Challenges of Utilizing Information Communication Technology (ICT) in Teaching-Learning English: A Case Study in a Higher Secondary School under Samdrup Jongkhar Thromde

Mr Sonam Rinchen[1], Mr Sonam Tobgay[2]

Ministry of Education and Skills Development, Bhutan

[1]Gomdar Central School, [2]Samdrup Jongkhar Higher Secondary School

Abstract. This study investigates the impediments encountered by educators and students in effectively integrating Information Communication Technology (ICT) devices for the teaching and learning of English within a higher secondary school affiliated with Samdrup Jongkhar Thromde. Employing a convergent mixed-method design, the research synthesizes quantitative and qualitative data collection techniques. The study encompasses a target population of 138 participants, consisting of students, teachers, and principals. Research instruments such as questionnaires, semi-structured interviews, and document analysis were utilized for data acquisition. Quantitative data underwent analysis through Statistical Package for Social Science (SPSS) version 22.0, presented through percentages and means, while qualitative data underwent thematic analysis.

The findings underscore various challenges, including subpar network connectivity, outdated facilities, insufficient technical competencies, restricted access to ICT resources for students, and temporal constraints experienced by educators and learners in the utilization of diverse ICT devices for instructional purposes. However, the study also highlights the affirmative facets of ICT utilization, such as enriching English language acquisition, facilitating expedient information retrieval, promoting autonomous learning, accommodating diverse learning needs, and fostering collaborative engagement. Notably, the study identifies a limited array of ICT tools commonly employed by educators, predominantly inclusive of interactive PowerPoint presentations, basic PowerPoint presentations, and Google Classrooms.

In light of the identified challenges and benefits, the study advocates for collaborative efforts among stakeholders, including governmental bodies, the Ministry of Education, school administration, and pertinent entities, to enhance ICT infrastructure, fortify educators' technical profi-

ciencies through targeted professional development initiatives, and augment overall ICT resources within educational institutions. These recommendations aim to cultivate an environment conducive to the effective integration of ICT in the teaching-learning paradigm, thereby enhancing educational outcomes, particularly in the domain of English language instruction.

Index Terms- Collaboration, diversity, Information and Communication Technology, ICT perceptions, Teaching-learning.

I. Introduction

The integration of Information Communication Technology (ICT) has become increasingly essential in various domains, particularly within the educational sector. ICT serves as a fundamental tool for disseminating knowledge in numerous countries, undergoing substantial advancements, innovations, and transformations that have significantly impacted individual cognition, work patterns, and daily lifestyles (Costley, 2014). Costley highlights that incorporating ICT into the teaching-learning process enhances students' motivation, engagement, collaboration, confidence, and technological competencies, fostering experiential learning opportunities. Similarly, Ghavifekr et al. (2015) assert that the utilization of ICT devices in educational settings is vital for equipping students with the requisite 21st-century skills.

Recognizing the pivotal role of ICT in education, governmental efforts to integrate ICT into the educational system commenced as early as the 1990s. Initial endeavors included offering ICSE computer studies in select high schools, with subsequent initiatives aimed at formalizing ICT education gaining momentum in the early 2000s (Lhendup, 2020). In 2002, computer application was introduced as an elective subject in class IX across eight high schools, gradually expanding to encompass other institutions equipped with computer labs.

Since its inception, ICT has been accorded significant importance in the teaching-learning process, exemplified by the milestone initiative, Project Chiphen Rigphel, launched in 2010. Led by the Ministry of Information and Communication in collaboration with NIIT, India (Dorji, 2015; Lhendup, 2020), this project facilitated comprehensive training for educators in basic ICT competencies. Upon its completion, over 5,000 teachers had received training in integrating ICT into pedagogy, with the establishment of computer labs in numerous schools. Moreover, the project introduced an ICT literacy curriculum spanning from class VII onwards.

Building upon the successes of Project Chiphen Rigphel and aligning with recommendations outlined in the e-Gov Master Plan 2012, the Ministry of Education (MoE) initiated the development of the Education Sector ICT Master Plan, iSherig1 (2014-2018). Subsequent initiatives, such as iSherig2, aimed to further enhance the ICT ecosystem (Lhendup, 2020). Additionally, ICT components were emphasized in the Education Blueprint (2014-2024), mandating the inclusion of ICT subjects from class PP to XII. Furthermore, the Royal Kasho issued during the 113th National Day celebration

in Punakha in 2020 underscored the critical need to enhance information and communication skills within the educational realm.

II. Problem Statement

Despite the growing popularity of using ICT in teaching and learning, the government's initiatives in improving the ICT facilities in the school and the Royal aspirations in artificial intelligence, teachers and students still face certain challenges in using ICT in teaching learning process. This challenges limit students' creativity, critical thinking, curiosity and innovation as Boumová (2008) states that traditional teaching methodologies place the entire responsibility for teaching and learning on instructor, with the belief that if students are present in the classroom and listen to the teacher's explanations and examples, they will be able to apply what they have learned. Similarly, Kuzu (2008) also confirms that conventional instructional approach, will serve teachers as information sources and students as passive receivers. Due to such belief and lack of knowledge in using ICT by the teachers most of the ICT facilities in the schools are under-utilized.

