990s (Kihzoza et al., 2016). From the 2000s, ICT started to be taught in Kenya from primary school to tertiary education. Other East African countries, including Tanzania, Uganda, Rwanda and Burundi, adapted ICT teaching after realizing its positive effects from developed countries like the USA, the UK, Germany and Austria-Hungary. These effects include the integration of technology in classrooms that enhances student engagement and learning outcomes, exemplified by the USA's flipped classroom model, the UK's use of interactive whiteboards, Germany's emphasis on digital literacy in curricula, and Austria-Hungary's historical investment in educational reforms that foster innovative teaching practices.

Tanzania has been struggling to integrate technology in teaching and learning processes, (Johnson et al., 2016). In order to succeed in this endeavour, initiatives for teachers to follow in integrating ICT in teaching and learning with emphasis placed on pedagogical purposes have been introduced. In 2007 Tanzania launched ICT Policy for Basic Education. The policy directed the incorporation of ICT in teaching and learning process at all levels of primary and secondary education (United Republic of Tanzania, 2007). The policy points out an array of ICT-related technologies deemed to be relevant to the provision of education. The policy emphasizes the adaption and use of radio, television, video, telephone, mobile phone, computer and network hardware and software in teaching and learning. These devices and services are to be linked to technologies like email, text messaging and radio broadcasts (Manyengo, 2021).

Despite the support for the application of ICTs in

teaching and learning by the policies (URT, 2010), Tanzania teacher training colleges continue facing inadequate intake and output of pedagogical ICT among tutors. As a result, most of teachers have limited knowledge on the importance of ICT (Kalinga & Ndibalema, 2023). Moreover, technology plays a minimal role in enhancing teaching and learning without building teachers' capacity to use technology in ensuring efficiency in teaching and learning. Thus, from this point of view, the researcher conducted a study about the use of technology devices on enhancing the teaching and learning processes in Nyamagana district.

LITERATURE REVIEW

Education technological devices like computers, projectors and television have been used to simplify teaching and learning activities as they are being used for searching teaching and learning materials, processing and keeping data and records. Different countries recognize the importance of using technology in teaching and have integrated ICT into their education systems guided by their education policies. In Australia it has been observed that, over 90% of secondary school English teachers accepted that the teachers at their school had an interest in the use of technology in classroom instruction; about 85% agreed that the use of technology was a priority of the school administration, and a similar proportion reported that students were using a range of educational technology in the classroom (Vassallo & Warren, 2017). This indicates that the majority of the teachers appreciated the use of technology in improving the teaching and learning activities.

Roy (2019) from India reported that technology has digitized classrooms through the use of digital learning tools like, computers, iPads, smartphones and smart digital whiteboards in teaching and learning. Technological devices have increased course provision and students' engagement and motivation towards learning. Thus, technology enables pupils to participate actively in the teaching and learning process with the ability to interact, search for knowledge and get feedback as a tool for effective teaching and learning. Thailand teachers in secondary schools use technology in their classrooms and have developed positive perceptions of the use of technology (Boonmoh et al., 2021). Similarly, in India commented that, "youngsters feel happy and satisfied to make use of technology and due to this, we can integrate technology in education to make the teaching-learning process systemic." This

infers that technology leads to systematic teaching which results in systematic learning and improved learning.

Potential use of social media in improving writing skills among primary pupils has been evidenced in Malaysia by Yunus et al. (2019). English Second Language (ESL) primary school pupils from a rural area revealed that, digital technology plays a vital role in enhancing authentic instruction and learner academic achievements. This indicates that the use of emerging technology in schools makes teaching and learning alive and successful. It makes classrooms alive through the engagement of students in lessons. It makes both teachers and learners enjoy lessons and as a result, teachers provide maximum help to learners. However, the success of using technology in teaching in schools depends on teachers' skills and the availability of technological devices like computers, laptops and the Internet.

Moreover, a study conducted in Mtwara Mikindani Municipality, Tanzania by Joseph (2021) sought to establish the status of the use and challenges of ICT in selected secondary schools. The study revealed that ICT facilitated modernized teaching and learning, provided a wide opportunity for accessing teaching-learning resources, increased students' understanding, enabled learners to work collaboratively and facilitated learners' engagement in learning. This indicates that ICT as a part of technology has a potential contribution to teaching and learning. However, the challenge of teachers' lack of skills and inadequacy of technological facilities limit the ICT efficiency in teaching and learning (Ndume et al., 2021). On the contrary, sometimes technology distracts teaching and learning because if not well monitored it can reduce critical thinking. Again, it can make learners concentrate on distractive games on electronic devices like computers and hinder them from face-to-face interaction.