Although there is an impressive progress in the teaching and learning process the ministry failed to provide quality education and relevant skills to the students. So, the 12th Five Year Plan identified providing quality education and relevant skills as one of its priorities. Amongst many activities identified for achieving the said target the Ministry recognized ICT as an important intervention and tool to improve the quality education and skills (Ministry of Education, 2020). Further, the finding emphasized on rising youth unemployment linked mismatch between the knowledge and skills provided in the school and job market requirement, the education sector felt the need to equip the children with 21st century skills, which includes the use of ICT in teaching and learning to make them productive and globally competent.

So, the changing technologies and the way people live, work and communicate with one another is important evidence that the teachers need to prepare learners for this evolving digital world. But it is observed that the use of ICT is not fully implemented in the teaching and learning process in most schools across the country. For instance, Samdrup Jongkhar Middle Secondary School is equipped with ICT facilities but frequency of usage is minimal due to poor network and lack of knowledge in operating the facilities in the devices. Moreover, it is evident from the pandemic experiences that teachers are not fully equipped with ICT knowledge as many school teachers got into panic when the ministry announced to make teaching and learning online during the nationwide lockdown (Wangdi et al, 2021). Further, their study showed that 70 percent of the participants do not have the required resources for the online classes. Therefore, this study intends to find out the effective use of ICT devices by the teachers and students in teaching and learning English in one of the Higher Secondary Schools.

Aims of the Study

The principal objective of this research is to scrutinize the obstacles experienced by educators and students concerning the proficient deployment of Information Communication Technology (ICT) devices for the instructional delivery and acquisition of

English within a Higher Secondary School context.

The principal objective of this research is to scrutinize the obstacles experienced by educators and students concerning the proficient deployment of Information Communication Technology (ICT) devices for the instructional delivery and acquisition of English within a Higher Secondary School context.

Objectives
- To elucidate the challenges inherent in the effective integration of ICT devices into the teaching and learning methodologies employed for English instruction.
- To delineate the advantages derived from the incorporation of ICT tools in the pedagogical processes employed for English language instruction.

Research Question
- What impediments are encountered in the adept utilization of ICT devices for the teaching and learning of English within the framework of a Higher Secondary School?

Significance
This study carries notable significance as it seeks to illuminate the essential role of Information Communication Technology (ICT) in the pedagogical landscape of English language instruction, benefiting both students and educators. Additionally, the research endeavor is poised to enrich the existing scholarly discourse surrounding the challenges in integration of ICT in teaching and learning English.

Furthermore, the findings hold practical implications for policymakers, offering valuable insights for future strategic planning and resource allocation endeavors aimed at enhancing ICT infrastructure within educational institutions. Moreover, educators stand to benefit from the study's outcomes, as it prompts them to critically evaluate their current utilization of ICT tools in instructional practices.

Lastly, this research serves as a valuable foundation for prospective scholars, providing a platform for further exploration and investigation into similar topics within primary and secondary educational contexts.

III. Literature Review

1. Concepts and Definition of Information and Communication Technology
There are numerous definitions of ICT given by various authors and organizations. According to Pachauri et al. (2011), ICT is a type of technology employed in the shape of tools, equipment, and application support which helps in the collection, storage, retrieval, use of transmission, manipulation, and dissemination of information as accurately and efficiently as possible for enriching knowledge, developing communication, decision making and problem-solving ability of the users. Similarly, ICT determines where and how technology fits in the teaching and learning process (Mahmud & Arif,

2008). In addition, ICT includes using computers, laptops, tablets, mobile phones, projectors, and software applications (Shah & Empungan, 2015). To summarize, ICT, in general, is a communication tool that helps collect, store, retrieve, and disseminate information as accurately and efficiently as possible for enriching knowledge, decision-making, and problem-solving ability of the users that directly contribute to the product.

In the Bhutanese educational context, ICT enables inclusiveness by empowering citizens to access information and data and making education more relevant and easier to administer (Education Blueprint, 2014-2024). In addition, ICT is defined as a "diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. These include computers, the internet, and broadcasting technologies (Umunnakwe & Sello, 2016). Further, they also state that the use of ICT devices in education refers to the use of computer-based communication that incorporates into the daily classroom instructional process. Hence, the definition for ICT can be the branch of technology employed in various schools by teachers to make teaching-learning easy, engaging, enriching, interactive, collaborative, innovative, inclusive, and effective. Despite various benefits of using ICT in teaching learning process there are a lot of challenges that the students and teachers face in using ICT in their day to day teaching and learning English.

Challenges of using ICT
Limited Access to Resources

Schools and other educational institutions which are believed to make students ready to live in "a knowledge society" need to consider ICT integration in their curriculum (Ghavifekr et at., 2012). On the other hand, studies indicate that limited access to the resources including home access hampers a lot in effective integration of ICT in teaching, learning process. In-accessibilities of resources in the schools are not due to lack of the resources in the schools. It may be due to poor management or organization or poor-quality products or mismatch products, inappropriate software or lack of personal access for the teachers (Becta, 2004). Similarly, Empirica's (2006) European study found that limited or lack of access is the largest hurdle and that different challenges to using ICT in teaching were reported by teachers, for example a lack of computers and a lack of adequate material. Further, Lack of access includes shortage or poor quality of hardware and inappropriate software (Bingimlas, 2009) that affects the integration of ICT in teaching learning process. In addition, Livingstone (2010) in his study in Kenya reports that access to ICT facilities is an important factor that could influence the teachers' use of ICT in conducting science lesson. Likewise, lack of infrastructure, poor internet connectivity, inadequate ICT skills, and knowledge are factors that influences the use of ICT in teaching-learning in Bhutanese classrooms according to Education in emergency report (Education Monitoring Division, 2021).

Lack of Technical Support

Technical problems are the main hindrances for implementation of the ICT in the classrooms. One of the top barriers to ICT use in education was the lack of technical assistance (Pelgrum, 2001). These technical barriers included waiting for websites to open, failing to connect to the Internet, printers not printing, malfunctioning computers, and teachers having to work on old computers. Frequent maintenance of the computers,

updating the software and software help the implementers use the facilities efficiently. The Becta (2004, p.16) report stated, "if there is a lack of technical support available in a school, then it is likely that technical maintenance will not be carried out regularly, resulting in a higher risk of technical breakdowns". Sicilia (2005) supported that what-ever kind of technical support and access teaching staff have and whether they have twenty years of experience or are novices to the profession, technical problems generate barriers to the smooth lesson delivery by teachers.

Lack of Effective Training for the Teachers

Lack of effective training for the teachers is one of the factors affecting the effective integration of ICT in teaching-learning. One finding of Pulgrum's (2001) study was that there were not enough training opportunities for teachers in using ICTs in a class-room environment. Similarly, Beggs (2000) found that one of the top three barriers to teachers' use of ICT in teaching was the lack of training. Similarly, Tay et al. (2013) found out that teachers should actively engage themselves in professional development, especially in the areas of ICT integration into curriculum. Further, Albion and Ertmer (2002) claimed that short-term exposure to technology would be insufficient in training teachers with the necessary skills and knowledge for confident and masterful use of ICT in the classroom. In addition, Brown and Warschauer (2006) found that teachers performed better in using ICT when they were well-grounded in the technology through workshops and training sessions that are of substantial duration. However, Cox et al. (1999) argue that if teachers are to be convinced of the value of using ICT in their teaching, their training should focus on pedagogical issues.

Teacher's Competency in Integrating ICT in Pedagogical Practice

Another challenge directly related to teacher confidence is teachers' competence in integrating ICT into pedagogical practice (Becta, 2004). In Australian research, New House (2002) found that many teachers lacked the knowledge and skills to use com-puters and were unenthusiastic about the changes and integration of supplementary learning associated with bringing computers into their teaching practices. Current re-search has shown that the level of this barrier differs from country to country. In devel-oping countries, research reported that teachers' lack of technical competence is the main barrier to their acceptance and adoption of ICT (Al-Oteawi, 2002; Pelgrum, 2001).

Teachers' Beliefs and practices

Teacher's beliefs, attitudes and practices are other factors that affect the integration of ICT in teaching learning process. Teachers' beliefs had been identified as a one of the barriers to the integration of ICT in teaching and learning (Ertmer, 2005). To en-hance interaction and independent learning the teachers and students' attitudes are very important. Teachers and student's attitude towards the use of ICT relates to how they think, perceive, and feel about implementing ICT in language teaching and learning process (Albirini, 2006).

No matter how sophisticated and capable the technology may be, its implementation entirely depends on the skills, knowledge, and attitudes of the users (Haung &

Liaw,2005). Similarly, if the teacher's attitude is positive towards the use of technology, then they can easily provide useful insights about the adoption and integration of ICT into teaching and learning process (Biabeg-Andoh, 2012). Further teachers' attitudes towards technology influence and acceptance of the usefulness of technology and its integration into teaching and learning (Huay & Liaw, 2005). In addition, Teo et al. (2008) emphasized teachers' willingness and attitude to adopt technology is the main factor for students' successful learning. The study conducted by Nair et al., (2012) further reinforced that the teachers have a satisfactory attitude towards the use of ICT and the teacher's level of ICT use is also satisfactory. They also found out that there is a significant relationship between the teachers' age and their attitude towards the use of various ICT devices; so, the school administrators have to consider more workshops for the older generation. They must be convinced with the merits of using various ICT devices in teaching and learning English and made them willing users. Therefore, changing the beliefs, attitudes, and practices through motivation and training have become vital in the schools for effective integration of various ICT devices in teaching and learning.