RESEARCH METHADODOLOGY

This study employed a mixed research approach. This approach enabled the researcher to collect a variety of data to address the research questions comprehensively using quantitative and qualitative methods. This study employed an exploratory sequential design due to its appropriateness for a study that prioritizes qualitative data over quantitative data (Dawadi et al., 2021). The study used a sample size of 101 respondents, whereas 92 public secondary school teachers were selected randomly. Meanwhile 01 DSEO,

03 WEO, and 05 heads of public secondary schools were selected purposively due to the positions they hold. The study used questionnaires to collect data from teachers and interviews to collect data from DSEO, WEO and heads of schools. The researcher adhered to ethical issues by seeking the research permit from the authority, ensuring confidentiality, anonymity, and asking a voluntary response from the participants

FINDINGS AND DISCUSSION

The study aimed to explore the use of technological devices on enhancing teaching and learning process. The respondents involved were teachers, school of heads, ward education officer (WEO) as well as District Education Officer (DEO). District secondary education officer, ward education officers and head of schools were interviewed, while teachers were given questionnaires. The findings are summarized and presented in Table 1.

Table 1 shows that majority of the teachers equal to 86 participants agreed that the use of technological device enhances teaching and learning process. This implies

that most of the public secondary school teachers have access to interacting with technology and use it to promote teaching and learning. Technology assists teachers in designing the learning environment where students can build their representations of knowledge in their minds and learning activities as was previously commented by Vassallo and Warren (2017).

Table 1. Teachers' responses on factors that affect the use of creativity and innovation in teaching-learning methods.

No	Statement	Frequency	Percentage
1	Yes	86	100
2	No	0	0
Total		86	100

Source: Field Data (2024)

Moreover, participants were asked to indicate the level of agreement on the statements which indicate how the use of technological device enhances teaching and learning process. The findings presented in Table 2.

Table 2. Teachers responses on how the use of technological device enhance teaching and learning process.

No	Statement	Response									
		1		2		3		4		5	
		F	P	F	P	F	P	F	P	F	P
1.	Technology simplified the preparation of documents for teaching-learning activity	16	18.6	12	13.9	10	11.6	23	26.7	25	29.1
2.	The use of technology helps me obtain teaching-learning materials and aids easily	18	20.9	9	10.5	5	5.8	25	29.1	29	33.7
3.	The use of technology simplifies the lesson presentation and engages learners	15	17.4	12	13.9	2	2.3	27	31.4	30	34.9
4.	The use of technology makes me feel happy and satisfied with the profession	13	15.1	11	12.8	10	11.6	24	27.9	28	32.6
5.	I feel negative about teaching in a school which does not use technology	8	9.3	8	9.3	15	17.4	30	34.9	25	29.1
6.	Technology helps me to the examination preparation and results easily.	15	17.4	12	13.9	0	0	27	31.4	32	37.2

Source; Field Data, (2024).

Key: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree, P-Percentage and F-Frequency.

Table 2 shows that 25 (29.1%) of the teachers strongly agreed, and 23 (26.7%) teachers agreed that technology simplified the preparation of documents for

teaching-learning activity. However, 16(18.6%) teachers strongly disagreed, and 12(13.9%) disagreed with the statement that, technology simplified the

preparation of documents for teaching-learning activity, while 10(11.6%) teachers were neutral to the statement. Also, 29(33.7%) teachers strongly agreed, while 25(29.1%) teachers agreed that the use of technology helps me obtain teaching-learning materials and aids easily. On the other hand, 18(20.9%) teachers strongly disagreed, likewise 9 (10.5%) teachers disagreed with the statement that, the use of technology helps me obtain teaching-learning materials and aids easily, but 5(5.8%) teachers were neutral.