Lack of Time

Limited time is yet another factor affecting the integration of ICT in teaching and learning process. The most widespread challenge reported by all the teachers was the lack of time they had to plan technology lessons, explore the different Internet sites, or look at various aspects of educational software (Sicilia, 2005). Likewise, Becta's investigation (2004) tracked down that the trouble of absence of time exists for educators in numerous parts of their work as it influences their capacity to finish errands, with a portion of the member instructors explicitly expressing which parts of ICT require additional time. These incorporate the time expected to find Internet counsel, get ready exercises, investigate and work on utilizing the innovation, manage specialized issues, and get sufficient preparation.

School Technology leadership

Though infrastructure support is very important, school technology leadership is a stronger forecaster of teachers' use of computer technology in teaching. Studies have proven that various leaders such as principals, administrative leadership, and technology leadership influence successful use of ICT in schools (Anderson & Dexter, 2005). This aspect of management will help the principal to share tasks with subordinates while focusing on the adoption and integration of technology in the school. Institutions exemplified by supervisory involvement and decision-making, strengthened by ICT plan, effectively adopt ICT integration curriculum (Anderson & Dexter,2005). Similarly, Chen et al., (2007) emphasize that the success or failure of ICT usage depends on the implementers. The implementers refer to the institution administrators and teachers themselves.

IV. Methodology

1. Research Paradigm

A paradigm or worldview is a lens through which individuals perceive the world, shaped by underlying philosophical assumptions that guide their thoughts and actions

(Mertens, 2010). It influences how researchers seek and interpret knowledge gathered through research (Morgan, 2014). Paradigm is defined in different ways, such as a knowledge claim, a model, or a research philosophy (Creswell, 2003; Silverman, 2000; Saunders, Lewis, & Thornhill, 2000). It helps researchers choose methods, designs, tools, and procedures for data analysis and interpretation.

This study was based on Pragmatism, which provides a strong framework for mixed-method research (Tashakkori & Teddlie, 2003). According to Cohen et al. (2000), pragmatism helps understand and interpret social reality. It allows for diverse methods, worldviews, assumptions, and forms of data collection and analysis (Creswell & Creswell, 2018), enabling researchers to focus on the problem and use all available approaches to understand it (Rossman & Wilson, 1998).

The pragmatism paradigm focuses on research outcomes and problem-solving solutions. Mixed methods researchers use various approaches to data collection and analysis rather than sticking to one method (Creswell & Creswell, 2018). Thus, pragmatism allows researchers to adapt flexible approaches that best address research questions.

2. Research Design

This study adopts a mixed methods design. Since the mixed method integrates both quantitative and qualitative data in the study (Creswell & Creswell, 2018), one database could be used to check the accuracy (validity) of the other database (Creswell, 2014). Among the three mixed methods designs (Creswell & Creswell, 2018), the researcher used a convergent mixed method design to obtain information about perceptions and knowledge, benefits, and challenges of using different ICT since it is economical in time and resources. Moreover, the researcher can obtain and collect both qualitative and quantitative data at the same time. This would also reduce the disturbances to the school, teachers, and students. The researcher approached with questionnaires, interviews, and document analysis.

Participants
Target Population

The students of classes IX and X, English teachers, subject academic head, and principal were the population for this study. The academic head and principal are directly responsible for ensuring that the teachers utilize the ICT resources wherever it is necessary through constant observation and monitoring. The teachers are equally important in the schools to play pivotal role in executing ICT plans and policies in teaching and learning. They would be in a better position to provide authentic information pertaining to the use of ICT in teaching and learning of English in the school. Finally, the students were the one who will be benefited from this effective use of ICT in the teaching-learning.

Sample Size

The sample comprises of one principal, one academic head, 4 English teachers and students from Class IX and X. Amongst them 4 English teachers (T1, T2…) and 4 students each from class IX and X (S1, S2, S3…) were selected for the semi-structured interview. Similarly, the principal, (P1) academic head, (A1) 117 students from class IX and X were chosen for quantitative study.

Data Collection Tools

The study will employ questionnaires, interviews and document analysis tools to collect data.

Questionnaires and Interviews

To gather extensive data from a large number of participants, the researcher used questionnaires. According to Johnes et al. (2013), questionnaires are a highly effective tool for surveying large populations with relative ease. Similarly, a descriptive survey questionnaire was the main method used to collect data (Lodico, Spaulding & Voegtle, 2006). However, questionnaires have limitations in eliciting further information directly from respondents. To address this, the researcher conducted semi-structured interviews with 4 English teachers and 2 students from classes IX and X. Semi-structured interviews were chosen because they are more flexible compared to structured interviews, allowing for follow-up questions during the interview process (Rubin & Rubin, 2012). Additionally, qualitative data collection was done through document analysis. Different interview guides were used for administrators, teachers, and students.

Documents Analysis

The investigator utilized document analysis methodology to gather data pertaining to the integration of ICT devices in English language teaching and learning. Documents such as school policies, lesson plans, observation records, meeting minutes, and departmental files were scrutinized to extract nuanced insights regarding ICT device usage. Creswell (2014) underscores the importance of document analysis as it facilitates the acquisition of comprehensive and historical information pertinent to the research inquiry.

V. Data Analysis

The qualitative data was analysed by thematic analysis. Thematic analysis is a method for identifying, analysing, organizing, describing and reporting themes found within a data set (Barun & Clarke, 2006). The quantitative data will be analysed using Statistical Package for Social Sciences (SPSS) or excel.

1. Sampling Technique

The school was selected using a purposive technique because the school has been using ICT in teaching and learning process since 2019. Similarly, the English teachers and Principal were selected purposively from the population. To obtain the sample from students' purposive sampling technique was used for quantitative and volunteer sampling for qualitative study.

Challenges in Using ICT Devices in Teaching Learning English Faced by the Students and Teachers in the School

Challenges in this study refer to the factors that contribute to the minimal use of various ICT in teaching learning English. The table below (table no.4.3 &4.4) show the challenges faced by the teachers and students in using ICT devices in teaching-learning English in the school. To get the quantitative data from the teacher's seven items and student's five item survey questionnaire was employed and analyzed using SPSS and their mean and standard deviation were computed using descriptive analysis.

Similarly, semi-structured interviews and document analysis were used to acquire qualitative data. This broad theme challenges of using ICT is further divided into five sub-themes; Network issues, Lack of and outdated facilities, Rules and regulations, Technical skills, and Lack of time for clear understanding.

Table 1: Illustration of challenges of using various ICT devices in teaching-learning English (Teachers)

Items	N	Mean	Std. Deviation	Level of Agreement
1. Lack of resources is the main challenge in using ICT in teaching and learning English	16	4.31	1.078	Very high
2. Lack of technical assistance is the main challenge in using ICT in teaching and learning English	16	4.00	1.095	High
3. Lack of effective training is the main challenge in using ICT in teaching and learning English	16	3.94	1.124	High
4. My confidence in integrating ICT is the main challenge.	16	3.13	.957	Moderate
5. My beliefs, attitudes and practices are the main challenge in using ICT in teaching and learning English	16	3.00	1.155	Moderate
6. Limited time is the main challenge in using ICT in teaching and learning English	16	3.88	1.310	High
7. Lack of/limited support from school administrator is the main challenge in using ICT in teaching and learning English	16	3.06	1.436	Moderate
Overall Mean	16	3.62	.73	High

Adapted from Pimental (2019): Level of perception: 1.00-1.79 Very Low, 1.80-2.59 Low, 2.60-3.39 Moderate, and 4.20-5.00 Very High.

Table 2: Illustration of challenges of using various ICT devices in teaching-learning English (stu-dents)

Items	N	Mean	Std. Deviation	Level of perception
1. Less number of computers in the computer labs.	117	2.13	1.071	Low
2. My English teacher do not use ICT	117	1.95	.899	Low
3. Students are not allowed to bring mobile phones in the schools	117	3.54	1.349	High
4. Lack of technical person to guide us	117	2.87	1.111	Moderate
5. Limited time is the main challenge in using ICT	117	3.38	1.048	High
Overall Mean	117	2.78	.71	Low

Adapted from Pimental (2019): Level of perception: 1.00-1.79 Very Low, 1.80-2.59 Low, 2.60-3.39 Moderate, and 4.20-5.00 Very High.

Network issues

In using the ICT effectively stable and strong network coverage is inevitable. All the participants stated that poor Wifi connection is one of the main challenges in using ICT in teaching-learning English. (S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, T1, T2, T3, T4, P1 & A1) For instance, "Some of the key challenges that I faced while using ICT in the classroom are poor network connectivity, usually Wi-Fi is not strong enough to access the materials needed for classroom teaching and moreover, most of the classroom do not have access to the Wi-Fi." (T3), "Poor Wi Fi connection, sometimes ICT room is not available."(S11) and "I would say the network coverage in our school is quite poor and it doesn't reach all the classrooms. Now sometimes not even our staff room so that is the main problem. But otherwise, we are comfortable using ICT." (T2)

Likewise, the principal also stated that unstable and poor network cover in the school is the main challenges that the teachers and students are facing while using ICT facilities.

Lack of Resources and Outdated Facilities

Another challenges faced by teachers and students in using ICT is lack of resources and outdated facilities. From the seven items graded by the teachers the highest rating is given to the item "Lack of resources is the main challenge in using ICT in teaching and learning English with the mean of 4.31 and a standard deviation of 1.078. Correspondingly, most of the student participants stated that lack of facilities and outdated resources is one of the challenges they face in the school. For instance, "Very old computers that we can't use, errors in the system of the technologies." (S7) "There are not much computers in the school and the computers are pretty old. Some of them we have some in our class but it is old version and it's really hard to use. We don't get to use computer very often." (S6).

On the contrary, none of the teacher interviewees mentioned about the lack of resources as one of the challenges although they have rated very in high in survey.