Moreover, 30(34.9%) teachers strongly agreed, and 27(31.4%) teachers agreed that the use of technology simplifies the lesson presentation and engages learners. However, 15(17.4%) teachers strongly disagreed, while 12(13.9%) disagreed that the use of technology simplifies the lesson presentation and engages learners, while 2(2.3%) teachers were neutral. Furthermore, 28(32.6%) teachers strongly agreed and 24(27.9%) agreed that the use of technology makes them feel happy and satisfied with the profession. On the other hand, 13(15.1%) strongly disagreed and 11(12.8%) disagreed with the use of technology to

make them feel happy and satisfied with the profession, and 10(11.6%) remained neutral.

In addition, 25(29.1%) teachers strongly agreed while 30(34.9%) agreed that they feel negative about teaching in a school which does not use technology. However, 8(9.3%) strongly disagreed similarly 8(9.3%) disagreed, while 15(17.4%) were neutral and undecided on whether they feel negative about teaching in a school which does not use technology or not.

Furthermore, 32(37.2%) teachers strongly agreed while 27(31.4%) agreed that technology helps me to the examination preparation and results easily. Yet, 15(17.4%) strongly disagreed and 12(13.9%) disagreed and none of the participants were neutral to the statement.

Also, through open ended questionnaires respondents gave reasons based on their agreement on how the use of technological devices enhanced teaching and learning process. The findings are presented in Table 3 below.

Table 3. Teachers' responses on how the use of technological devices enhance teaching and learning process.

No	Statement	Frequency	Percentage
1	Access teaching and learning materials	24	27.9
2	Ensure interactive learning	17	19.8
3	Preparation of teaching and learning activities	20	23.3
4	Preparation of teaching and learning assessment tools	14	16.3
5	Enhance teachers' professional development	11	12.8
Total		86	100

Source: Field Data (2024)

Table 3 shows that 27.9 percent equal to 24 teachers pointed out that technological devices are used to access teaching and learning material. 23.3 percent, equal to 20 teachers, said technological devices are used in the preparation of teaching and learning activities. Moreover, 19.8 percent equal to 17 teachers maintained that technological devices ensure interactive learning. Furthermore, 16.3 percent, equal to 14 teachers, said technological devices are used in preparation of teaching and learning assessment. Lastly, 12.8 percent equal to 11 teachers commented that technological device used to enhance teachers' professional development.

The following subthemes were extracted from the above quantitative and quantitative data on how the use of technological device enhances teaching and learning process. The sub themes include technological devices

that are used to: access teaching and learning materials, design and practice teaching and learning activities, ensure interactive learning, ensure effective communication, and enhance teachers' professional development. The questionnaire responses raised in Table 2, Table 3 and interview are explained in detail in the following sub sections.

Accessing Teaching and Learning Materials

The study findings show that 27.9 percent of the participants maintained that technological devices are used to access teaching and learning materials. Moreover, 33.7 percent of the participants strongly agreed that the use of technology helps me obtain teaching-learning materials and aids easily. Therefore, in enhancing effective teaching and learning process technological devices used in searching different teaching and learning material. The above findings are

supplemented by those obtained during the interview, as one of the interviewees narrated:

Technology has significance for teachers to obtain teaching-learning materials and aids easily in such ways, online educational repositories like websites, video and multimedia platforms, digital textbooks and eBooks, stock media libraries, teachers' collaboration and sharing, curriculum mapping tool, document scanning and digitization, and learning management systems. Thus, increasing course provision and enhancing students' engagement and motivation towards learning (Interview 4 July, 2024).

The above quotation implies that technology gives access for teachers to obtain high-quality teaching and learning materials to support effective instruction and students' engagement. However, the respondents raised a concern on the challenges of teachers' inadequacy skills of technological facilities which affects the teaching and learning. In the same line, Ndume et al. (2021) contend that, it is not always that technology smoothly contributes to teaching and learning, some workstation constraints like teachers' capabilities and infrastructure inadequacy limit effective teaching and learning. Another interviewee was quoted saying:

Nowadays, Tanzania Education systems are undergoing continuous reforms to adapt to the evolving demands of the 21st century workforce and society. One significant trend in these reforms is the shift from traditional knowledge-based curricula to competence-based curricula. So, without provides schools with technology teachers will remain centred in learning and always memorization information, also, learning process to be theoretical knowledge (Interview 6 July, 2024).