Rules and Regulation

One of the challenges mentioned by the student is restrictions imposed by the school rules and regulations. Out of 12 students interviewed five of them stated that some rules and regulations in the school is also hampering them in using ICT resources in teaching-learning process. For instance, "I could say that school restricts us from visiting ICT labs during the breaks because some students misuse it. I think that this is kind of hindering me from using ICT." (S9), "Sometimes the ICT labs are closed during interval and lunch break." (S10) and "Sometimes ICT room is not available." (S11). The qualitative data also showed that students are not allowed to bring mobile phones to school with a mean score of 3.54 and a standard deviation of 1.349. Similarly, from the school policy and guidelines it is learned that students are not allowed to bring mobile phones to the schools and also they cannot visit the ICT Lab during the brakes.

Lack of Technical Skills

The result from the teachers' survey shows that lack of technical skills and trainings are also some of the challenges they face while using ICT in teaching-learning with a

mean score of 3.94 and a standard deviation of 1.214. Similarly, lack of technical as-sistance is also rated high by the teacher with a mean score of 4.00 and a standard deviation of 1.095. Likewise the interviewees also expressed lack of technical skills and trainings are hampering the use of various ICT devices in teaching-learning.

On the other hand, the Professional Development on ICT reports showed already four ICT related trainings were given to the teachers in the first term. Likewise, it is also evident from the feedback shared by the teachers after attending professional de-velopment programs (PD) where they have shared that the "PD program is informative and will surely help them to make the teaching and learning more interactive, especially when teaching online. Now all the teachers are confident to integrate ICT into teaching and learning during emergencies and national lockdown." In addition, P1 expressed that the school ICT teacher and Lab assistant are very helpful and resourceful.

Limited Time
The result of both students and teachers survey showed that limited time is one of the challenges in using ICT in teaching-learning. Contrastingly, no teacher interviewees stated that lack of time   is one of the hindrance in using ICT except a few student respondent who expressed that less ICT class have hindered them in acquiring the needed skills.

What Challenges do Teachers and Students Face in Using ICT Tools in Teach-ing Learning English?
This study found out challenges like; network issues, lack of resources and outdated facilities, and rules and regulation in the school, are the most common barriers often faced by teachers and the students in teaching-learning of English (See Table no 5 & 6). Among the challenges lack of resources and outdated ICT facilities was rated very high with a mean score of 4.31 and a standard deviation of 1.078 by the teachers. Sim-ilarly, half of the interviewees reported the same challenge. Likewise, Becta's (2004) reported in-accessible of resources in the schools, poor quality products or mismatch products, inappropriate software are the main challenge in integrating ICT in teaching-learning. Moreover, studies by Bingimlas (2009) and Livingstone (2010) also revealed that effective use of ICT would require the availability of equipments, supplies of com-puters, competence of teachers, and enough management support. In addition, Empir-ica's (2006) European study found that limited or lack of access is the largest hurdle and that different challenges reported by teachers in Europe.

Further, the study also stated that lack of technical skills is another challenges that hamper the use of ICT in teaching-learning English in the school. The result from the teachers' survey shows that lack of technical skills and trainings are also some of the challenges they face while using ICT in teaching-learning with a mean score of 3.94 and a standard deviation of 1.214 and lack of technical assistance is also rated high by the teacher with a mean score of 4.00 and a standard deviation of 1.095. Likewise the interviewees also expressed lack of technical skills and trainings are hampering the use of various ICT devices in teaching-learning. Correspondingly, Pulgrum's (2001) study classified lack of technical assistance as one of the top challenges in using ICT. Like-wise, Becta's (2004) reported lack of technical support will hinder the maintenance of the resources which may pose a high risk of technical breakdowns. Further, Sicilia (2005) reported whether the teachers have twenty years of experience or are novices to

the use of ICT technical problems will a barriers to the smooth lesson technical support teaching staff have

In addition, the study found limited time as another challenge to the use of ICT in teaching-learning. The result of both students and teachers survey showed that limited time is one of the challenges in using ICT in teaching-learning. Contrastingly, no teacher interviewees stated that lack of time   is one of the hindrance in using ICT except a few student respondent who expressed that less ICT class have hindered them in acquiring the needed skills. On the contary, Sicilia's (2005) study has also found limited time as the most widespread challenge reported by the teachers. Simlilarly, Becta's (2004) investigation reported that educators required extra time for for preapring because of many other additional activites other than teaching.

Although, the use of ICT in teaching-learning have positive impacts but there are lot of challenges that teachers and students face while integrating ICT in the classrooms. One of the prominent challenge was out dated facilties and poor network coverage in the school.

Recommendations for Further Research

This study investigated the challenges associated with using various ICT devices in teaching and learning English. While it provided valuable insights, there is still scope for further research. Future researchers should consider the following points:

The findings and interpretations of this study are based solely on data collected from one higher secondary school in Samdrup Jongkhar Thromde. Therefore, these findings cannot be generalized to other schools due to differences in geographical location and socio-economic backgrounds. Similar research should be conducted in schools across the country to validate these findings.

This study specifically examined challenges related to using ICT devices in teaching and learning English. However, these findings may not apply to other subjects. Further research could explore the use of ICT in teaching and learning across different disciplines.

Schools in Thromdes in Bhutan are well-resourced compared to government schools in semi-urban and remote areas. As Samdrup Jongkhar Higher Secondary is the only higher secondary school under Samdrup Jongkhar Thromde, it has financial advantages in procuring materials. Although this study focused on one Thromde school, it did not compare the use of various ICT devices in teaching and learning English across different schools. Therefore, a comparative study between Thromde schools could provide broader perspectives on the effective use and impact of ICT in teaching and learning English.

VI. Conclusion

Despite the numerous benefits of using ICT in teaching and Learning English there are also a lot of challenges in using ICT in teaching and learning English by the

teachers and students in the classes. This study found that lack of resources and outdated facilities, poor and weak network coverage, school rules and regulations, lack of skills, and limited time are responsible for main barriers in using various ICT devices effectively.

References

1. Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. Computers & Education, 47(4), 1-26. https://doi.org/10.1016/j.compedu.2004.10.013
2. Anderson, R. E., & Dexter, S. (2005). School technology leadership: An empirical investigation of prevalence and effect. Educational Administration Quarterly, 41(1), 49-82. http://doiorg/10.1.1.854.3874&rep=rep1&type=pdf
3. Barun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Quantative research in paychology, 3, 77-101. http://doi.org/10.1191/148088706qp063oa
4. Becta. (2004). What the research says about using ICT in Geography. Becta ict research. https://dera.ioe.ac.uk/1653/66/wtrs_geography_Redacted.pdf
5. Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. Eurasia Journal of Mathematics, Science & Technology, 5(3), 235-245.
6. Boumová. V. (2008). Traditional vs. modern teaching methods: Advantages and disadvantages of each at the University Of Masaryk University Faculty Of Arts. Master's diploma thesis, Arna Nováka 1611 80 Brno, Czech Republic.
7. Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. https://files.eric.ed.gov/fulltext/EJ1084227.pdf
8. Bushati, J., Barolli, E., Dibra, G., & Haveri, A. (2016). Advantages and disadvantages of using ICT in Education. https://silo.tips/download/advantages-and-disadvantages-of-using-ict-in-education
9. Cox, M.J., Preston, C., & Cox, K. (1999). What Motivates teachers to use ICT? Paper presented at the British Educational Research Association Conference. Brighton. September.   http://www.leeds.ac.uk/educol/documents/00001304.doc
10. Crewel, J. W. (2003). Qualitative inquiry and research design: Choosing among five approaches. Sage publication
11. Creswell, J. W. (2012). Educational research: Planning, conducting and evaluating quantitative and qualitative research (4th edition). New Delhi: APH publishing
12. Creswell, J. W. (2014). Research design: Qualitative, quantitative and mixed methods approach. SAGE Publication Inc
13. Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative and mixed methods approach. SAGE Publication Inc.
14. Derdin, P. (2014). Increasing in-class student engagement using Socrative (an online student response system). The All Ireland Journal of Teaching and learning in Higher Education, 6(3), https://eprints.teachingandlearning.ie/id/eprint/2182/
15. Dorji, G. K. (2015). Chiphen Rigphel ends today. Kuensel- Bhutan's National Newspaper

16. Dorji, T. (2020). ICT in Bhutanese education system. The Druk Journal: Common Obstacles and the way forward. (6), 1

17. Ertmer, P. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration. Edication Technology, Research and Development 53(4), 25-40.

18. Gaudreau, P., Miranda, D., & Gareau, A. (2014). Canadian university students in wireless classrooms: What do they do on their laptops and does it really matter? Computers & Educations, 70(3), 245-255. http://doi.org/10.1016/j.compedu.2013.08.019

19. Ghavifekr, S., Afshari, M., & Amla, S. (2012). Management strategies for E-Learning system as the core component of systemic change: A qualitative analysis. Life Science Journal, 9(3), 2190-2196. https://link.springer.com/article/10.1007/BF02504683

20. Ghavifekr. S., Kunjappan. T., Ramasamy. L., & Anthony. A. (2015). Teaching learning with ICT tools: Issues and challenges from teacher's perception. Malaysian Online Journal of Education and Technology 4(2) https://files.eric.ed.gov/fulltext/EJ1096028.pdf

21. Hennessy S, Ruthven K., Brindley S. (2005). Teachers' perspectives on integrating ICT into subject teaching: Commitment, constraints, caution and change. Journal of Curriculum Studies. 37(2), 155- 192. http://doi.org/10.1080/0022027032000276961

22. Huang, H.-M., & Liaw, S.-S. (2005). Exploring users' attitudes and intentions toward the web as a survey tool. Computers in Human Behavior, 21(5), 115. http://doi.org/10.1016/j.chb.2004.02.020