The quotation above means that teachers are currently working to cope with modern technological advances. Tanzanian Government for example through the Ministry of Education Science and Technology was advised to provide schools with adequate technology facilities which will allow teachers to implement Competency-based curriculum in making learning a practical activity. This is similar to the propositions of Cognitive Constructivism Theory which insists on the use of technological devices to rescue teachers from the toil with paperwork teaching and learning. This is also in line with what Boonmoh et al. (2021) argue that technology simplifies the preparation, processing,

production and keeping of various records, for example, students' examination results and other school records. Moreover, U.S. Department of Education, (2013) added that the importance of using technology in schools for teaching and learning. Therefore, integrating technology into educational practices not only streamlines administrative tasks such as record-keeping but also enhances teaching and learning processes, ultimately fostering a more efficient and effective educational environment.

Designing and Practicing of the Teaching and Learning Activities

Technological devices were also found to be effectively used in designing, preparing and practicing modern teaching and learning activities. 23.3 percent of participants pointed out that technological devices help teachers in preparing and practicing diverse and flexible learning activities. Also, 29.1 percent of the participants strongly agreed that technology simplifies the preparation of teaching-learning documents and activities to ensure effective teaching and learning. The findings were also supported by interview data, whereas, during interview sessions one interviewee had this to say:

Teachers can do their best if they are trained in proper way of using technology devices that they have in some ways like document creation and editing software, presentation software, cloud storage and sharing, digitizing and scanning, content duration and reuse, and learning management system. And to be familiar with Programs like micro software ward, google docs, Microsoft power point, google slide, google driver, drop box, scanners and document scanning apps. These will make teachers with ability to prepare documents for teaching-learning activity (Interview 8, July, 2024).

The quotation above means that most teachers in public understand and promote the usage of technological devices and applications which simplify the preparation teaching-learning documents and activities. However, the success of using technology in teaching in schools depends on teachers' skills and the availability of technological devices like computers, laptops and the Internet as Yunus et al. (2019) previously insisted on technological training among teachers. Therefore, technological capabilities among teachers can streamline the teaching media preparation process and focus more application on developing lesson plans,

content delivery, student engagement and assessment modes. Generally, technology provides a wide opportunity for accessing teaching-learning resources, increased students' understanding, and enabled learners to work collaboratively and facilitate learners' engagement in learning. Additionally, Milla et al., (2019) revealed that the use of computers in teaching intensified authentic teaching and learner performance. Therefore, effective use of computer tools helped learners to learn better and more efficiently.

Technological Device Ensure Interactive Learning

19.8 percent of participants pointed out that effective use of technological devices promotes interactive and collaborative learning. Similarly, 34.9 percent of participants strongly agreed and supported the use of technology in simplifying the lesson presentation by engaging learners, because the devices initiate learner centred approach of learning. The findings are supported by Ndume et al. (2021) who commented that technology can simplify teaching and learning and promotes learners' critical thinking skills in solving problems and adaptability in their environments. The same notion was observed during the interview. In the interview sessions, when one interviewee was quoted:

Teachers appreciate the use of technology in the teaching-learning process hence technology allows them to engage students by using resources like video, audio, and interactive learning. Thus, learners are prepared with the relevant skills, knowledge as well as competencies which will facilitate them to capture the needs of the world. However, in our school, we do not have enough technological devices for teaching and learning, instead teachers their "Vishikwambi" only (Interview 7 July, 2024).

This implies that most teachers appreciate the use of technology in ensuring interactive teaching and learning process which motivates learners to learn and develop interacting, engagement and communication skills. The findings are supported by Vassallo and Warren (2017), who point out that they enjoy using technology in teaching and learning activities. Technology makes the education system, teaching and learning and teaching to be relevant by providing applicable knowledge and competence that are useful in real life and work situations. Another interviewee was quoted saying:

Public secondary school teachers have different technological devices including tablets and smartphone. The use of these devices

boosts effective teaching and learning process through reinforcing interactive learning. Teachers use their devices to prepare learning activities which influence interaction among the learners and motivate the learner to engage effectively in the learning process (Interview 3 July, 2024).

The findings above imply that, through the use of technological devices learners can interact with one another and promote effective learning. Technology encourages teachers to have interactive methods and tools like educational apps and digital platforms into lessons. These findings agree with cognitive constructivism theory which propounds that learning is an active process through which learners construct knowledge themselves based on the existing structures (Misman et al., 2021). In making teaching-learning process active, technology acts as a tool for connection and coordination between teachers and students during a lesson. As such, technology makes teachers and learners enjoy lessons, and teachers to provide maximum help to learners (Yunus et al., 2019). Therefore, it is encouraged to increase the accessibility of technological devices like telephones, tablets, computers and laptops in all schools as part of emerging technology as a shift from traditional to modern teaching and learning.