23. Jarett, N. (2017). 20 Ways Projectors Improve Learning in the Classroom. Edtech 4 Beginners. https://edtech4beginners.com/2017/06/13/20-ways-projectorsimprove-learning-in-the-classroom/

24. Jones, A. M. (2015). The use and abuse of PowerPoint in teaching and learning life sciences: A personal overview. Journal of Bioscience Education, 2 (1), https://doi.org/10.3108/beej.2003.02000004

25. Kay, R. H. & Lauricella, S. (2014). Investigating the benefit and challenges of using laptops computers in higher secondary education. Canadian Journal of learning and teaching, 40(2). 1-25

26. Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigm in educational contexts. International Journal of higher education, 6(5), 26-41. http://doi.org/10.5430/ijhe.v6n5p26

27. Kuzu, A. (2007). Views of pre-service teachers on blog use for instruction and social interaction" Turkish Online Journal of Distance Education-TOJDE July 2007 8(3). 34-51. https://files.eric.ed.gov/fulltext/ED498812.pdf

28. Lhendup, Y. (2020). ICT in Bhutanese education system. The Druk Journa: A Journal of Thoughts and Ideas. 6 (1). 48-55

29. Lidstrom, H. & Hemmingssob, H. (2014). Benefits of the use of ICT in school activities by students with motor, speech, visual and hearing impairment. Literature review. Scandinavian Journal of occupational therapy. 21(4), 251-266. http://doi.org/20.3109/11038128.2014.880940

30. Livingstone, M. J. (2010). Use of ICT in teaching physics: A case of secondary schools in Kimilili District, Bungoma Country, Kenya. Unpublished, Master's Research Thesis, Kenyatta University, Kenya.

31. Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2006). Methods in educational research. Jossey-Bass.

32. Ministry of Education. (2020). Transforming ICT in education for future: Blueprint of Education ICT Flagship Programme 2019 – 2023. Education-ICT-Flagship-Project-27_03.pdf.

33. Ministry of Education. (2014). Bhutan education blueprint 2014-2024: Rethinking Education. Ministry of education, Royal Government of Bhutan. http://doi.org/10.13140/RG.2.2.12673.92006

34. Morgan, D. L. (2014). Pragmatism as a paradigm for social research. SAGE. http://doi.org/10.1177/1077800413513733

35. Nair, S. K. G., Rahim, R. A., Setia, R., Adam, A. F. B. M., Husin1, N., Sabapathy, E., Mohamad1, R., Shahidatul Maslina Mat So'od, S. M. M., Yusoff, N. I. M., Razlan, R. M., Jalil, N. A. A., Huda, E. F. N. & Norhafiza Abu Seman, N. A. (2012). ICT and teachers' attitude in English language teaching. Asian Social Science; 8(11), 8-12. https://doi.org/10.5539/ass.v8n11p8

36. Pachauri, S. C., Kumar, P., Rana. P. S. (2011). Educational technology. APH Publishing Corporation.

37. Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: results from a worldwide educational assessment. Computers & Education, 37, 163-178. https://doi.org/10.1016/S0360-1315(01)00045-8

38. Rosnaini M. & Ismail, M. A. H. (2008). Factors influencing ICT integration in the classroom: Implication to teacher education. EABR & TLC Conference Proceeding. Austria.

39. Shah, P. M., & Empungan, J. L. (2015). ESL teachers' attitudes towards using ICT in literature lessons. International Journal of English Language Education, 3(1), 201-218.https://doi.org/10.5296/ijele.v3i1.7158

40. Sicilia, C. (2005). The challenges and benefits to teachers' practices in constructivist learning environments supported by technology. Unpublished master's thesis, McGill University, Montreal. https://www.researchgate.net/publication/221319204_Teachers'_Challenges_with_Constructivist_Practices_in_a_Technology-Rich_Environment

41. Tay, L., Yong, L., Siew K., Lim, P. C. (2013). Factors affecting the ICT integration and implementation of one-to- one computing learning environment in a primary school- a social perspective. https://brill.com/view/book/edcoll/9789462090866/BP000003.xml

42. Teddlie, C., & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. Handbook of mixed methods in social & behavioral research, 3-50. http://doi.org/10.1177/2345678906293042

43. Thornhill, A., Lewis, P., Millmore, M., & Saunsers, M., N. K. (2000). Managing change: a human resource strategy approach. FT prentice hall, Harlow. http://epubs.surrey.ac.uk/id/eprint/816710

44. Tour, E. (2010). Technology Use in ESl. An Investigation of Students' Experiences and the Implications for Language Education. TESOL in Context, 20, 5-21.

http://scholar.google.com/citations?view_op=view_cita-
tion&hl=en&user=XbirdL4AAAAJ&citation_for_view=XbirdL4AAAAJ:u-
x6o8ySG0sC

45. Umunnakwe, N. & Sello, Q. (2016). Effective utilization of ICT in English lan-
guage Learning - The case of university of Botswana undergraduates. Universal
Journal   of   Educational   Research   4(6):   1340-1350.
http://doi.org/10.13189/ujer.2016.040611