Preparation of Teaching and Learning Assessment

Effective teaching and learning through preparation of the teaching and learning assessment in modern world is determined by integration of technology in education. Through the study findings, 16.3 percent of participants acknowledged that technological devices are used in preparation of the teaching and learning assessment tools. Also, 37.2 percent of the participants strongly agreed, and 31.4 percent agreed with the statement. Participants added that technology helps them in examination preparation and results processing easily. The same was observed during the interview as one interviewee expressed that:

One of the uses of technology devices is to make easy preparation of examination and results. Technology allows us to set exams in soft copies which are easy to share and to make changes if they are needed. Also, results' processing is simplified through easy recording and keeping as well as easy sharing of results' information. In this school we are thankful to the government for providing us with Vishikwambi which simplifies our works, and enabling this

generation to compete in the world market. (Interview 8 July, 2024).

The quotation above means that most teachers in public secondary schools agree that technology helps them in easy preparation examination and results. Similarly, the government provided teachers with Vishikwambi to help them in teaching, examination preparation and results' processing. The findings concur with Ndume et al. (2021) technology which facilitates teaching and learning, provided a wide opportunity for accessing teaching-learning resources, increased students' understanding, enabled learners to work collaboratively and facilitate learners' engagement in learning. Through this, competence-based curriculum is more emphasized by assigning teachers as facilitators only students becoming the central focus when learning is taking place. Technology equips students with necessary digital skills and competencies that promote critical thinking, problem-solving, and practical application of knowledge.

Technological Devices Used to Enhance Teachers' Professional Development

Teachers' professional development is another aspect that is influenced by the use of technological devices. The findings indicate that 12.8 percent of participants commented that technological devices enhance teachers' professional development, and 32.6 percent of participants strongly agreed with the statement and made them feel happy and satisfied with the profession. These findings are in agreement with the propositions of Cognitive Constructivism theory, which encourages flexibility which assists teachers in designing learning tools that align with the natural learning environment where students can build their representations of knowledge in their minds. Furthermore, technology through videos, learning games, and images provides teachers with opportunities for online courses which are used to improve their knowledge, skills, attitudes and habits, as it has been articulated Vassallo and Warren (2017). The findings were supported by one interviewee, who was quoted saying:

On other side, technology can be used to enhance teachers' professional development in this ways, online courses and webinar, teachers can access a variety of online course, workshops, and webinars to learn new teaching strategies, explore educational technology and develop their skills. Also, through online professional learning communities, teachers can join forums, social media groups,

collaborate with peers, share resources, and learn from one another. Access to digital libraries and resources of lesson plans, activities, multimedia content and high-quality materials for instruction (Interview 5 July, 2024).

This implies that modern teacher's technology is an opportunity for them to access and gain new knowledge through interactive learning. Moreover, technology leads to systematic teaching which results in systematic learning and hence improved practical learning (Boonmoh et al. (2021)). Generally, technology offers teachers with opportunities for continuous professional development through online course, webinars, educational blogs, and social media platforms. Thus, schools' heads and education administrators should encourage teachers to use technology for flexible, personalized, and collaborative online learning to adopt different instruction and improve their life-long teaching capabilities.

CONCLUSIONS AND RECOMMENDATIONS

The study insists on the use of technological devices to access teaching and learning materials, preparation of the teaching and learning materials and activities. These are expected to ensure interactive and collaborative learning among students. Meanwhile, teachers get the opportunity to collaborate through their communities of practices in local, regional and global context by exchanging experiences and preparing teaching and learning assessment tools. Such online opportunities enhance teachers' skills, knowledge, and capabilities, hence promoting their professional development. The recommends that, the government through the Ministry of Education Science and Technology (MoEST) and The President's Office Regional Administration and Local Government (PO-RALG) should ensure and offer appropriate teaching-learning environment with technological devices like computers, laptops, iPads and other devices which can be used during teaching and learning process. The government and educational administrators are also urged to providing effective training on technologies for teachers. This will familiarize teachers with technology skills, identify positive and combat negative influence of technology in teaching, learning and education system at large.

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